KSEA 50 Years

50년의 땀 100년의 꿈

KOREAN-AMERICAN SCIENTISTS AND ENGINEERS ASSOCIATION

KSEA 50 Years

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Editorial

Looking back at the past half-century of the Korean-American Scientists and Engineers Association (KSEA), we believe that the spirit of the founding members has been the definitive guiding light throughout all the ups and downs of KSEA since its origination on December 11th, 1971. This altruistic spirit of volunteerism stemmed from the historical background unique in the first generation of Korean-American is still evident and is also reflected in the Statement of Purpose within the Bylaws of KSEA. It encourages not only the cooperation between the United States and South Korea in science and technology but also the friendship and fellowship among KSEA members. As long as this attitude continues to stay alive among today's KSEA members and propagates safely to the forthcoming generation, we can confidently expect the future of this organization to be bright. Thus, we hope that this history book captures this spirit by looking into the genesis of KSEA, focusing on the goals and vision at the time of the organization's inception, and subsequently through revisiting the development and achievements of KSEA.

We have set the scope to review the entire half century history of KSEA. There was a KSEA 25-Year History Book published in April, 1998, which also included an overview of nearly a hundred years of history of the science and technology exchanges between the US and Korea up to 1996. Nevertheless, instead of just calling this book the "*Recent 25-Year History Book,*" we will call it the "***KSEA 50 Years***."

The first 25 years may be summarized as a Period of Settlement. Building on that, the recent 25 years could be characterized into the following trends:

26th – 30th: Period of Endurance
31st – 35th: Period of Rebound
36th – 40th: Period of Growth
41st – 45th: Period of Stabilization/Reflection
46th – 50th: Period of Transition

We tried to identify what we have accomplished as well as what we have learned from each administration. Specific challenges, contributions, victories, setbacks and memories of each year are well documented in more than 250 issues of KSEA Letters (https://ksea.org/us/information/ksea-letters/). This collection of the KSEA Letters themselves have been great assets for the half-century history of KSEA.

KSEA has made significant contributions to the collaboration of Korea and the US with annual conferences called "the US-Korea Conference (UKC) on Science, Technology, and Entrepreneurship." The National Math and Science Competition (NMSC) has been a core staple in community service, engaging youth with challenges and exams in the STEM fields operated by numerous Local Chapters. Various Young Generation (YG) development and scholarship programs have been established which proved vital in integrating young members as an essential part of KSEA. Particularly, KSEA has developed a significant networking infrastructure during the last 25 years. Keeping in pace with the rapid advancement in technology, KSEA has been laying out more robust and versatile facilities for intercontinental engagement in Science, Technology, and Entrepreneurship. Brighter future prospects for KSEA are sown from the diverse developments of recent YG activities. We hope this history book can provide strong foundations to support the future directions of KSEA.

The KSEA 50-Year History Book Project (1971-2021) was initiated during the Council Meeting in Seattle, Washington in August, 2010. The first KSEA History Forum was held during UKC 2011, and DVD recording sessions were organized to interview Former Presidents of KSEA. A Reunion of Former Presidents was subsequently convened in Washington D.C. on December 11th, 2011.

A recent effort to prepare for the 50-Year History Book took place by holding a Task Force Kickoff Meeting at the KSEA Headquarters in Vienna, Virginia on February 16-17th, 2019. There, the Editorial Board (EB) was formed for the 50-Year Book Project and the theme and contents of the book were discussed.

Many efforts were made to collect historical materials and data from diverse entities inside and outside of KSEA. In February 2020, right before the COVID-19 pandemic erupted, the History Book Repository (HBR) site was established to enable an effective data collection mechanism. During the ongoing pandemic, EB members convened via monthly Zoom meetings and reviewed their assigned individual tasks as well as the collected materials and data. The EB Assistant, the Information Technology Directors, the Publication Directors and many other enthusiasts for our endeavor provided a plethora of helpful support for the preparation of this landmark history book.

We are certain that this book would provide a cornerstone to the up-and-coming generations to understand and focus on the spirit of the founding members and seeing the vision for the future of KSEA without being too caught up with contemplating how to get there or where the pitfalls may be.

This book could not have been realized without the efforts of those who contributed articles and assisted in the editorial work, in particular KSEA Publication Director Jonathan Young Kim and EB Assistants Jahae Yun and Michelle Cho, nor without sharing the collegial friendship with all eleven editorial board members and the incumbent history committee members who have served steadily, surely and honorably. The process of completing this book from beginning to end in itself could be considered a part of KSEA history, dutifully reflecting the KSEA spirit.

Editorial Board
Chueng-Ryong Ji (Chief), Hong Thomas Hahn, Sung-Kwon Kang, Quiesup Kim, Ki Dong Lee, Myung Jong Lee, Eun-Suk Seo, K.Stephen Suh, Moon Won Suh, Nak-Ho Sung, Jaehoon Yu

History Committee
Chueng-Ryong Ji (Chair), Hong Thomas Hahn, Sung-Kwon Kang, Jae Hoon Kim, Kang-Won Wayne Lee, Ki Dong Lee, Nak-Ho Sung

Preface

It is my great pleasure to present the Korean-American Scientists and Engineers Association's 50th Anniversary book, entitled, **KSEA 50 Years**. It is indeed remarkable that our beloved organization has been around for 50 years. As some of you may know, KSEA published its 25-year history book in 1998 and now, this new book reflects an additional 25 years of the history of our proud growth, and visions for the next 50 years and beyond. I am optimistic that this book will help connect current and future members as it shares the rich history of our major events and their achievements (i.e., the US-Korea Conference, Scientists and Engineers Early career Development Workshop, National Math and Science Competition, Young Generation Technical and Leadership Conference, Science and Technology Entrepreneurship Partners' Upscale Program). Additionally, the book includes chapters' and affiliated professional societies' activities, Korean-American Women in Science and Engineering (KW*i*SE) history, and also visions for the future KSEA.

I should emphasize that this book covers not only the history of our organization, our members, and our activities but also the story of early Asian and Korean immigrants (i.e., the first generation of Korean-Americans) and those who came to the US for the degree programs. In my personal opinion, these are well-documented stories about our ancestors and should be of interest to our generation and future Korean-American generations.

This book would not have happened without the dedicated and tireless efforts of the editorial board members and history committee members. I am so grateful for their leadership in putting this book together. Also more importantly, I am very proud of them! Without a doubt, this final product is the finest possible, thanks to them!

As the President of the 50th Administration, I have personally experienced the ups and downs of the past 20 years with KSEA since my first UKC participation in 2001. I am hopeful that I can continue to engage with KSEA for another 30 years to make my own 50 years with KSEA! I am confident that our current and future members will learn more about our organization through this remarkable history book and will become the leaders of our organization creating new chapters in our next history book.

I would like to share my personal story of getting the 25th anniversary history book. I vividly remember the occasion that I received the 25-year history book. It was at the 2nd Young Generation Technical Leadership Conference held at the University of Texas at Dallas, where I was invited to give a talk about leadership. Believe it or not, I had to study leadership by reading books and even watching leadership lecture videos, but for my efforts, I was gifted the 25-year history book by the KSEA Executive Director who attended the event on behalf of the 34th KSEA President. Honestly, as I write this preface, I am looking forward to receiving the 50th anniversary book as the President, and more importantly, I am excited about opportunities to give out a few copies to future leaders. Who would have even guessed that I would be the leader of KSEA when I had received the 25-year history book on June 10, 2006? I have to confess I fell in love with KSEA mostly because I read the history book. I am hopeful that our current and future members will fall in love with KSEA through reading this book celebrating 50 years!

Byungkyu Brian Park, Ph.D.
The 50th President of KSEA

Congratulatory Remarks

Nobel Laureates

Sidney Altman

Dear Colleagues,

Congratulations on the 50th anniversary of KSEA! The membership of KSEA has provided an important basis for productive science and technology in the USA and also to Korea, itself, as members returned home. The determination and perseverance of your members, and, of course, their native intelligence, has made it a pleasure to interact with Koreans and Korean-Americans. The older generation certainly demonstrated all these important qualities and I would hope that the younger generation will follow suit. I count on the younger generation to demonstrate an aggressive search in determining what Nature holds before us.

I am sure this volume will be an asset as a means of what KSEA did in the past and prospects for the future. I feel confident that the membership of KSEA will be leaders in their various fields.

Sincerely,

Sidney Altman
Sterling Professor Emeritus,
Yale University

Nobel Laureates

John C. Mather

Congratulations on 50 years of service to the world of science and engineering through creating opportunities for Korean-Americans! From students to retirees, there is so much to do and so much you have already done. It was a pleasure for me to meet so many brilliant Korean-Americans at the 2017 US-Korea Conference at Washington, DC, already participating in the US economy and US research and development efforts.

With best wishes for the next 50!

John C. Mather
Nobel Prize, Physics, 2006

Cherry Murray

Professor, Department of Physics, Deputy Director for Research Biosphere 2, University of Arizona, Former Dean of Engineering and Applied Sciences, Harvard and Former President, American Physical Society

I congratulate KSEA for 50 years and more than 6,000 members! I was very impressed with the UKC conference I attended a few years ago.

The Korean-American diaspora of scientists and engineers is vast, and fostering community in the diaspora and scientific cooperation between the US and Korea is as important today as it was in the early 1970's when KSEA started.

조 완 규

전 한국과학기술단체총연합회 회장,
전 교육부 장관, 전 서울대학교 총장

재미한인과학기술자협회(재미과협) 50주년을 맞아 축사말씀을 드리게 된 것을 기쁘게 생각하며 저의 영광입니다.

저 개인으로는 재미과협과 깊은 인연이 있습니다. 1971년 제가 하버드의과대학의 연구원일 때 평소 존경하던 김순경 교수님, 함인영 교수님 등 재미 교포과학자를 만날 수 있어 매우 기뻤습니다. 특히 서울대학교 문리과대학 이학부 화학과 김순경 교수님을 선배로 모시고 따랐던 저를 반갑게 맞아주셨던 김 교수님의 따뜻한 모습이 지금도 생생합니다. 당시 김순경 교수님, 함인영 교수님 그리고 김영배 교수님 등이 재미과협 창립을 준비하는 과정을 지켜보면서 그 분들의 애국심에 큰 감동을 받았습니다. 1945년 해방 후의 혼란시기 그리고 1950년 북한의 남침으로 시작된 6.25 전쟁을 전후하여, 청운의 꿈을 안고 맨 손으로 도미, 이역만리 생소한 땅에서 고생 끝에 대학원 학위과정을 마치고 귀국한 과학자들이 대학의 교수 혹은 연구소의 연구요원으로 발탁되어 낙후한 과학기술 수준을 제고하는데 결정적인 역할을 하였습니다. 특히 재미 과학기술인은 재미과협 회원이 되어 모국 과학기술 발전에 헌신함으로서 해방 후의 황폐한 나라를 50년의 짧은 기간에 세계 10대 경제강국으로 도약하게 한 주도적 역할을 하였으니 재미과협 회원인 과학자가 국민으로부터 칭송과 존경을 받는 것은 당연한 일입니다.

1975년, 제가 새로 발족한 서울대학교 자연과학대학 학장으로 임명된 후 첫 번째로 수행한 일이 교수 공채였습니다. 그간 소위 인브리딩이라는 폐쇄적 방법으로 신임교수를 채용해 온 오래 된 폐습을 과감히 혁파하였습니다. 물론 일부 원로 교수가 반대하였지만 다수 젊은 교수의 지지를 받아 힘을 얻을 수 있었습니다. 특히 교수임용의 새로운 제도를 지지한 윤천주 총장은 자연과학대학에 30개의 교수정원을 특별 배정하였습니다. 이 때 추가된 새로운 교수자리는 거의 재미 교포과학자 몫이 되었습니다. 대학 내 인사위원회는 우선 학위 취득 대학의 질과 학위후과정의 업적 등을 심사하여 조교수 그리고 그 위 직급의 교수로 선발함으로서 자연과학대학의 교육 및 연구의 질은 획기적으로 향상하였습니다. 자연과학대학의 교수공채 제도는 서울대 내 다른 단과대학으로 확대되었고 끝내는 전국 대학교가 교수 공채제도를 채택하는 등 교수 충원방법을 혁신하는 계기가 되었습니다. 다만 선진국 대학에서 연구활동 중인 교포과학자를 교수로 초빙하기에는 대학 여건이 너무 빈약하여 이것이 문제였고 이를 해결하지 않을 수 없었습니다. 몇몇 교수의 도움을 받아 마련한 자연과학대학의 기초과학 교육 및 연구력 향상을 위한 방안을 정부에 제시하였고 정부가 이 방안을 수용함에 따라 비로소 기초과학 육성의 시발점이 되었습니다. 자연과학대학의 교육 및 연구 지원을 위하여 미국대사관 AID 측과의 협의를 통하여 5개년, 5백만 달러의 교육차관금을 획득하는데 성공하였습니다. 5백만 달러 중 교수 교환계획에 250만 달러를 배분하고 80명의 자연과학대학 교수를 1년 혹은 1년 반 미국 대학 혹은 연구소로 파견, 연구에 종사토록 하고 동시에 40여명의 재미 교포과학자를 초청하여 강의와 대학원 학생 논문을 지도하도록 하고 이에 소요되는 비용으로 충당하였습니다. 나머지 250만 달러는 미국에서 연수 후 귀국하는 교수가 귀국 후에도 연구를 지속할 수 있도록 연수 때 사용했던 연구용 기자재를 구입하는 비용으로 배정하였습니다. 이 같은 방법은 우리나라 기초과학 연구의 질 향상에 크게 기여하였습니다. 그동안 다수의 차관사업이 있었지만 그 가운데 자연과학대학의 AID 차관사업이 가장 성공한 것으로 기록되고 있습니다.

1970년대까지만 해도 입출국 비자취득이 어려웠습니다. 20년 혹은 30년 전 유학차 도미한 과학자가 일시 모국 방문은 쉽지 않았습니다. 이런 때 한국과학기술단체총연합회(과총)가 교포과학자를 초청하여 국내 과학자와 공동으로 학술행사를 갖도록 주선하였고 또한 울산 등 산업단지를 방문하여 그 곳 기술자에게 선진 기술을 전수 전수하도록 하는 등 과총의 교포과학자 초청 사업은 우리나라 과학기술발전에 크게 기여하였습니다.

2000년대 초 저는 UKC 학술발표회에 초청받아 모국의 과학발전상을 발표하였고 일천 달러를 사례금으로 받은 적이 있습니다. 매해 역대 회장이 모국을 방문하여 UKC 학술행사에 소요되는 비용을 위하여 모금하는 노고를 익히 알고 있는 터였고 해당 행사를 위하여 저에게 왕복여비 및 호텔 숙식비까지 부담토록 한 것이 마음에 걸리는데 별도의 사례금까지 수령하는 것은 적절치 않아 이를 UKC 후원명목으로 기탁하였습니다.

재미과협은 반납한 사례비 일천 달러를 저의 이름을 따 대학원 학생에게 장학금으로 수여하였습니다. 이런 장학금을 1회로 끝나게 할 수 없어 결국 그 뒤 매 해 일천 달러를 장학금 명분으로 재미과협에 기증하고 있습니다. 금액이 얼마 되지 않지만 대학원 학생의 학습에 도움이 된다면 더 이상 바랄 것이 없습니다. 이 장학금은 제가 눈감는 때까지 이어갈 생각입니다. 그간의 재미과협을 위한 조그마한 기여에 감사의 의미로 2008년 10월 과총 임원이 배석한 가운데 이강욱 재미과협회장으로부터 공로패를 받았습니다. 저에게 공로패를 수여하기 위하여 귀중한 시간을 할애하여 일시 귀국한 이강욱 회장의 깊은 배려에 감사하며, 그간 여러 단체로부터 수상한 어느 것 보다도 재미과협의 공로패는 저에게 가장 값진 상으로 생각하며 그 때의 감동이 아직 남아 있습니다.

그간 재미과협 발전에 크게 헌신한 역대 회장을 비롯한 임원 여러분의 가정에 행복이 가득하고 모두의 건승을 기원하며, 아울러 다시 한번 재미과협 창립 50주년을 축하하면서 재미과협이 계속 발전하기를 기원합니다. 동시에 앞으로도 재미과학기술인이 모국 과학기술 발전을 위하여 헌신하시기를 소망합니다.

2008년 과총을 방문하여 공로패를 전달한 이강욱 회장과 함께

2008년 과총임원들과 함께

김 우 식

KAIST 이사장
전 부총리 겸 과기부 장관
전 연세대학교 총장

금년 12월에 KSEA 창립 50주년을 맞게 됨을 진심으로 축하드리며, 그동안 여러 가지 어려움을 겪으며 미국 워싱턴에 대한민국 재미과학기술인들의 교두보를 구축하여 한·미 과학기술 교류와 발전을 위해 수고하신 여러 선배님들과 재미과학기술인들의 노고와 헌신에 깊은 경의를 드립니다.

현재 우리는 급변하는 과학기술의 발전에 신속하게 대처해야함은 물론, 예상치 못했던 코로나19 팬데믹 사태를 겪고 있는 바, 이를 슬기롭게 극복하고 다가오는 KSEA 50년 후의 꿈을 달성하기 위해 우리 모두가 함께 노력해야하는 중대한 시점에 놓여있습니다.

우선 KSEA Sejong Center for Innovation의 설립 계획을 추진해 나가는 것은 매우 뜻있고 중요한 일이라고 생각됩니다. 이 계획은 우리 250만 재미동포는 물론 치열한 국제 경쟁 속에서 뛰어난 인재와 새로운 기술을 필요로 하는 대한민국의 큰 기대요, 희망이기도 합니다.

지난 2006-2008년 우리나라 과학기술부의 주도하에 한국의 과학기술인과 재미과학기술인을 중심으로 한·미 양국의 과학기술인들의 교류와 협력을 위해 Ultra Program Round Table Meeting을 개최하여 많은 논문 발표와 토론 그리고 한국 기업에 대한 자문 등의 활동들이 KSEA 회원들의 열정적 도움으로 활발히 진행되었습니다. 이 자리를 빌어 감사의 말씀을 드립니다. 앞으로 지속적으로 한·미 간 과학기술에 대한 교류와 협력이 활발히 이루어지기를 바랍니다.

옛 격언에 "*뜻이 있는 곳에 길이 있다*. (*Where there is a will, there is a Way*)"는 말과 그 길(Way)을 향해 하늘이 감동할 정도로 정성을 기울이면 안 될 일이 없다는 말이 있습니다. 앞으로 KSEA의 큰 활약과 한·미 과학기술 교류를 위해서 KSEA 회장단과 회원들, 50주년 추진위원회 위원장님과 위원들의 노력을 바탕 삼아 국내외 과학기술인들과 기업 그리고 우리 정부의 적극적 협력과 정성이 하나로 모아지면 하늘의 큰 축복이 있을 것으로 확신합니다. 앞으로 KSEA의 눈부신 발전과 보람있고 자랑스런 성과가 많이 이루어지길 간절히 기원합니다.

KSEA의 지나간 50년을 교훈 삼아서 다가올 50년을 위해 정성과 열의를 쏟을 때 자랑스런 KSEA「100년의 기념탑」이 우뚝 세워질 것을 확신합니다. 우리 KSEA에 하늘의 크신 축복이 늘 함께 하시길 다시 한번 기원합니다.

채 영 복

전 과학기술단체총연합회장 회장,
전 과학기술부 장관

재미한인과학기술자협회의 창립 50주년과 50년사 발간을 진심으로 축하드립니다.

재미과협 창립 초기에 새로 마련된 회관 입주식에 지금은 고인이 된 김형기 과학기술처 협력국장과 함께 참석하여 축하드렸던 기억이 바로 어제 같은데 그 사이 반세기라가는 세월이 흘렀습니다.

돌이켜보면 지난 50년은 우리나라가 인류역사상 유례를 찾기 힘들 정도의 큰 변혁을 이루어 낸 매우 역동적인 시기였습니다. 외국의 경제원조에 의존해야만 했던 지구상의 최빈국이었던 우리나라가 가난에서 벗어나고 자립경제를 이루어 내기 위해서 몸부림 치던 시기였으며 '기술자립' 이라는 염원아래 온 나라가 과학기술 인프라 구축에 힘을 기울였던 시기였습니다. 이런 노력의 일환으로 국내엔 KIST 등 수많은 연구소 들이 연이어 설립되기 시작했고 재미과협도 이 시기에 이와 같은 맥락에서 설립 되었습니다.

당시 기술도입과 국산화를 위한 매우 취약한 수준의 기술개발에서 시작하여 오늘날의 수준높은 창의적인 연구로 이어지는 과정에서 많은 해외과학기술인 특히 재미과학기술인들의 참여가 직,간접적으로 많은 기여를 하셨습니다. 국내 취약한 과학기술인력의 보완은 물론이고 적극적인 기술 교류를 통해 우리나라 과학기술의 근대화와 산업의 발전에 지대한 기여를 하여 왔습니다. 재미과협 50년사 발간의 기회를 빌려 재미과협 회원 여러분들의 그간의 노고에 진심으로 깊은 감사와 경의를 표합니다.

이와 같은 역경을 디디고 이제 우리나라는 세계 10위권의 과학기술 강국대열에 들어서게 되었습니다.

지난해 WEF (World Economic Forum)가 하버드대학의 Growth Lab 연구진의 연구결과를 인용하여 보도한 바에 따르면 국가별 수출상품의 다양성 (diversity)과 복합성 (complexity) 그리고 그속에 내재되어 있는 'power of productive knowledge'의 분석 결과 우리나라가 일본 스위스에 이어 세계 3위로 높게 평가 되었다고 합니다.

놀라운 것은 이 같은 변화가 바로 한 세대 내에 이루어졌다는 것이며 그래서 우리는 이 엄청난 변혁을 처음부터 직접 목격하고 참여할 수 있었다는 것입니다. 돌이켜 보면, 이와 같은 대변혁에 직접 참여해온 우리나라 연구계, 산업계, 학계 과학기술인들은 물론 재미과협회원 여러분 모두는 누가 뭐라 해도 이 시대의, 이 나라의 진정한 영웅들이 아닌가 하는 생각을 하게 됩니다.

이제 재미과협은 창립 50주년을 맞아 지난날에 이룩한 업적들을 회고하며 앞으로 다가올 새로운 50년을 향해 더 크고 더 웅장한 비전의 구상과 함께 이의 실현을 위한 결의를 다져나가는 계기로 삼아나가야 할 것입니다.

전 세계는 지금 전례없는 불확실성의 시대에 직면하고 있습니다. 이 대전환의 시기를 맞아 재미과협이 다시 한 번 큰 도약을 이루시고 이를 통해 한미 양국의 국익에 크게 기여함은 물론 한걸음 더 나아가 인류사회의 지속적인 성장과 발전에 큰 기여 할 수 있으시기를 기원합니다.

끝으로 다시 한번 재미과협 창립 50주년과 50년사 발간을 축하드리며 회원 여러분 모두의 건승을 빕니다.

감사합니다.

이 기 준

전 과학기술단체총연합회장 회장 (16대),
전 서울대학교 총장,
한국공학한림원 창립초대회장

재미한인과학기술자협회 50주년을 축하드립니다.

재미과협 회원 여러분 안녕하십니까?

세계적인 큰 흐름은 거역하기 어렵구나 하는 생각을 하면서 COVID-19라는 코로나 바이러스를 피하기 위해 집콕, 방콕을 하는 한국인이 되었습니다. 뉴스를 지켜보면 미국에서는 중국이나 한국보다 늦게 시작되었으나 한국보다 크게 대가를 치룰 수도 있겠구나 하는 걱정이 들기도 합니다.

큰 흐름을 이어 오신 재미과협의 50년 발전 성과를 진심으로 축하드립니다. 재미과협이 창립되는 1971년, 이 사람은 박사학위를 끝낸후 처자식을 거느리고 귀국하겠다는 결단을 내린 해입니다. 당시 잘나가는 KIST가 아니고, 그의 20%수준 대우를 받는 서울공대를 선택하여 가족들에게 퍽 미안한 마음을 금할 수 없었으나, 일제시절 '고학당' 설립과 독립운동으로 8년이라는 긴 영오 생활을 하셨던 연로하신 부모님을 뵙는 기쁨도 금할 수 없었습니다.

미국대학과 사회에서 보고 느끼고 배운 것들과 크게 비교되는 우리대학의 현실을 개선하고 발전시키고자 하는 뜻을 모으다 보니 몇 가지 일들을 성취하는 기쁨도 맛보게 되었습니다. 서울대 전산소장으로서 학내에 광케이블 전산망을 깔고, 세계전산망에 연결시킨 것이 1988년2월15일이며, 우리나라 첫 email 주소가 kijunlee@snu.ac.kr 이고, 한국의 domain 명칭을 kr로 결정하는 일도 하였습니다. 2002년 서울대 총장 일을 마친 후, 2008년 3월부터 한국과학기술단체총연합회 회장직을 맡게 되어 국제무대에서 과학기술 협력활동을 강화하고자 추진했던 일들이 회상됩니다. 재미과협과의 US-Korea Conference (UKC) 학술행사를 확충하고자 재정지원을 획기적으로 확대하는 한편, 재구과협 설립과 EKC의 지원, 그리고 중국과기협과의 협력기반 구축등 바쁜 시간을 보냈습니다.

그 중에서 Ultra프로그램의 확대운영과 젊은 과기인을 위한 Young Generation Forum (YGF)프로그램의 확장 운영은 특히 기억에 남는 일들입니다. 그리고 중견기업인으로서는 처음으로 과총의 회장을 맡게 되신 이부섭 회장의 간곡한 요청으로 한국과학기술단체총연합회 창립50주년 기념사업의 조직위원장으로 활동하게 되었습니다. 각 조직부서별로 훌륭한 분들을 모시고 1년 반의 사전준비를 통하여 2016년 7월13일 수요일 아침 서울 COEX Hall D1에서 성대한 기념식의 막이 오를때 모두 설레임과 행복감을 공유하였습니다.

50주년의 역사를 기록하는 정사 이외에 '한국과학기술단체총연합회 창립50주년 기념우표집', 50년사의 요약본 '멈출수 없는 꿈, 과학기술로 미래를 열다'에 기념 disc를 첨부하였고, 특히 '이야기로 살펴본 과총 반백년 1966-2016, 지도에는 없는 길, 그러나 가야 할 길'이라는 기념야사가 발간되어 많은 분들의 흥미를 끌게 해주었습니다.

지난 50년은 이 나라와 우리 후손들이 좀더 안정되고 편안한 세상에서 잘 살 수 있도록 최선을 다해 일해온 기간이었습니다. 자원이 부족한 작은 나라가 선진국으로 진입하기 위한 기술개발과 경제건설의 뒷받침에는 항상 재미과협인들의 역할이 대단히 중요했음에 다시 한번 감사 드립니다. 앞으로도 한국의 과학기술발전에 견인차 역할을 해주시고, 다가오는 과학기술시대를 맞이하는 한국의 후배 후진들에게 큰 힘과 자극제 역할을 더 높은 차원에서 보여주시기를 기대합니다.

박 상 대

전 한국과학기술단체총연합회장 겸
현 대한민국학술원 회장

재미한인과학기술자협회 창립 50주년 기념식을 진심으로 축하합니다.

재미과협은 반세기 전 한국과학기술단체총연합회(과기총) 설립을 주도 해 주심으로서 오늘날 고국의 과학기술 발전의 기틀을 마련 해 주셨습니다. 뿐만 아니라 그 후 역대 회장님들을 비롯한 재미과협 회원님들은 지속적이고 변함없는 관심과 성원으로 고국의 600여 과학기술 관련 학술, 연구 및 산업기관들이 설립되어 오늘날 고국의 과학기술발전은 세계속의 과학기술국으로 그 위상을 높혀가게 되었습니다.

이에 고국의 60만 과학기술인 모두는 창립 50주년을 맞이한 재미과협의 그 간의 노고와 이룩한 위업을 존경과 감사와 함께 진심 어린 축의를 모든 임 직원에게 전해드리는 바입니다. 앞으로 재미과협은 날로 번창하여 한국 사회뿐만 아니라 전 미국 과학기술계에서 우뚝 서는 과학기술 중심기관으로 성장 하실것을 기대해 마지 않습니다.

다시 한번 창립 50주년을 맞이한 재미과협에 뜨거운 축의와 감사를 보내드리는 바입니다.

전 한국과학기술인을 대표하여,

전 과학기술단체총연합회장 겸 현 대한민국학술원 회장
박상대 근서

이 우 일

한국과학기술단체총연합회 회장

재미한인과학기술자협회 (재미과협) 창립 50주년을 진심으로 축하합니다. 1971년 워싱턴 D. C. 에서 처음 닻을 올린 재미과협은 지난 반세기 동안 한미 양국의 과학기술발전과 재미한인과학기술인들에 대한 적극적인 지원, 더 나아가 미주 한인사회의 저변 확대에 지대한 기여를 해왔습니다. 지난 세월 낯선 이국 땅에서 수많은 역경을 딛고 한민족의 입지를 공고히 해 온 우리 한인 교민들의 노력으로 재미과협은 명실공히 재미한인과학기술인의 대표 단체로 자리매김하게 되었습니다. 재미과협 활동과 함께 평생을 과학기술발전을 위해 헌신해오신 재미한인과학기술인 여러분들께 진심으로 경의를 표합니다.

한국과학기술단체총연합회(과총)와 재미과협은 한미 과학기술 교류와 협력을 위해 한미 과학기술학술대회 (UKC)를 비롯하여 청년과학기술지도자학술대회 (YGTLC), 한인 2세들의 전국 수학과학경시대회, 산업계 경력개발워크샵 (Professional Development Forum, PDF), 과학기술자 경력개발 워크샵 (SEED), 로컬 지역 컨퍼런스 개최 등 전 세대에 걸쳐 다양한 사업을 추진하고 있습니다. 특히, 2003년부터 개최하기 시작한 UKC는 한국과 미국의 한민족 과학기술자들이 한자리에 모여 과학기술 현안들에 대한 정보를 교환하고 협력 증진방안을 논의하는 매우 뜻깊은 자리입니다. 그 결과 UKC는 양국 과학기술과 산업 발전을 일구는 플랫폼으로서 과총과 재미과협을 대표하는 학술대회로 자리잡았습니다. 재미과협이 다양한 활동을 전개하여 한미양국 과학기술을 잇는 가교의 역할을 하게 된 것은 재미과협 회원들과 임원진 여러분 노력의 결실이라 할 것입니다.

과총은 재미과협과의 꾸준한 협력을 바탕으로 미래 과학기술인재 양성을 위한 차세대 과학기술리더를 지속적으로 지원하여 성과를 거두고 있습니다. 지난 2002년 첫 개최한 한민족청년과학도포럼(YGF)은 당시 미국과 한국의 참여를 시작으로 현재는 참여국가가 18개국으로 확대되는 등 참가규모 면에서는 물론, 내적 성장도 거듭하고 있습니다. 최근에는 차세대 과학기술리더 포럼 (YPF)과 차세대 과학기술리더 Alumni 네트워킹 포럼을 통해 다양한 계층의 차세대 과학기술인들을 지원하고 있습니다. 한미 양국 차세대 과학기술자의 지속적 소통을 통해 양국의 젊은이들이 다가올 50년을 더욱 건강하고 풍요로운 미래로 이끌어 갈 수 있을 것이라 믿습니다.

전 세계를 뒤흔들고 있는 COVID-19은 인류의 삶을 새로운 방식으로 변모시키고 있습니다. 지속되는 세계 경제의 침체와 알파고로 대변되는 4차 산업혁명은 우리에게 새로운 혁신을 요구하고 있으며, 위기를 기회로 바꿀 수 있는 원동력은 창의와 혁신에서 비롯됩니다. 과총은 '과학기술특별봉사단'을 발족하고 COVID-19의 극복과 피해 최소화를 위한 포용적 과학기술 활동을 전개하여 사회적 책무를 이행하고 있습니다. 한미 양국의 한인 과학기술인들 간에도 COVID-19과 관련된 현황을 공유하고 대응방안을 논의하여 과학기술을 통한 해결책 마련에 기여할 수 있기를 바랍니다.

그동안 재미과협을 이끌어 오신 임직원들과 회원 여러분들의 노고에 깊이 감사드리며, 재미과협과 재미한인과학기술인이 더욱 발전하기를 기원합니다. 재미과협 창립 50주년을 다시 한번 축하드립니다.

Se-Jung Oh 오 세 정

President of Seoul National University

Congratulations to the Korean-American Scientists and Engineers Association (KSEA) for its 50th anniversary. I am honored to extend my sincere appreciation to distinguished scientists and engineers of KSEA for their hard work to promote science over the last fifty years. Despite the recent unprecedented crisis of COVID-19, KSEA has successfully celebrated the US-Korea Conference 2020. Every time I witness the enthusiastic participants in UKC, I feel that the future of Korean and American science will be bright.

I would like to extend my heartfelt appreciation to KSEA, which has made great contributions to Korea's economic development since its establishment in 1971. As a source of brains for Korea's industrialization drive, as a bridge for knowledge transfer of advanced science and technology, it has played a significant role in our national development. Throughout my career as a scientist and an administrator, there has been always close cooperation with KSEA. From academic exchange to attracting global talents, from supporting startups to providing scholarships for future talents, it has continued to strengthen the ties between the science and technology fields in its home country and in the U.S.A. I believe that KSEA's endeavor and continuous support was one of the major factors that Korea could become a country with the ninth-largest economy in the world today.

Along Korea's path for development, there is no doubt that science and technology served as the key driver. The development of science and technology has definitely led to the dramatic improvement of national security and the quality of people's everyday lives. Especially, for a country with a very scarce natural resource and dense population like Korea, there was no choice but to gather all the capabilities of our people and strive for the development of science and technology, to secure our rights and survive. With the strong sense of solidarity, it is remarkable how the Korean government and Korean scientists at home and abroad have been working together in their respective positions until today, to establish Korea as a technologically advanced country.

Through our collective effort, Korea has now grown into one of the world's leading scientific and technological powerhouses. It has become the world's largest exporter of memory semiconductors and it is the first country to commercially launch fifth-generation (5G) network services. In the current global crisis, Korea contributed to analyzing the RNA transcript of Coronavirus for the first time in the world, and its COVID-19 test kits are widely used by the international community as well. Now it is time for us to help others, as a global innovation leader, to concentrate on research that can solve global challenges, together with fellow overseas Korean scientists.

At a time when the nation's expectation and trust for scientific and technological development are the most heightened in our history, the tasks that scientists and engineers should carry out from now on are very important and rewarding. As the president of Seoul National University (SNU), I will do my best to pursue the original mission of the university by fostering future talents and promoting research in Korea. Also, with KSEA, we will do our best to provide a foundation for joint development through R&D international cooperation.

The 50th anniversary of KSEA coincidentally marks the year when we are at the impending technological upheaval. We are about to see amazing changes through new technologies such

as artificial intelligence, machine learning, and biotechnology. Korean-American scientists' knowledge and experience in the United States, the best country in science and technology, with strong potential of Korean scientists, I am already looking forward to seeing what results will come out of future collaboration, in this unpredictable era.

Distinguished scientists and engineers of KSEA, I would like to express my respect for the determination and perseverance of our KSEA members who have overcome all the difficulties in the United States and worked hard as mature scientists in their respective fields. In the recent global pandemic crisis, we could see the strength of Korea's spirit of unity again, which becomes more solid whenever confronting any hardships. I believe that with this spirit in mind, KSEA could create a Korean network with a strong bond. Thanks to all KSEA members' patriotism and vital support for the home country, we have present Korea.

Once again, congratulations on the 50th anniversary of KSEA, and I hope it will thrive and continue strengthening the ties among Korean scientists all over the world. I wish everyone happiness and prosperity.

Thank you.

이 광 복

한국연구재단 이사장

재미한인과학기술자협회 (Korea-American Scientist and Engineering Association, KSEA) 창립 50주년을 진심으로 축하합니다.

그리고 한국연구재단을 대표하여 축하인사를 하게 된 것을 영광으로 생각합니다.

한국연구재단은 1977년 한국과학재단이라는 이름으로 설립된 바로 그해 5월에 미국립과학재단 (NSF)와 협력각서를 교환하여 국제공동연구, 과학자교류, 그리고 국제공동 세미나 사업을 지원하여왔습니다. 현재도 미국 NSF 와는 GROW (Global Research Opportunity Worldwide) 프로그램을 공동으로 지원하고 있습니다. 1995년에는 워싱톤 DC 인근 Vienna에 KUSCO (Korea US Science Cooperation Center)를 설립하여 한미협력사업의 가교 역할은 물론 및 재미과학기술자협회 활동의 기반 역할을 제공해 왔습니다.

재미한인과학기술자협회는 1971년 재미한인과학자들의 친목도모와 과학기술의 발전을 활용한 지역사회의 발전에 이바지한다는 목적으로 69명의 소규모 인원으로 설립되어 그동안 한국과 미국간의 국제협력에 큰 역할을 해왔습니다. 설립당시 많은 어려움을 무릅쓰고 현재의 30,000명에 이르는 회원으로 성장한 데에는 회원 여러분들의 많은 노력이 있었기에 가능한 일이었다고 생각합니다.

현재 재미한인과학기술자협회는 78개의 Chapter, 30개의 Society들과 13개의 Technical Group들로 구성되어 지역별로 National Math & Science Competition, Regional Technical Conferences, Young Generation Programs, Seminars/ Workshops, Science & Technology Programs for General Public 등 젊은 세대부터 Senior 과학자들까지 아우르면서 지역사회 기여 활동 등 다양하고 활발한 학술 활동을 하고 있다는 것을 잘 알고 있습니다.

한국연구재단은 그동안 KUSCO를 통하여 재미과협에 매년 20여 건의 컨퍼런스 지원과 KSEA-KUSCO Graduate Scholarships을 통하여 매년 20여명의 재미한인 2세 대학원생들에게 장학금을 지급하고 있으며 워싱톤 등 4개의 Chapter에서 다양한 학술 활동지원과 US-Korea Conference (UKC) 등을 지원해 왔습니다.

오늘날 한국이 세계 10위권의 경제규모와 세계 6위권의 수출 규모를 이루게 된 것에는 과학기술이 결정적이었습니다. 그리고 이러한 한국의 과학기술 발전에는 재미 한인 과학자들의 많은 공로가 숨겨져 있다고 생각합니다. 과거 한국의 과학기술 수준이 미미할 때 많은 재미 과학자들이 미국의 과학자들과 국제공동연구, 과학자 상호 방문 등을 통하여 미국의 선진 기술 및 지식 등을 한국에 전파 하는 데 기여했으며, 오늘 날에도 이러한 한·미간 긴밀한 교류가 우리나라의 과학기술을 최고 수준으로 유지하는데 큰 기여를 하고 있습니다.

현재 세계는 인공지능, 자율주행, 사물인터넷 등 4차 산업혁명의 시대가 온 세상을 리드하고 있습니다. 이러한 상황을 고려해 볼 때 과학기술의 국경없는 교류는 아무리 강조해도 지나치지 않습니다.

2020년에는 년초부터 지금껏 경험하지 못한 새로운 감염병인 COVD-19로 인하여 전세계가 고통을 겪고 있습니다. 이 위기를 타개하기 위해서도 질병에 대한 국가 간의 긴밀한 정보 공유와 데이터 분석 그리고 더 적극적이고 과감한 과학기술분야 국제협력만이 인류가 당면한 어려움을 해결해 나갈 수 있다고 믿습니다.

이러한 위기 속에서도 한국은 COVID-19 극복에서 보여주었듯이 신속하고 정확한 진단과 치료, 국민들의 성숙한 대응과 정부의 신속한 정책 집행 등에서 국제사회의 모델이 되고 있습니다.

K-방역의 성공적인 수행을 통해, 우리는 새로운 길을 개척하고 모델을 제시하는 First Mover의 역할을 하고 있습니다. 감염병의 극복과 과학기술 발전을 통한 미래사회의 발전은 한국이나 미국 혼자의 힘으로는 절대 할 수 없습니다. 재미과학기술자 여러분들이 과거에도 그랬듯이 앞으로도 많은 힘이 되어 주시기를 부탁드립니다.

재미한인과학기술자협회 50주년을 다시 한번 진심으로 축하드립니다. 그리고 앞으로의 50년도 커다란 비상이 있기를 고대 합니다.

김 성 곤

재외동포재단 이사장

안녕하십니까?
재외동포재단 이사장 김성곤입니다.

재미한인과학기술자협회 (재미과협)의 창립 50주년을 진심으로 축하합니다. 아울러 그동안 한국과 미국의 과학기술 발전을 위해 쏟아온 재미과협의 노력과 활동상을 담은 '재미한인과학기술자협회 50년사'를 발간하신 데도 아낌없는 박수를 보냅니다. 박병규 회장님 및 관계자 여러분의 노고에 감사를 드립니다. 뒤돌아보면 1971년 12월 11일, 워싱턴 D.C.에서 69명의 한인과학기술자들이 모인 것은 놀라운 역사의 출발점이었습니다. 한미 양국의 과학기술 발전을 위한 한인과학자들의 노력이 시작되었기 때문입니다.

재미과협은 한국이 급진적인 산업화를 겪던 1960~1970년대 미국 유학생 출신의 한인과학자들이 창립했습니다. 창립 이후 재미과기협은 선진 과학기술을 모국에 전달하고, 한국과학기술연구원 (KIST)를 설립하는데 중추적 역할을 하며 모국 대한민국의 발전을 도왔습니다. KAIST, 포항공대, 광주과학기술원 등이 설립될 때는 총장, 교수, 자문역 등 다양한 방식으로 모국의 성장을 지원했습니다.

현재는 미국 전지역에 70여개의 지부, 22개의 차세대 지부, 31개의 과학기술 전문단체 (KSEA APS)를 두고 7,000여명의 회원들이 활동하는 큰 과학기술전문단체로 우뚝 섰습니다. 매년 재미한인과학기술자는 물론 한미 양국의 국회의원, 정책입안자, 연구원, 학생들이 대거 참가하는 한미과학기술학술대회 (UKC)를 개최하여 연구교류를 활성화하고 후진을 양성하는데 크게 기여하였습니다. 750만 재외동포를 살피는 재외동포재단의 이사장으로서 깊이 감사드립니다.

이제 창립 50주년을 맞은 재미과협은 또 하나의 의미 있는 도전에 나서고 있습니다. 실리콘밸리에 '세종과학기술혁신센터'를 건립하는 것입니다. 스타트업의 산실인 실리콘밸리에 센터를 건립하여 미국에 진출하는 한국의 스타트업, 학교, 연구소들이 성공적으로 정착할 수 있도록 지원하는 계획입니다. 이처럼 도전적인 계획이 가능한 것은 협회의 막강한 인적 자원이 뒷받침하고 있기 때문입니다. 여간 든든한 일이 아닐 수 없습니다.

'세종과학기술혁신센터'가 건립되면 현지 환경에 익숙하지 않은 한국의 스타트업들이 현지화된 전문가들의 지원으로 시행착오를 최소화하며 빠르게 자리 잡을 수 있을 것입니다. 아무쪼록 재미과협이 추진하는 센터가 성공적으로 건립되어 재기 넘치는 한국의 스타트업들이 세계로 비상하는데 큰 힘이 되어 주기를 바랍니다.

다시 한번 재미과협의 창립 50주년을 축하합니다. 재미과협의 향후 50년은 글로벌네트워크가 확산하는 새로운 도전의 역사가 되기를 바랍니다. 감사합니다.

2021.10.26.

재외동포재단

이사장 김성곤

한 우 성

전 재외동포재단 이사장

재미한인과학기술자협회 창립 50주년을 진심으로 축하합니다. 오준석 회장님을 비롯하여 여러분들이 지나간 50년을 되돌아보고, 새로운 첫걸음을 내딛기 위하여 기울여온 노력들이 50년사에 올곧이 담겨 있습니다.

1971년 설립된 이래 재미한인과학기술자협회는 한-미간 국제협력 발전과 미국 내 한인 과학기술인들의 경력 개발 지원 등을 목표로 발전을 거듭하여 현재 누적회원 1만명이 넘는 재외한인과학기술자협회 가운데 가장 대표적인 단체로 자리잡았습니다.

매년 한미과학기술학술대회 (UKC), 전국수학과학경시대 (NMSC), 차세대 과학기술자 리더십 학술대회 (YGTLC) 등을 성공적으로 개최하여 차세대 육성에 힘쓰는 한편, 현업의 기업인까지 아우르면서 재미한인 과학 기술인의 위상을 드높여 왔습니다.

오늘날 전세계 차세대 동포들은 거주국 내 주류사회로 진출하고 있을 뿐 아니라, 모국과의 상생발전에도 기여하는 동반자로서 그 역할이 커지고 있습니다.

특히 '과학기술을 통한 혁신성장'이라는 우리 정부의 정책목표에 발맞추어, 한인 과학자 여러분들이 자신들의 재능과 역량을 활용하여 여러분이 살고 있는 지역사회 발전은 물론 모국과의 관계 증진, 그리고 글로벌 가치의 구현에도 선구자적인 역할을 해주시기 바랍니다. 재외동포재단은 재미한인과학기술자협회가 동포사회의 역량을 결집하고, 차세대 동포들이 국제사회에서 역량을 발휘할 수 있도록 시행하고 있는 다양한 활동과 항상 함께 하겠습니다.

창립 50주년을 다시 한번 축하 드리며, 재미한인과학기술자협회의 새로운 50년을 기대합니다.

감사합니다.

한 우 성

이 승 종

서울대학교 화학생물공학부 명예교수

재미한인과학기술자협회 (Korean-American Scientists and Engineers Association, KSEA)가 창립 50주년을 맞는다고 하니 그 동안의 발전과 성과를 진심으로 축하드립니다.

필자의 KSEA와의 인연 및 기억은 그리 많지 않아서 이런 글을 쓰기에 적절한가? 하는 생각도 잠시 해보았으나, KSEA 그리고 특히 UKC (US-Korea Conference)의 바람직한 미래에 대하여 가지고 있었던 필자의 좁은 소견이나마 한번 전해드리는 기회로 생각하고자 기쁘고 영광스러운 마음으로 이 글을 씁니다.

KSEA가 창립된 1971년은 필자가 대학 2학년생이었던 해로서 여러 기억들이 서로 교차하는 시기였습니다. 교련 과목 필수 지정에 따른 수강 거부 및 철폐 운동, 대학 민주화 운동, 위수령, 국가 비상사태 선언에 이은 유신 등 국내 70년대 초반은 민주화 운동 관련 keyword 들 없이는 얘기하기 힘든 시기였습니다. 미국에서도 이 시기는 지리한 월남전을 치르면서 60년대 중후반부터 시작된 반전운동이 전국으로 확대되고 hippie와 rock 문화가 젊은 세대를 사로잡던 시기로 기억되고 있습니다.

필자도 대학 (화학공학과) 졸업 후, 미국 유학 생활 (1978-1982)을 거쳤으며, 1984년부터 서울대학교에서 교수로 재직하다가 2018년 초에 정년 퇴임하였습니다. 유학 생활 중에 KSEA에 대하여 얘기들은 기억이 어렴풋이 있는 정도입니다. 2007년까지 24년간은 rheology 분야의 연구와 교육에만 몰두했었으나, 2008년 이후 퇴임 시까지 약 10년 동안은 대학 내외에서 주로 연구정책 수립, 연구관리 행정, 연구조직 관리 등 업무로 바쁜 시간을 보낸 바 있습니다.

필자의 KSEA와의 인연은 비교적 최근의 일입니다. MB 정부 말기인 2012년 한국연구재단 이사장을 맡으면서 자동으로 한미과학협력센터 (KUSCO) 이사장도 겸직하게 되면서 인연이 시작되었으며, 이어서 2014-2016년 동안 과총(KOFST) 부회장과 학술진흥위원장으로 일하면서 KSEA와의 협력 및 지원사업을 수행한 바 있습니다.

필자는 KUSCO 이사장 (겸 한국연구재단 이사장)으로서 2012년 5월 전미수학과학경시대회 (KSEA, KUSCO 공동 주최) 시상식에 참석하여 수상자들을 축하하고 격려한 바 있습니다. 또한, UKC 2012와 UKC 2013에 각각 참석하여 개회사, 축사, Plenary lecture, KUSCO scholarship 시상 등 activities을 수행하면서 KUSCO와 KSEA의 미래 협력 방안에 대하여 지속적으로 토론한 바 있습니다. (사진 참조) 특히, 2012-2013년 두 번의 UKC에 참석하면서 생각했던 UKC의 미래 발전 방향에 대한 필자의 의견을 아래에 전하는 것으로 축하말씀에 대신하고자 합니다.

UKC는 KSEA가 KOFST, KUSCO와 공동으로 주최하는 학술행사로서 매년 미국에서 개최되고 있습니다. 재미 한인 과학기술인을 주축으로 한국 내에서도 많은 연구자가 참석하는 국제 학술행사로 자리매김해가고 있으며, 매년 노벨 수상자 (급 학자)를 초청하여 행사의 격을 높인 것도 매우 고무적입니다. 학술행사란 어떤 경우에도 academic excellence를 추구함이 최우선시 되어야 합니다. 일부 정치인들이 자신을 알리는 기회로 삼고자 개회식장에서 그들의 축사가 길게 이어지는 일이 반복되지 않아야 합니다. 과학기술정책 및 진흥 방안에 대한 토론이 필요하다면 이를 위한 별도의 세션을 구성하여 참석토록 하면 될 입입니다.

이공계 전 분야를 망라한 학술행사이다 보니 세부 전문분야별 전문성이 떨어지는 것은 피할 수 없는 현상일 것입니다. 가능한 한 그 시대의 공통 관심사 중심으로 또는 융합적 성격이 강한 주제 중심으로 세션을 구성하는 것이 아마도 최선일 것입니다. 그러나 이럴경우 그 학술행사는 전문성을 갖춘 모임이기 보다는 회원 상호 간의 친교가 주목적이 되는 행사가 될 가능성이 높을 것입니다. 한창 왕성한 연구활동을 보이고 있는 젊은 연구자들이 자발적으로 참석할 수 있는 학술행사로 거듭나기 힘든 한계가 여기에 있는 것입니다. 그렇다고 세부 전문분야별로 백화점식 세션을 구성하여 진행하는 것도 결코 성공적인 방법이 될 수 없음은 자명한 사실입니다. 이러한 고민을 해소할 수 있는 방안을 하나 제안하고자 합니다.

세부 전문분야 별 satellite 학술행사를 기획하여 진행하는 것입니다. 젊은 한인 학자들이 많은 분야부터 시범적으로 시작하는 것이 좋을 것입니다. 같은 분야 젊은 학자들이 함께 모여서 서로의 경험과 성과를 공유할 수 있는 장을 만들어 주는 것이야말로 KSEA가 미래 50년의 발전을 위하여 지원을 아끼지 말아야 할 최우선 사업일 것입니다. 최근 COVID-19 사태 때문에 급속히 늘어나고 있는 cyber conference의 platform을 활용한다면 비용도 최소화할 수 있을 것입니다.

다시 한번 KSEA 창립 50주년을 진심으로 축하드리며, KSEA 회원 모두 COVID-19 상황을 하루빨리 극복하고 건강한 일상으로 돌아올 수 있기를 간절히 기원합니다.

2012년 KUSCO Scholarship 수상자들과 함께

2013년 UKC에서 Plenary Lecture 중인 필자

Yoonho Nahm 남 윤 호

Publisher of the Korea Daily
Joongang Ilbo USA

Greetings.

I am Yoonho Nahm, publisher of the Korea Daily (Joongang Ilbo USA).

First of all, on behalf of the Korea Daily's subscribers, users of the Internet site, and employees as well, we are celebrating the 50th anniversary of the Korean-American Scientists and Engineers Association (KSEA).

The media industry in which we are working and the science and technology world to which KSEA belongs are quite different. So unfortunately, there aren't that many interactions between us other than meeting with reporters. Nevertheless, the Korea Daily is well aware that KSEA was founded in the early '70s and has contributed greatly to the development of the Korean-American community and the prosperity of Korea, the home country, for a long time of 50 years.

I am confident that no one will dismiss KSEA's important role in driving the speedy industrialization and high growth of Korea. For professors who were teaching at leading universities, as well as for researchers in fields such as cutting-edge sciences and basic sciences, they have been working so hard. They contributed by sacrificing their personal interests. This act of patriotism has become a legend that's been widely talked about.

In addition, KSEA has been focusing on the second generation of Korean Americans from the very beginning and helping them improve in their math and science skills. KSEA hosts math and science competitions on a nationwide scale, creating the pathway for Korean immigrants to become future scientists and advanced engineers. It is well known that KSEA has provided a glimpse of opportunity and also served as a great guide in career choice.

There are numerous students who succeeded in attending prestigious universities after joining KSEA's math competition when they were in middle or high school. Of course they might feel some frustrations during that hard competition, but finally such experience should become great motivation for further study. As you know, such kinds of success stories have been frequently covered by the Korea Daily.

It is also known that the student participants in those competitions have been helping each other with their university studies. Seniors provided lots of valuable information in their study to the freshmen at the same major. Sharing the experience in KSEA's competition has led to sharing their knowledge and know-how with each other. That is unimaginable in other communities. Moreover, it is well known that these students have been actively involved in KSEA as partners who build professional network after graduation. I'm sure that helps knowledge expand and grow.

Once again, congratulations on the 50th anniversary of KSEA, and as always, I ask that you continue to play a pivotal role in the Korean community. Thank you.

한·미 과학기술이 만난다

'한미과기 학술대회' 개막

수학경시대회 성황

News articles of Joongang Ilbo USA that are published all over the United States. UKC is introduced in San Diego and LA Edition.

Part I

Overview of KSEA History

Chapter 1

THE FIRST 25 YEARS

- KSEA, Its First 25 Years
- 10th Administration
- 13th Administration
- 17th Administration
- 19th Administration
- 21st Administration
- 23rd Administration
- 24th Administration
- 25th Administration

KSEA, Its First 25 Years

Ki Dong Lee

The 27th President

The Birth of KSEA

The idea of KSEA was first suggested by Prof. Young Bae Kim (the 4th President) of USC at a KIST Symposium, held at Battelle Memorial Institute, Columbus, Ohio, in September 1968. He advocated a need for a national-level organization for research cooperation between scholars in Korea and America. Three years later, a 9-member proposal commission was formed to prepare for the creation of KSEA and invited Korean scholars in natural science residing in the United States to the foundation meeting of KSEA. 69 scholars attended the foundation meeting, held in Washington, D. C. on December 11, 1971. Bylaws were adopted and Professor Shoon Kyung Kim of Temple University was elected as its first President. The organization was named as Korean Scientists and Engineers Association in America (KSEA), 재미한인과학기술자협회 (재미과기협). Later in 1993, its name was changed to Korean-American Scientists and Engineers Association (KSEA).

The founders of KSEA gave the General Assembly (GA) the ultimate governing power, but the GA never met after the foundation meeting due to difficulty in getting together for meetings. Still, the GA makes the most important decisions such as the amendment of bylaws and election of officers. The organizational structure chosen by the founders to carry out most businesses is composed of the Council and the Executive Committee. The Council consists of President, Vice Presidents, Elected Councilors, and Ex-officio Councilors (Chapter Presidents). The EC consists of the President, VPs, Executive Director, and other Directors.

The scene of the officers meeting at the 1st KSEA administration. From the left, 1st KSEA President Dr. Shyun Kyung Kim; Dr. Jung Mook Lee, Treasurer; Dr. Hogil Kim, Executive Director; Dr. Jong Sam Lee, Publication Director; and Dr. Chan Mo Park, Director General Affairs.

Since the beginning, financing was most difficult for KSEA. Early leaders stayed at a friend's house to save hotel costs, when attending meetings. They donated to raise the operational funds of KSEA. They did not claim for travel reimbursement. Here, I would like to recognize the contributions of Mr. Hyung Ki Kim (Science Coordinator of MOST) and Dr. Hyung Sup Choi (President of KIST, later Minister of MOST) for their support to the creation of KSEA. Mr. Kim played an intermediary role in connecting Korean scholars in America. Dr. Choi was a loyal supporter of KSEA and he had foreseen KSEA's role in industrialization of Korea.

Statement of Purpose

At the beginning (1972), the statement of purpose of KSEA was rather narrowly defined as (1) networking with and fellowship among Korean scholars in America, and (2) contribution to the modernization of the fatherland. As KSEA was being established, its activities had also grown more rapidly and more broadly. Later in 2014, the bylaws were amended to modify the KSEA mission statement to include all its activities that have been performed throughout its history, such as international cooperation, career development, and community service. It took long to modify bylaws because an amendment was hard to be passed by the General Assembly.

The extended statement of purpose of KSEA includes: (1) Contribute to the social welfare and the industrial development in the USA and Korea through the promotion of science and engineering, (2) Promote cooperation between the USA and Korea in science and engineering, (3) Promote friendship and fellowship among Korean-American professionals engaged in science, engineering, and related fields, (4) Enhance the professional and social status of Korean-American professionals engaged in science, engineering, and related fields, and (5) Promote and cultivate the next generation of Korean-American scientists and engineers.

Networking Korean Scholars in America

Early leaders worked hard to establish KSEA successfully. As KSEA grew, the number of chapters and members increased rapidly. The number of members were: 69(1971), 421(1972), 699(1973), 1,173(1974), 4,074(1985), 7,360(1991),

10,913(1997). Although those numbers include inactive members, the rate of increase was enormous. The number of chapters showed a similar growth: 9(1972), 29(1977), 58(1995). Chapters established in 1972 were: North Carolina, Southern California, New England, New Jersey, North California, Washington Metro, Inter-mountain States, Philadelphia, Southwestern States. Various activities were performed at the local chapter level to satisfy different needs unique to each chapter. Some chapters held professional or academic conferences, some had sports and fellowship events, some provided seminars to help students and parents, etc.

The publication of KSEA Letters, the association magazine, has been treated as one of the most important projects in each administration of KSEA. KSEA Letters delivered news on activities at HQ and local chapters, disseminated information on opportunities, introduced programs of government, research centers, academia, and industry, in both Korea and USA. Sometimes it printed essay articles and technical papers, etc. It also contributed to networking and communications between members. The first issue was published on April 22, 1972. Usually 5 or 6 issues were published per year. All issues were digitized and posted at the KSEA website at ksea.org/us/information/ksea-letters/.

Another important publication of KSEA is a comprehensive 'Who's Who' on Korean scientists and engineers in America. The first version was published in 1972 and included 473 scientists and engineers. It was continuously updated until the internet age arrived. The 1987 version contained over 6,000 professionals, and the 1994 version over 4,000. Later it led to a database system that contained over 10,000 on S&T professionals. This publication served as a good resource for high-tech manpower search until the internet age arrived. This project was supported by the Ministry of Science and Technology (MOST) and later by the Korea Science Foundation.

Contribution to Modernization of the Fatherland

In the 1960s and 1970s, President Park Chung-Hee adopted several economic policies that brought rapid economic growth and industrialization to Korea, known as the Miracle of the Han River. To implement his plan, he needed high-tech manpower and looked for its supply mainly from the USA. President Park founded KIST in 1966, KAIS in 1970, and ADD in 1970. Key scientists and engineers were needed in industry, research centers, and universities. Meanwhile members of KSEA were eager to help their fatherland whenever possible. This led to a good partnership between Korea and KSEA.

KSEA and its members established a good working relationship with Korean government agencies and other organizations in the following areas: support evaluation of research proposals, evaluate research reports, participate in joint research projects, assist in talent search and recruit of high-tech professionals, search for technical information, assist visitors from Korea to USA, attend Korean conferences and symposiums, search for specialists in specific areas, connect people between demand and supply, announce and promote Korean programs, perform research trend studies, help members' visit Korea for lecture and job search, play a role of think tank, help the 'Brain Pool' program, collect books/journals and donate them to universities and libraries, etc. Some of these tasks are old-fashioned and may not be needed in the present internet age.

학술대회 (Conferences, Symposiums, and Workshops)

KSEA organized, sponsored, and held various levels of conferences throughout its history. As in other professional organizations, conferences (학술대회) have been the most important professional activities of KSEA. Conferences are a good place for networking. Members, invitees, and guests assembled together, shared and learned technical knowhow, discussed pending technical issues, made acquaintances and friends in related fields, created opportunities for the future, promoted fellowship between attendees, etc. KSEA held conferences at national, regional, and chapter levels. KSEA also invited academic scholars and industry leaders of Korea to its conferences to provide a forum for conversation. Conferences served as the most successful medium to assist the industrial and economic development of Korea. Conferences helped Korean efforts in recruiting Korean professionals in America to their homeland. Data indicates that 8,797 Ph.D. holders returned to Korea by 1997, among them 1,365 returned before 1982. Tremendous numbers!

20th Anniversary Conference at Washington, DC, 1991

KSEA sponsored national-level conferences such as Conference at 5th Anniversary (1976), KSEA Washington Conference (1979), Conference at 10th Anniversary (1981), Korean S&T Symposium (1989), Conference at 20th Anniversary (1991), KSEA Conference (1994 and 1995), Conference at 25th Anniversary (1997), etc. Also, KSEA worked together with KOFST (Korean Federation of Science and Technology) to support Integrated S&T Symposium in Korea (모국방문 과학기술 종합심포지움), held in Korea

every other year since 1974. Its name was later changed to Worldwide Korean Congress in S&T (세계한민족 학술대회), held every 3 years since 1993. Effectively KSEA sponsored national-level conferences annually, with location alternated between America and Korea.

KSEA coordinated with Korean organizations to have small-scale symposiums and workshops, held mostly in Korea and covered advanced topics. Specific symposiums and workshops were held irregularly on need basis. KSEA searched for specialists and recommended them as speakers and participants. For example, an aerospace symposium was held at the KUSCO building and Tysons Corner, VA in May 1997. Out of 74 in attendance, 34 were KSEA members, 22 from Korea, 7 American specialists, and 11 non-aerospace personnel. This workshop was sponsored by KOFST, KUSCO, and KARI (Korea Aerospace Research Institute). Attendees learned scientific technical know-how, exchanged information on S&T progress and trend, and discussed issues on scientific and industrial projects of Korea.

Contributions to Korean Communities in America

Education and well-being of children are the top priority in immigrants' life. KSEA developed several programs to assist Korean communities in America. KSEA leaders regarded the young generation as future members and leaders of KSEA. KSEA adopted English as the official language of the organization. KSEA established the Young Generation (YG) Committee and appointed a YG Director in its Executive Committee. KSEA sponsored the YG Leadership Conference regularly, first as a part of a general conference, and later as a separate independent conference. Its target spans from college students to young professionals in science and engineering.

KUSCO building at Vienna, VA, 1997

Another program for Korean communities is the Math Competition for elementary and middle school students. The program first started at the local-chapter level, but later grew to regional and then national levels. Also, it was extended to include science to make the National Math and Science Competition (NMSC). This program became very popular especially to parents as their children participated in this program annually.

Another important KSEA program for YG is scholarship. KSEA installed the Scholarship Committee and established scholarship funds which are still growing. KSEA awarded various scholarships yearly to college students and graduate students in natural sciences. It started with 8 scholarships in 1979, but the number has reached close to 100 scholarships now. KSEA also provided scholarships to post-doctoral researchers. It also awarded KSEA-KOSEF scholarships for college students to intern at Korean research institutes in the summer for 3 months. Its participants reached 18 in 1996.

KSEA HQ Office

In the beginning, the KSEA HQ office followed its President, from the President's or Executive Director's residence to a rental space. To save money, early leaders stayed at their friends' houses to attend meetings; and they made donations to raise funds. When KSEA received financial support of $30,000 from the Ministry of Science and Technology (MOST, Minister Hyung Sup Choi) in 1972, KSEA leaders decided to use the support from the Korean government only for the tasks that help Korea. They were pioneers, patriots, and men with vision. Financial independence has been sought after since the beginning. Minister Choi understood this culture of KSEA leaders and made a donation from his own purse by changing his air tickets to coach class to save his travel allowance. In 1981, KSEA purchased an Executive Office Condominium at Rockville, MD at $251,000. Dr. Hyung Sup Choi helped again. Finally KSEA had its HQ at a permanent location.

In July 1995, President Yung Sam Kim visited the USA and invited 200+ S&T scholars (mostly KSEA members) to a reception (간담회) in San Francisco. President Kim promised a Korea-US Science Cooperation Center (KUSCO) to support cooperation between Korean scholars in both countries ($5M budget). Prof. Moon Won Suh (23rd President) and Prof. Dewey Ryu (24th President) worked hard in lobbying and received enthusiastic supports from Minister Keun Mo Chung of MOST and Dr. Seung Soo Han, Chief of Staff, the Blue House. KUSCO was opened on Feburuary 1997, and KSEA HQ moved into the KUSCO building on March 1997.

HQ office at Rockville, MD, 1981

The Aerospace Science Workshop was held at KUSCO in May 1997. As a member of the Long-Range Planning Committee and later as Vice President, I had observed the efforts of KSEA leaders from the building hunts to drafting the KUSCO Bylaws. The KUSCO Bylaws were drafted by KSEA, approved by the Korean Science Foundation, but amended later without any input from KSEA. I was sorry to see KSEA lose the ownership of the building.

Visit of President Young Sam Kim at San Francisco, 1995

Visit of President Young Sam Kim Banners

Major Achievements in the First 25 Years

- KSEA established itself as a national-level professional organization
- KSEA supported professional activities of its members and promoted interactions and fellowship between members
- KSEA produced remarkable contributions to economic development and industrialization of Korea
- KSEA helped high-tech recruiting for Korean institutes, and assisted job searching of its members and other scholars in America
- KSEA fostered second-generation Korean-Americans, by providing scholarships, awards, and YG conferences
- KSEA helped Korean communities in America with programs such as the Math Competition, counseling, and summer internships
- KSEA have pursued financial independence from the beginning, and is still working on it
- KSEA published and updated 'Who's Who' on Korean-American S&T professionals
- KSEA published the First 25-Year History Book in August 1998, entitled '*한미 과학기술 교류 100년과 재미과기협의 역할*' (503 pages)
- KSEA was successful in establishing the KUSCO building, but lost its ownership
- KSEA achieved its initial statement of purpose and keeps pursuing higher mission goals

Concluding Remarks

KSEA was founded and has grown together with Korea's export-driven industrialization. South Korea's economic development, a structural transformation from an agricultural economy to a modern industrial power, is often cited as a man-made miracle in the span of three decades (1962-1980). Korea's GNP (gross national product) per capita was $310 in 1971, $13,320 in 1996, and $33,790 in 2019 (data source: World Bank).

President Chung-Hee Park gave KSEA a precious present, a frame containing his writing 科學立國 (Science Builds Nation). Unfortunately it was stolen from the wall of the KSEA president's office at HQ. We can read President Park's belief from those four letters. After 50 years, his policies proved that he was right. Now Korea has become one of the most developed countries. I am glad that KSEA and its members have played a critical role in supporting his policies.

Cover of KSEA 25-year history book, 1998

Writing of President Chung-Hee Park

10th Administration (1981-1982)

Yong Nak Lee

In the first decade of KSEA history (1971-1981), KSEA stood for the Korean Scientists and Engineers Association in America, Inc. In 1994, it was renamed to the Korean-American Scientists and Engineers Association, as it is known today. The first decade of KSEA saw the most dynamic times in the recent history of Korea due to its rapid industrialization. This was also a very politically turbulent era for Korea, particularly during the three consecutive years I served KSEA as Vice President (VP), President Elect (PE)and 10th ('81/'82) President. Despite these challenges, those three years were among the most rewarding years of my life.

Those who served in the 10th administration with me were VP Dr. Kun-Sup Hyun, PE Dr. Kyung-sik Kang, Executive Director (ED) Dr. Soo-young Chang and staff officers Mr. In-Tak Jung (General Affairs), Mr. Ki-han Kim (Finance), Dr. Yung-il Yeom (Newsletter), Mr. Byung-gil Min (PR), and Dr. Chung-suk Kook (Special Projects). These were times of great financial difficulty as the total annual budget was only about $300,000, which was funded by KOSEF (Korea Science and Engineering Foundation). In response to this, ED Dr. Chang's initiative to reduce the mileage allowance for KSEA officers to $0.10/mile from the usual $0.225/mile was accepted by all officers. They worked after hours, separate from their regular jobs, because there was only one employee for KSEA. This was also a time before either PCs or internet access were widely available, which is virtually unimaginable today.

This challenging environment illustrates the deep patriotic commitment that each of our officers had to his mother country Korea. When the Korean government under President Park Chung-hee had ambitious plans for industrialization of their motherland, our proud KSEA officers answered the call. KSEA's major goal was to supply US-educated scientists and engineers to Korean industries, technical research institutes and academia. Indeed, the reliable supply of talented manpower trained in the USA was the major goal in the first decade of KSEA. In retrospect, I see that this was a full-time commitment to a larger cause. For example, when I served as the Chicago Chapter President in 1974, I usually planned vacations around scheduled interviews of candidates with many visiting recruiters from Korean organizations such as ADD, KIST and KAIST to name a few.

A big challenge to my administration surrounded the continuation of the efforts to purchase KSEA's office and own our building. This was originally initiated by the 8th ('79/'80) administration of Dr. Je-hyun Kim, when I was then VP. Dr. Kim visited Korea in July of 1979 to meet with large Korean industries in an effort to persuade them to support KSEA's dream of owning its KSEA Head Office and thereby saving rent expenses. At that time, the means for a teleconference were not available. Therefore, I had to travel to Washington, D.C. to attend monthly staff meetings for three consecutive years.

The search for our potential office building took a large portion of our time. To further complicate matters, in a national tragedy, President Park Chung-hee of Korea was killed by his own aide on October 26, 1979. Following this, General Chun Doo-whan's military revolt resulted in the KSEA building project being put on hold and having its future in doubt. However, to our great fortune, the commitments made by these Korean big businesses were honored, despite being in the middle of this huge Korean political turmoil. The 8th Administration made the funding request through KOSEF on January 8, 1980 and received a promise of payment on June 21, 1980, a week before its term ended. The search for potential office buildings continued throughout the 9th Administration (7/1980-6/1981) of Dr. Kwang Bang Woo and the 10th Administration (7/1981-6/1982). Finally, we found one unit in the newly built office condominium located at Executive Blvd., Rockville, MD.

On November 6 of 1981, on behalf of KSEA, a closing settlement (Total cost of purchase, $268,297) was made via my signature in the presence of the 10th Administration team. Mere words cannot properly express this unforgettable moment of joy and pride in my life. This was the culmination of thousands of hours of work and years of struggle as we had at last realized our shared dream. Sixteen years later, on February 20, 1997, KSEA HQ moved into the KUSCO building with the privilege of free rent and the benefit of having a much larger office space. This move was the result of the ongoing dedicated efforts by three KSEA Administrations (23th, 24th and 25th) of Drs. Moon Won Suh, Dewy Doo-Young

Ryu and Saeyoung Ahn. Since then, KSEA has been able to rent out the Rockville property earning an annual income of $25,000 as an added benefit.

During the period of my Administration, quite a few special events occurred, including the 10th anniversary of KSEA. To make this event more meaningful, even with our budget constraints, the staff meeting of the 10th Administration had decided to combine the upcoming three meetings to coincide with the annual Council Meeting in order to create a larger and more significant event. On the morning of November 7, 1981 the annual Council Meeting began, followed by a ribbon cutting ceremony in front of the newly owned KSEA HQ building in the afternoon. The 10th anniversary of KSEA was held on the same day at the Gaithersburg Marriott Hotel. An eloquent speech made by Dr. In Young Ham, 3rd KSEA President, followed by congratulatory remarks from Mr. Byung Hyun You, Korean Ambassador to the USA, marked the highlights from the banquet. The final program was a commemorative panel discussion session with the theme "*The projected status of KSEA 1980's and beyond*" moderated by Dr. Kiuck Lee, the 2nd KSEA President. Dignitaries from Korea as well as the USA, including the Minister of Science and Technology Lee Jung-ho, and presidents of many government research institutes attended.

During my tenure as the 10th President we faced a critical moment in our then brief history. We were notified on January 21, 1982 by the US government that the registration of KSEA as a corporation had been nullified effective March 1978. We later corrected it through proper procedures, which resulted in the reinstatement of KSEA as a US corporation and thankfully averted a potentially major crisis. From there, we were able to continue our valuable work without interruption. Establishment of Postdoctoral Fellowships may be one of the important accomplishments of the 10th Administration. The goal and spirit of the program was to provide opportunities for Korean scientists and engineers, who had obtained Ph.D. degrees from Korean universities, to pursue further postdoctoral studies at US universities. KSEA provided a full year of financial support to scholars. During my tenure as KSEA president, we proudly awarded 2 scholarships. The fundraising efforts made by the 10th Administration were diversified, including KSEA members Drs. Suck-Wha Chung and Byung-in Suh. These events were very meaningful in the sense that KSEA was able to provide financial support back to Korea and that the dream of KSEA had indeed come full circle.

In concluding this memoir of my tenure as the 10th KSEA President, I would like to express my pride in two officers from my Administration, Drs. Soo-young Chang and Yung-il Yeom, who both returned to Korea as the founding faculty of POSTECH (Pohang University of Science and Technology) in the mid 80's (Dr. Chang later became the 2nd President of POSTECH). This was truly a monumental step in fulfilling the promise of KSEA. Finally, I would like to express my heartfelt gratitude to ED Dr. Sooyoung Chang. In retrospect, he carried out many important tasks on my behalf when I was going through the most difficult time of my life. On May 25, 1982, when all staff members of the 10th Administration were very busy with the business transition to the 11th Administration (7/1982-6/1983), I lost my wife, Sung-whan Han. She had provided immense support for my efforts with KSEA ever since 1974, when I was the Chapter President in Chicago. Dr. Chang's dedication to myself and KSEA during that incredibly difficult time will never be forgotten.

1. Jun Mo Nam, Chair of the KSEA Building Committee
2. Yong Nak Lee, the 10th President of KSEA
3. Soo Young Chang, the 10th Executive Director of KSEA
4. Byung Hyun Ryu, Korean Ambassador to USA

13th Administration (1984-1985)

Chan-Mo Park

Members of Executive Committee served
President: Chan-Mo Park, Vice President: Soon Kyu Kim, President Elect: Dong Han Kim, Executive Director: Jongsei Park, Staff Secretary: Kee Chang Yoo, Treasurer: Hemin Chin, Editor (KSEA Letters): Daesoo Han, Membership Secretary: Chan Soo Lim, P.R. Secretary: Soo Yong Park, Project Secretary: Dal Yong Uhm, Student Affairs Secretary: Sung Won Lee, MIS Secretary: Hak-Chul Chung.

Goals set at the beginning of the 13th term
Being one of the founding members of KSEA and serving as the General Affairs Director (총무간사) in the 1st administration (1971-1972) as well as a vice president in the 6th administration (1977-1978) the 13th president was very familiar with the objectives of establishing KSEA in December, 1971 and the roles of KSEA toward the advancement of science and technology in South Korea. Based on these experiences and following the activities of the former administrations the 13th administration set the goals as follows:

1. To review various committees to improve functions of KSEA and search the addresses of more than 1,000 members whose addresses were uncertain.

2. To establish proper rules and bylaws to collaborate with Korean professional societies in the U.S.A. (e.g., AKPA).

3. To pursue the possibilities of collaborations with scientific organizations of the U.S.A. such as NSF and AAAS so that KSEA could generate joint projects with those organizations to receive funds. This would be a long term plan to be accomplished in the 14th or 15th administration.

4. To broaden and strengthen the activities for 2nd generation Korean scientists and engineers so that they become familiar with KSEA and contribute to the development of science and technology in the mother country. Also, to try to increase the number of summer scholarships for the 2nd generation, a project jointly pursued with the KOSEF.

5. To increase the efficiency of communication among the members so that advertisements for seeking specialists and recruiting for professional positions be transmitted to the members as early as possible.
6. To implement the program discussed at the final executive committee meeting of the 12th administration that was to gather the up-to-date science and technology information in public domain and distribute to the educational institutes, research organizations and industrial companies which were suffering from the lack of such information. The most important thing for KSEA was that such information and data should be in the open and public domain.

7. To continue with the existing ongoing projects of KSEA such as financial independence and increasing the benefits and rights of the members.

Partial List of Important Activities and Accomplishments
1. One of the most important accomplishments was to create a new position, MIS (Management Information System) Secretary in the 13th administration to automate KSEA business operations. For example, it helped the Financial Secretary to computerize the very complex financial/accounting system of KSEA.

2. The 9th Integrated Domestic and Overseas Korean Scientists and Engineers Conference was held in Seoul from July 2nd to 13th 1984. That was the first time for KSEA to join the European and Japanese Korean Scientists and Engineers Associations (**Photo a**). 93 KSEA members and 72 family members participated in the conference and 80 papers were presented. KSEA members also participated in the Spring Workshop on industrial applications and commercialization in the areas of Fine Ceramic, New Metals, High strength Fibers, High molecule Polymers and Genetic Engineering as well as Summer Symposium on Geology, Mathematics, Sports Science, Doping Test, Agriculture and Fishery and Environmental Engineering which were organized by KOFST, KSEA, European and Japanese Korean Scientists and Engineers Associations jointly. 11 KSEA members participated, respectively.

3. The 13th Counselor Meeting was held on September 28-30 1984 at the Twin Bridge Marriott Hotel in Arlington, VA with 47 Councilors and 8 Secretaries (**Photo b**). One item of the agenda, to amend the constitution, was passed at the councilor meeting but could not be implemented unfortunately due to failure in meeting the voting quorum of KSEA members.

4. The Scholarship Committees and bylaws on scholarships were newly established. KSEA-KOSEF scholarship program allocated funds for 31 2nd generation Korean scientists and engineers. Since only 15 were selected the rest of the funds was used to support 3 Post-Doctoral fellows.

5. Materials on up-to-date technology in the public domain such as Semiconductors, Toxicology and Computers that were necessary in advancement of science and technology as well as promotion of industry in the Korea were gathered and sent via the science attache in Korean Embassy in the U.S.A. KSEA also signed an MOU with KOPEC (President KunMo Chung) for collaboration on technology transfer (**Photo c**). KSEA formed a technical advisory committee and recommended 7 specialists. Another noticeable cooperation with Korea was receiving a memory typewriter from the Gold Star that helped business operations in KSEA (**Photo d**).

6. As a result of efforts to search for the current addresses and information of the members, 583 new individual information, 431 new addresses and 181 members who returned to Korea permanently were identified. This updated information was used in publishing a member directory in September, 1985. On the other hand, information on Korean professors residing in the U.S.A. and Canada was gathered for publishing a directory of Korean professors in December, 1985 by the Korean Council on University Education.

7. For the first time, the Daewoo Group became a supporting member of KSEA that raised the possibility of other Korean companies to become supporting members.

Status of KSEA at the end of the 13th term

1. Membership: Honorary (3), Regular (3368), Student (702), Supporting (1), Total (4074)

2. Chapters and Branches: Chapter (37), Branch (6)

a

b

c

d

17th Administration (1988-1989)

Kwang Kuk Koh

The following five things were the highlights for my term;

- Emphasized the regional KSEA activities
- Encouraged the startup of small businesses
- Liaison of activities for Korean automotive industries
- Led members of Korean industries in the USA to visit Korean automotive industries
- Summer scholarship program

Local Activities, Michigan KSEA Chapter
Through scientific and technical monthly seminars, KSEA members exchanged ideas and discussed future innovations. More importantly, KSEA members found ways to contribute their talent and skills to our father land, Korea, that had struggled to advance technically in the 1980s.

The different fields of the monthly technical seminars reached many different industries in the local, the US, and Korea.

KSEA Michigan Chapter encouraged the relationship among the members and their families.

Encouraged the startup of small businesses
Since I am one of the founders of Chrysan Industries with industrial and automotive lubricants, I encouraged KSEA members to be their own boss in the technical fields. Due to the early period of immigration, we did not have much success in having our own businesses. But our technical contributions to the corporations were tremendous.

Liaison of activities for Korean automotive industries
Detroit, Michigan is the capital of automotive industries. Most of the KSEA members worked directly or indirectly for the BIG Three (GM, Ford, and Chrysler). In the 1980s, Korean automotive industries needed lots of technical assistants from KSEA members who worked for the Big Three.

Chairman, Kim, WooJong (DaeWoo) and Chairman, Chung, Chu Young (Hyundai) came to Detroit many times and expressed their technical struggles in building automobiles. In the 1980s, Korean automotive industries were in the infant stage. They greatly needed technical assistance.

KSEA members in Michigan gave seminars on specific topics for the Korean automotive delegates, such as:

Engine and transmission designs
Windshield wipers
Chassis
Seats, doors, and more

All this information was public.

The most important factors were that the Korean automotive delegates recruited talented engineers from the Big Three and they were the pillars for building the present Korean automotive industries.

Led members of Korean industries in the USA to visit Korean automotive industries
In order to understand more about Korean automotive industry, I led industrial members in Michigan to visit manufacturing plants and the automotive R&D centers in KIA and Hyundai. After this visit, both parties opened closer communication channels for technology exchanges.

Summer scholarship programs for the second generation of Korean Americans
Four to five high school students whose majors were in science or relevant fields were selected and sent to Korean R&D centers or plants to absorb the first-hand experiences in Korean industries. Later, some of the students greatly served Korean society after graduation from college and after obtaining work experience in the USA.

19th Administration (1990-1991)

Chai Chin Suh

The 19th term administration consisted of: President Dr. Chai-Chin Suh, Vice President Dr. Ok-Kyong Chung, Pres.-Elect Dr. Mu-Yong Hahn, Head of Directors Dr. Man-Hee Hahn, and Directors (General Affairs: Yong-Kook Baek, Finance: Chin-Sang Lee, Editors: Mu-Chong Lee and Chang-Ho Ahn, Business: Chang-Ho Ahn, Organization: Mu-Kwang Park, Database: Seong-Kon Lee, Social Contact: Jeong-Ju Cha and Wan-Dong Kim). We had 48 regional chapters and 2 regional branches. We had 8,100 members, among whom 4,100 were active members. During our term, 704 new members were added to KSEA.

If we were to select one outstanding contribution or distinguished service to KSEA during the 19th term, it would be our Brain Power Resources DataBase Project (in accordance with Article 1 [1& 2] of KSEA Bylaws) funded by the Korean government through STEPI, which was funded for $180,000 and completed in our tenure. Moreover, STEPI committed to continued financial support for the project for its maintenance and management for years to come. This project created a financial resource for KSEA for future years as come as well as opportunities for KSEA members to participate in the Korean government's long range planning, collaborations, and result evaluations. It provided a "*two birds, one stone*" situation, leading to increased contacts and opportunities. The actual work was completed within one year. It was a historic and unexpected achievement.

Our Brain Power Resources DataBase Project started a little earlier than before the actual funding of $180,000 started and as a result, we were able to edit and publish the KSEA directory. In the end, the newly acquired host computer (Everex 386/25 MHz, 330 MBHD, 16 MB RAM) and 48 terminals (WYSE-60 Terminal and Hayes Modem 2,400) linked up the chapters for the DB project. It was at a time when server and email communications were not available. However, for the first time, we were able to implement computerized administrative and financial bookkeeping through the then costly work-station type host computer.

We supported five regional conferences: Lehigh Valley, New York, Michigan, North Carolina, and Wisconsin, and invited guests from academia and industries in Korea to encourage opportunities for recruiting and technical collaboration. These regional conferences were a forerunner of the present day UKC conferences, in a sense: many sites vs. one and different times vs. the same time. Our administration supported all regional conferences in all aspects, including total financial support.

We were fortunate to support the KOFST-sponsored International Academic Conference for Scientists and Engineers in Korea (IAC), which is held in Korea once every three years and invites Korean scientists and engineers worldwide. To be expected, major participants have been those from the U.S.A. and Korea. For the first time, however, Korean scientists and engineers from China and Russia participated in the IAC. As usual, our members were dominant in the presentation in number and quality. We organized the IAC such that each and every session, particularly featuring newly evolving technologies, started with an overview lecture presented exclusively by our members. Our president was solely responsible for the selection of topics and lecturers.

For the first time in KSEA history, we provided a forum for the younger generation involved with science and engineering in the local areas of D.C., Maryland, and Virginia, hoping to get a sense of what they were seeking for and what they could offer to an organization such as KSEA. They proposed to expand the forum participants from the three local areas to all KSEA chapters and also sought after co-op types of work-study opportunities. One of the immediate outcomes was a few available internship opportunities offered by KSEA members in the D.C. area.

At the beginning of our term, we faced the lack of operational funds transferred from the previous administration (a common and prevalent issue that has touched most administrations before us). Thus, we were forced to let the entire clerical staff go with the unanimous support of the directors, perhaps for the first time in KSEA history. Our administrative duties were carried out by our hardworking and dedicated directors. By the end of our tenure, we had completed a number of significant projects yet saved enough funds to donate $30,000 to the KSEA scholarship funds as well as pass on more than a sufficient amount of funds to the next administration.

Dr. Suh was consulted on many occasions early on by Dr. Hyung Sup Choi, architect of the nation's industrial development for the inception of KSEA and the recruitment of KSEA or non-KSEA members from the U.S.A., due to their friendship forged during their graduate studies at the University of Minnesota in the mid-1950s.

Dr. Suh founded the Lehigh Valley Chapter of KSEA in PA at the Lehigh University campus and became the first chapter president in 1985. He then served the next three years as a councilor (Tech. Group H). In the third year he was elected as the 19th KSEA President in 1988, without going through the vice presidency. During all those years he served as chair of numerous committees: Data Base, Young Generation Forum, KOFST-Sponsored IAC, and Regional Conferences. Recently, he served as a chair for the Long Range Planning Committee. Dr. Suh provided technical R&D guidance as an advisor (a rank equivalent to Executive VP) to improve product status from OEM to its own corporation name in the areas of diesel engines (75,000HP), gas turbines, and nuclear reactors for Korea Heavy Industries Corporation (Hanjung) for five years. As a result, Hanjung is now exporting nuclear power plants overseas.

Hanjung is comparable with General Electric in size and scope with respect to equipment manufacturing. Hanjung is the sole constructor of all types of power plants in Korea.

Currently Dr. Suh is offering a mentoring service to help KSEA members achieve the highest level of application capability in Applied Mathematics, such as Integral Equations, Calculus of Variations, and Matrices, coming after Advanced Calculus (Partial Diff. Eq., Complex Variables Analysis, Infinite Series). Applied Mathematics is a very versatile mathematical tool in various fields of engineering. Since it was announced in the May issue of the 2014 KSEA Letters, this service has been well received, and he is enjoying his contribution to KSEA by helping members—young or old, active professionals or graduate students—in need. He hopes this type of service will serve as a model of how retirees, including former presidents as well as the current working professionals who have knowledge and experience, can provide a helping hand to members in need: members helping members.

Jung, Geun-mo, Ministry of Science and Technology, presented a present from Roh, Tae-woo, the President of the Republic of Korea, to Suh, Chai Chin, President of KSEA

Suh, Chai Chin, President of KSEA, delivered his speech in front of the Korean-American Scientists and Engineers overseas

21st Administration (1992-1993)

Kun Sup Hyun

The 21st KSEA Administration consisted of President Kun Sup Hyun, VP Moon Won Suh, President-Elect Hyo Gun Kim, and Executive Director Byung Gil Min. Other key staff members were General Secretar : Yong Suk Kim, Finance: Deuk Yong Shin, Editors: Byung Yoon Ahn, Hyun Il Choi, Koong Na Chung, Organization: Soon Myung Paik, Business: Sung Jin Kim, and Publicity: Young Ae Shin. The operation policy was centered around the local chapters maximizing benefits for every member and curtailing the misconception that KSEA only benefitted a small group of members. Since the foundation of KSEA in 1971, the association was operated by a council of different disciplines represented by 15 Technical Groups and the administration of KSEA was done by the Presidency and the Executive Committee. The President assumes the Chair of the Council and Executive Officer for KSEA.

Since the foundation of KSEA, the Korean Federation of Science and Technology Societies (KOFST) has been a partner through which KSEA received financial support from the Ministry of Science and Technology of Korea. Over the next 20 years many KSEA members returned to Korea in the fields of academia, industry, and government and made significant contributions to the building of Korea's science and technology infrastructure. This brought about the Miracle of the Han River and made Korea into a strong industrial country. KSEA members staying in the United States also participated in the Korea Joint Symposium of Science and Technology which started in 1974 (under the third President In Yong Ham) that was held every three years and then every two years. In addition, many members participated in the special symposia of selected subjects every year. These networking opportunities provided a route for many KSEA members to return and work in Korea.

Unfortunately, this 20-year chain of harmonious relationships was broken during the 20th KSEA Administration, when the National Science Foundation (Korea) instead of KOFST sponsored the 20 year Anniversary Symposium which was held in Washington DC in 1991. It took extensive efforts to repair the broken relationship with KOFST during the 21st KSEA Administration. KOFST resumed providing funding to KSEA to participate in the '93 Korea-US Joint Symposium of Science and Technology in Korea during the 22nd KSEA Administration. All of the preparation was done by the Preparatory Symposium Committee headed by President-Elect Hyo Gun Kim, in the 21st Administration. In addition, President Hyun arranged consulting visits by several Former Presidents after their participation in the Symposium.

Events and Activities

1. **Academic Symposia and Conferences in Chapters and Regions**
   In order to strengthen the Chapter-HQ relationship, symposia and regional conferences for the chapters were started. During the 21st Administration, fourteen Chapter and Regional Conferences were held and HQ provided 100% more financial assistance than was provided before. Members of the Presidency and staff members participated to promote Chapter-and Region-centered activities to improve overall KSEA activities.

2. **'93 World Korean Joint S&T Symposium - Preparation**
   The US Preparation Committee for the '93 World Korean Scientists and Engineers Joint S&T Conference was formed. Of the first 198 participants, 190 submitted abstracts. Of these, 160 members attended the conference held at Korea University from August 9-12, 1993. In the polymer field, we collaborated with The Polymer Society of Korea in an excellent example of collaboration for the selection of subjects and speakers from both countries.

3. **Technology Transfer Mediation**
   As a first step of transferring the advanced technology

developed in the USA to Korea the workshop for Multi-Media Software was held in collaboration with the Korean Information Agency under the sponsorship of the Ministry of Science and Technology, Ministry of Communications, and KOFST in the Software Plaza Bldg. in Yong-San Electronic Business Center. The invited speaker was the 13th KSEA President Chan Mo Park who was Dean of Computer Science and Information. With this activity, we formed a network with Multi-Media related organizations.

4. KSEA Newsletters Publication

In the 21st administration, six volumes of newsletters were published. For convenience to readers, we attached an English abstract to Korean articles and vice versa as a bilingual initiative.

5. New Bylaw Formation and Amendments to Existing Bylaws

As the organization grew in numbers of members and local chapters, we needed to modify and improve many rules and policies, and several committees. The KSEA Handbook was assembled and published to guide chapters and committees, and to minimize any conflicts and misinterpretation of the Bylaws by KSEA officers.

6. "*25-year Anniversary Committee*" – Editorial Committee

Many activities were connected to the formation of the 25-year Anniversary Committee. As we approached the 100-year commemoration of the Korea-US Cultural Exchange, we decided that a book should be published covering the historical background, early ventures, and contributions of pioneering Korean scientists and engineers in the early 20th Century. Original members of the 25-year Anniversary Committee were Chong Wha Pyun, Chair, Kyung Sik Kang, Soon Kyu Kim, Jun Mo Nam, Tong Il Chu, Hyo Gun Kim, Saeyoung Ahn, Byung Gil Min, and the 21st Pres. Kun Sup Hyun. The budget for publishing the book was promised by Prof. Si Choong Kim as KOFST President and was realized when he became the Minister of Science and Technology. At the end of the 21st Administration, about a quarter of manuscripts were collected and typed. As noted from the book contents, it has been a product of many others beyond the original committee members who also served for many years until the book was finally completed under the 26th Administration.

7. Scholarship Projects

2nd Generation students residing abroad were selected for the '93 Summer Intern Program and reported to KOFST. The In Young Ham Scholarship was given to Sung Hoon Kim of RPI, and general scholarships were granted to Hee Tae Park, Hyuk Joon Park, Yong Deuk Cho, Saeyoung Ahn (not the same Saeyoung Ahn as the Former President), and Michael J. Marino.

8. Election of Officers at the 21st Council Meeting

The 21st Council Meeting was held on August 25–27, 1992 at the Holiday Inn Crown Plaza in Rockville, MD. This was a unique council meeting in that an unusually long discussion took place leading to new Bylaws and Amendments to reform Presidential-selection procedures. The 23rd Administration was elected: Moon Won Suh as the 23rd President, Doo Young Ryu as the 22nd VP, and Technical Group councilors Saeyoung Ahn, Chong Hwan Kim, Hae Soo Oh, Woon Hae Do, Se Hyun Nam, Ho Chung, and Kang Won Lee.

9. Status of KSEA and Finance

As of June 30, 1993, there were 53 Chapters, 5349 registered members, and 1649 due-paying members (31% of registered members). Finance information is not shown.

23rd Administration (1994-1995)

Moon Won Suh

The First Milestone for KSEA–Creation of the Annual "*UKC*" with the "*1994 KSEA Annual Meetings and Technical Conference in the U.S.*"

For the first time since 1971, KSEA held the "*1994 Annual Meetings and Technical Conference*" at the Radisson Hotel in Alexandria, VA during September 22–25 fulfilling my campaign promise [Letters Vol. 21, No. 4] that "*an opportunity for all paying members of KSEA would be given an opportunity to attend an annual meeting combined with a technical conference as specified in the bylaws*". The name of the annual conference has evolved to what we call now "UKC". The "UKC" (US-Korea Conference on Science and Technology and Entrepreneurship) has continued with no lapse since 1994.

This milestone event was created by my efforts in passing a council resolution, successful fundraising, creating a high-quality conference with world-renowned speakers and facilitating a most luxurious banquet sponsored by Mr. Seung Yeon Kim, Chairman of Hanwha Group. The gala banquet dinner was accompanied by scores of virtuoso Korean Gukak instrumentalists, singers, dancers and drummers from Korea flown in via a chartered B747 flight.

Appreciation plaque presentation to Chairman Seung Yeon Kim of Hanwha Group

Although there were other corporations that contributed to this first annual conference, Chairman Kim's significant support for this event brought a renaissance to KSEA for the next 25 years and beyond. All 400 attendees were fully subsidized for lodging, meals and registrations from a successful fundraising. In marking the KSEA's 50th anniversary, I am compelled to share one anecdote on Chairman Kim's generosity. Visiting Hanwha HQ in an afternoon of the summer of 1994, I did not find Mr. Kim in our meeting. Soon, the staff had to consult him in a nearby office as the amount of donation I requested was too large for them to handle. Chairman Kim walked out of his office briskly and asked me how much I needed and why. Listening to my ambitious goal, he said "*Yes. I will support everything you asked! But, you must cancel the existing hotel contract with the Radisson (Alexandria, VA) and move it to the Mayflower Hotel in Washington, D.C.!*". This stunning offer had to be declined with an explanation that this would be an annual event which must continue year after year and the hotel we have is more than adequate for the objective. My explanation was accepted and he walked back to his room.

The following night, another banquet was hosted by Dr. Seong-soo Han, then Ambassador to the U.S., at his residence. Mrs. Han prepared food for 150 people but 400 showed creating chaos in parking and food shortages. Dr. Han made an illuminating speech on modern history of U.S.-Korea relations and how scientists can help promote the progress further. It was an important event for making the "Korean-American Science Center" now called "KUSCO" as explained below.

The Second Milestone for KSEA–Creation of the New KSEA HQ and "*Korea-U.S. Science Center* (*한미과학기술센터*)" – currently called KUSCO (Korea-U.S. Science Cooperation Center)

Ambassador Han was impressed with KSEA's 1994 conference and pledged further support after hosting an evening reception at his place. Abruptly, however, he had to return to Korea to serve as the Chief of Staff for President Kim Young-sam. Not disappointed by his departure, I accompanied PE Ryu, VP Ahn and ED Chee and visited Dr. Han at the Blue House on March 9, 1995. With much persuasion, the group agreed to go along with my asking $10 million for creating a symbolic center for the second generation Korean-Americans to be proud of Korea's prosperity and its impact on the U.S. and also as an entrepreneurship and marketing center for the small and medium size industries in Korea. In retrospect, we had no idea if this huge proposal would be accepted and funded at the time. However, the dream came true as published in KSEA Letters Vol. 25 No. 3 (Pages 5-7). After several more visits and funding hurdles, I worked as Chairman for the "*Science Center Project*" with much help from Dr. Seayoung Ahn in making the proposal, finding the real estate, and fighting for the budget wars in Korea. Finally, the center was endowed to KSEA by President Kim Young-sam during the August 1995 UKC held in San Francisco. Subsequently, KSEA moved its HQ to the center (current location) on February 20, 1997 [Letters Vol. 25, No. 3] with a dedication ceremony for the "*Korea-U.S. Science Center*." KSEA is greatly indebted to Dr. Seung-soo Han for his support for our vision and paving a way to this second milestone. It would not have been possible without his leadership and support.

Dr. Seung-soo Han

The Third Milestone for KSEA – Creation of a Self-Sufficiency Model for KSEA via UKC and KUSCO

The impact of the first and second milestones above created a momentum for KSEA's explosive growth as a business entity for U.S.-Korea technology collaboration and networking.

For the first time, KSEA could begin to act as a business center through expanded facilities and advertising revenues from annual UKCs. Although the support by KOFST was invaluable, KSEA created multitudes of education, training, entrepreneurship and professional development activities for the last 28 years. Understandably, there were no revenues generated from advertisement via KSEA Letters or meetings till 1993. With the 1994 UKC, the number increased to over 20 annually. For the 2017, 2018 and 2019 UKCs, the advertisement in the KSEA Letters filled 21, 15 and 14 pages, respectively, numbering close to 100.

In a historic review of all 33 UKCs in this book, I estimated that over 20,000 people spent 481,224 hours contributing $50 million dollars to GDP growth. These are just numbers without estimating the true impact from these activities by KSEA through UKCs in the new HQ building. Needless to say, it did not happen overnight but the efforts of myself and the 23rd Administration were the keys to creating a foundation, as all published materials attest. As we look forward to the next 50 years, we have a dream for creating a $100 million center named "*KSEA Sejong Center for Innovation*" (KSCI). For this new milestone, we need more next generation volunteers with enthusiasm and new visions.

Officers of the 23rd Administration

- President : Moon Won Suh
- President-Elect : Dewey Doo-Young Ryu
- Vice President : Saeyoung Ahn
- Executive Director : Yong S. Chee
- Secretary : Young C. Lee
- Treasurer : Michael Young-Hae Kim and Young Ae Joe
- Publication Director : Joo Hee Kim
- Publication Director : Samuel S. Lee
- Publication Director : Seri K. Park
- Publication Director : Daniel C. Lee
- Membership Secretary : Kap Do Jang
- PR Secretary : Jillian Y. Evans
- Project Secretary : Yong Ae Im Shin
- Database Secretary : James K. HahnComputer

24th Administration (1995-1996)

Dewey Doo-Young Ryu

On behalf of our KSEA 24th HQ administration, we are still very grateful to our 8,000 or more of enthusiastic general membership we had then as a great team for their enthusiastic participation in and contribution to our common endeavors. We had enjoyed working closely with our 56 local chapters of KSEA, 21 elected Councilors, 16 Affiliated Umbrella Organizations of Korean-American Specialized Scientific Professional Organizations, and 20 surviving Ex-Presidents of KSEA. We had also enjoyed a very good working relationships with Dr. Chung Keun-mo, then Minister of MOST, Mr. Cho Kyung Mok, then Vice Minister of MOST, and Mr. Park Jin-ho, then Secretary-General of KOSEF. We also appreciate very much Mr. Lee Kun-hee, then Chairman of Samsung, for his very generous support for our annual conference, KAITCHEM, and then the President of Korea Kim Young Sam for his enthusiastic and generous contribution of a sizable fund to purchase our new KSEA Center building (now known as KUSCO) during our KSEA 24th administration. We are also grateful to the Advisory Committee members including Professors William Tong-il Chu, Im-sung Lee, Dong-hyup Cho, Yoon-bum Kim, and Sam Choo, Esq. LLD, then our Attorney Special Legal Counsel for KSEA legal affairs.

We had formulated our KSEA organizational strategic plan to: (1) further strengthen our infrastructure and enable KSEA to leap forward to advance its causes and goals for our 8000 general memberships at large and achieve organizational goals, especially with the computerized and digitized infrastructure, (2) improve significantly its future intellectual program contents of KSEA activities and services, (3) improve well organized and planned professional services to the membership benefits, (4) strengthen and expand collaborative professional programs between and among the mainstream US professional scientific organizations and their members, KSEA members, the Young Generation KSEA members, and the scientific professional communities in South Korea, and (5) improve reputation, recognition, and visibility of the KSEA memberships for their high-quality professional work and their important contributions to the global scientific and technical communities including US. The selected highlights of this organizational stated strategic plan as well as our accomplishments are presented in the 24th KSEA President's inaugural address and other reports in the KSEA LETTERS Nos. 1 through 6 referenced at the end of this Historical Note (hyperlink #1, pp. 4-6, 22, S4, S5, pp. S12-S14; hyperlink #2, pp. 4, 23-24, 36-39; hyperlink #3, pp. 4-7; hyperlink #4, pp. 4-7; hyperlink #5, pp. 4-6, 38-39; and hyperlink #6, pp. 4-11, 12-19, 25-35). For the interest of the KSEA general membership as well as the transparency of management and operation of KSEA organization and its activities for the global mainstream scientific and technical communities including the US and Korea, and for a better public understanding, our first edition of KSEA Handbook, which is a Manual and Operational Guide Book, was prepared and published (Refer to the KSEA hyperlink reference at the end). Dr. Kun Sup Hyun, KSEA 21st President, was the advisor for this project.

We had also had an excellent team of the highly dedicated Management team at the KSEA HQ Office. I am also deeply grateful to their highly valuable contributions and excellent services provided to KSEA without adequate compensation that they deserved. For all we have been able to accomplish during our administration, the credit and admiration go to our 24th KSEA HQ management team. The HQ Management team members included: 3 auditors, Drs. Mann-sik Kang, Myung-shik Jhon, and Yong-wook Kim; Pres-Elect, Dr. Saeyoung Ahn; Vice President, Dr. Chong Whan Oscar Kim; Executive Director, Dr. Joo Hee Kim; General Secretary, Dr. Sanghoon Kim; 2 Treasurers, Drs. Michael Young-Hae Kim and Jin-Woong Jin; HQ Office Manager and Senior Chief of Staff, Ms Karen Hee-Moon Bae, one of the most outstanding, dedicated, and highly competent staff member we have had; 4 Chief Editors of KSEA Letters publications as well as the authors of the very first publication of our KSEA Handbook which is a very detailed Manual and Operational Guide Book for the entire operation and management of KSEA organization, Drs. Young-Ae Joe, Jong-Hoon Sung, Gerard Jounghyun Kim, and Dong-Chun Kim; Membership Secretary, Dr. Ok-Keun Le; Project Secretary, Dr. Yoon-Sik Oh; Public Relations Secretary, Dr. Yong-Ae Im-Shin; Database Secretary, Dr. Daniel C. Lee, who was a leading member of the team who computerized and digitized our KSEA HQ Data Base Management and Operation as well as automated digital membership directory that is open

to selected and qualified clients who are interested in our members for recruiting purpose with the member's consent; the Young Generation Project Secretary, Dr. Samuel S. Lee; and myself as the President.

Confabulation with the President Kim Young Sam after his speech offering the fund for KSEA Center Building

On July 23, 1995, during his visit to our KSEA Annual Meeting in San Francisco, President Kim Young-Sam had promised to give us (KSEA) a special grant worth approximately $6 million (1995 value) in order to enable us to purchase our home office building in Washington DC area. Shortly thereafter his visit, in the fall of 1995, we have followed up with Dr. Minister (MOST) Chung K M, Vice Minister Mr. Cho Kyung Mok (then, the Science Counselor at the Blue House), and Mr. Park Jin Ho, then Secretary General of KOSEF (now KRF), and we have purchased our KSEA building, the current KSEA Headquarter Building (KUSCO) in Vienna, West Virginia. Indeed, it was our long-cherished accomplishment of the entire KSEA memberships. For our entire 24th KSEA Administration and I as one of the founding members of KSEA (membership #2) I was so very delighted to have accomplished this during our KSEA 24th Administration. However, we must also recognize very significant cumulative endeavors and contributions made by 23 previous successive KSEA administrations and former Presidents ever since its founding for the similar goals of KSEA. Among them, special recognition is due to Professor Moon-won Suh at NC State Univ. At that time, the MOST Minister Dr. Chung, the Secretary-General of the Korea Science and Engineering Foundation (now KRF), Mr. Park Jin Ho and I, as the KSEA President, made a tentative agreement that the KOSEF will handle the purchase transaction and manage the building for a limited period until such a time that KSEA will be capable of independently managing the building property. In February 1996, we (the KSEA) had requested that MOST and KOSEF transfer the property ownership and its management responsibility to KSEA by 1/1/1999 (KSEA Documents #96174, #96191, #96273). Further negotiations had ensued until the end of the 24th KSEA Administration. However, they had not made a firm timeline commitment for the transfer of the building ownership and management responsibility to KSEA until the end of KSEA's 24th Administration. Now, it is long overdue that the property ownership and the building management responsibility in its entirety be transferred to KSEA. As parts of KSEA organization, the KSEA Foundation and the KSEA Advanced Institute were also established during the 24th Administration, and legally registered with the State of MD during the KSEA 24th Administration. For more detailed information, refer to hyperlink #4, pp. 4-8 and hyperlink #6, pp. 4-8.

The President Kim Young Sam greeting KSEA members individually after his speech

Dr. Samuel S. Lee had taken leadership and initiated organizing a special meeting for the "Young Generation Scientists and Engineers. Concurrently with the visit of the President Kim Young-Sam, the very first KSEA Young Generation Conference was organized and many young generation members of KSEA participated in its founding conference in San Francisco. This first founding KSEA Young Generation meeting had catalyzed their enthusiasm for participation and ever since have played very important roles within the KSEA organization and collaborated closely with senior members of KSEA. At the same time, we wanted to encourage them to play increasing leadership roles in KSEA as well as in their respective fields of specialization in the mainstream US scientific and engineering communities. Also developed for the Young Generation members were the Summer Internship program in Korea and the Mentor and Guidance Program for their career advancement planning through close working relationships with senior member groups of KSEA in various fields of specialization. hyperlink #3, pp. 39 and hyperlink #6, pp. 4-8 and 12-19)

Dr. Kim Joo-Hee, as the Executive Director of the 24th administration, had made a tremendous contribution to the KSEA management through his arduous effort to upgrade the "*KSEA organizational infrastructure and the computerized and digitized operation of the KSEA HQ*." (Refer to hyperlink 2, pp. 4-5). The selected among them include: the establishment and management plan for the KSEA Foundation, the KSEA Advanced Institute, and 26 or more of KSEA Affiliated Professional Organizations of other

Korean American specialized scientists and engineers, all to be housed and/or based at the KSEA Center and all of them as the umbrella organization members of KSEA. During the 24th administration, with the enormous help from Dr. Sam Choo, Esq. (our Legal Counsel), we have established and registered with the State of MD as well as the IRS: (1) the non-profit KSEA Advanced Institute to undertake think-tank type of contracted research programs for the next generation science and technology policy and planning for the clients and (2) the KSEA Foundation for the long-range fund raising and financial management activities for ever expanding program activities of KSEA and its affiliated umbrella organizations working together with KSEA. For many KSEA member experts and other experts from outside will be able to participate in these research activities. Included in our recommendations are more support for and more effective coordination with and cooperation among those many KSEA Affiliated Organizations synergistically using our KSEA Center. Included in this home base KSEA Center building are also the offices and spaces for KSEA affiliated specialized Korean American Professional Organizations (26 at the time), the elected Councilors representing specialized fields, 50 or more KSEA Local Chapters, the management representatives from the KSEA equivalents of 14 or more countries, new venture startups, many universities, industrial research organizations, and the R&D focused NGO and government organizations from Korea.

The signatories of the Agreement for the KSEA-KOSEF Joint Engineering Research Trend Study Programs

Our Annual Conference (KAITCAM–KSEA's Korean American International Technical Conference and Annual Meeting) was held in San Francisco during September 1-4, 1995. The entire HQ management team together with the Local Organizing Committee including Dr. Ki Ha Lee, Lawrence-Berkeley National Lab (LBNL) and Dr. Seokkwan Yoon, NASA, Ames Laboratory have arranged and managed this entire Conference seamlessly. Dr. William Tongil Chu at the Lawrence-Berkeley National Lab (LBNL) and Univ of California, Berkeley, CA and Dr. Un Young Kim, President of KIST, Seoul, had organized and managed the KAITCAM Conference with the help of the KSEA HQ management team. Refer to the hyperlink #2, pp.8-19. The Conference theme selected was "*Globalization and Technology Frontiers*". The outcome assessment of the Conference was a resounding success and all future KSEA KAITCAM conferences will surely have to be benchmarked with this 24th Conference, according to Dr. Chu's assessment who has served as the Chair and rapporteur of the Conference. The success of this KAITCAM Conference was gauged in achievements in (1) participants interactions, (2) producing and establishing liaisons and future collaborations, (3) generating and stimulating new ideas and high level of intellectual contents – in quality and quantity, (4) inducing the enthusiasms of Young Generation participants in their respective specialized fields and (5) high quality of invited keynote and/or plenary speakers and the papers presented by them. The topical foci areas included were Aerospace Technology, Automotive Technology, Biotechnology, Information and Multimedia Technology, Electronics, and Material Technology.

See also the hyperlinks #1 and #6 given below, for some important historical records of KSEA long-range strategic plans and topics of significant interest to KSEA members. Other presentations by Special Invited speakers included: Advisor to the President Park Chung-Hee, Dr. Kim Kyoung-Won who presented the Conference Plenary Lecture; the MOST Minister, Dr. Chung Keun-Mo, pp. S-10; and the First Young Generation Conference Plenary Lecture by Prof. Kim Kwang-Soo, Harvard Medical School, pp. S-16. Others include: Welcoming address by the President Kim Young-Sam, when he had announced his decision to donate about $6 million for the purchase of our new KSEA Center Building, pp. S-3, S-4, and S-9; the Confabulation with President Kim Young-Sam, pp. S-5; Samuel Lee, KSEA Young Generation Secretary, pp. S-18; The signatories of the Agreement for the KSEA/KOSEF(now KRF) for Joint Engineering Research Trend Study Programs, pp. 22.

References, Photos, and Citations, please refer to the Hyperlink Attachments

- KSEA Letters, Vol 24, No. 1: https://ksea.org/us/1995/08/26/ksea-letters-vol-24-no-1/
- KSEA Letters, Vol 24, No. 2: https://ksea.org/us/1995/10/26/ksea-letters-vol-24-no-2/
- KSEA Letters, Vol 24, No. 3: https://ksea.org/us/1996/01/26/ksea-letters-vol-24-no-3/
- KSEA Letters, Vol 24, No. 4: https://ksea.org/us/1996/03/26/ksea-letters-vol-24-no-4/
- KSEA Letters, Vol 24, No. 5: https://ksea.org/us/1996/05/26/ksea-letters-vol-24-no-6-2/
- KSEA Letters, Vol 24, No. 6: https://ksea.org/us/1996/06/26/ksea-letters-vol-24-no-6/9963392994 (KSEA History Document File No.)

25th Administration (1996-1997)

Saeyoung Ahn

Initiatives for KSEA Professional Status were year-long issues of the then 25th Administration to make our Association evolve like AAAS or IEEE in the coming years. Vision plans were set up along this path; the first step was to come over the financial deficit plague of the Association, which had caused an enormous challenge with the starting budget of the pure debt of $7,691. The special vision projects that were made on the first day of the 25th Administration persuaded many friendly institutions and industrial partners in Korea, which were

1. Advanced Topic Workshops at the Science Center (KUSCO)
2. 25th Anniversary Commemorative Technical Conference in topics that were requested by institutions and industries in Korea
3. KSEA directory update for over ten thousand active and inactive members
4. Anniversary history book publication
5. Advanced engineering trend compilation over 5 critical areas
6. Interdisciplinary research trend studies in science & technologies
7. Special workshop on potential US-Korea collaboration in aerospace R&TD
8. Participation in the selection & interim evaluation of ERCs & SRCs in KOSEF
9. Development of science & technology promotion between US & Korea
10. Internet homepage DB projects for members.

These were in addition to 10 traditional normal projects that were executed by EC and committees like Letters publication, scholarship, support of chapters & branches, support of 20 professional societies, etc.
The whole-hearted dedication of the above 20 projects returned great rewards over 1million dollar fund that made an epoch.

KUSCO Science Center was purchased and opened on Feb 20th '97 during the 25th Administration at 1952 Gallows Rd, Vienna; Bldg space 1,230 pyeong/ 43,800 ft^2, land 2,400 pyeong/74,700 ft^2 in 3 floors with LoI for purchase in Jul 26th '96 & Final contract on Aug 21 '96 at $4,780,000, which was paid for 3 year terms by Korea Science Foundation Reserve Fund through extreme efforts by Dr Seung Soo Han; Established as US Nonprofit Organization with Directors of 3 members from KSEA, 3 from Korea & 4 from US Americans, and agreed for the building ownership to be transferred to KSEA if the payment were to be completed and KSEA had gotten ready for building management infrastructure, until when it would be temporarily managed by KOSEF. (Based on the oral briefing of KOSEF Director Jin Ho Park at the Meeting of Former Presidents including S K Kim, K U Lee, I Y Ham, C H Pyun, H G Kim, K S Kang, M W Suh, S Ahn, etc.)

Opening ceremory of the Science Center on Feb, 20, 1997 was attended by Minister Keunmo Chung and KSEA Officers and Center Directors, S Ahn, M Suh, etc.

KSEA 25th Anniversary History Book was produced by the history book committee of Kyungsik Kang (Chair, 11th President), Soon Kyu Kim (16th President), J Nam (18th Vice President), Kun Sup Hyun (21st President), and Saeyoung Ahn (25th President). The book was printed in the next administration by Kyong Chul Chun (26th President).

The History Book of KSEA 25 year anniversary was initiated by the History book committee of Kyungsik Kang (Chair), Kunsup Hyun, Junmo Nam, Saeyoung Ahn.

KSEA 25th Anniversary Commemorative Technical Conference (9th UKC) was held during Feb 21-22 '97 at Ritz Carlton Hotel, Tysons Corner II, VA, with the theme of Advanced Science & Technology towards 21st Century. Plenary Speakers were Soon Kyong Kim, Kiuck Lee, Solomon, Boo Shik Lee, Sook Il Kwon, Lim Kwan, Woo-Joong Kim, Kun Mo Chung, Nam Pyo Suh, Kyung Sik Kang, etc., in 5 general areas of basic sciences of physics, chemistry, math, life sciences, etc. and 14 advanced engineering areas, which were chaired by Kim Kwang Hae, Hahn Hong Taek, Kim Byung Ro, Choi In Kap and Sue Goo Rhee. Three hundred papers were presented with attendants over 750.

KSEA 25th Technical Conference was held on Feb 21-22, 1997

Council meeting was attended on May 18, 1997

Organizers and Speakers at the Korea-US Workshop on Aerospace Science May 15, 1997

Korea-US Workship on Aerospace Science was held during May 15-17 '97 at Tysons Corner Marriott, VA on the theme of "*Towards the Joint Cooperation in Aerospace Sciences & Engineering*", which was the second Workshop Initiative by KOFST and cochaired by Dr Ki Dong Lee and S Ahn. Attendants were 34 KSEA members, 7 American experts and 22 Korean participants with 11 policy makers including Sung Won Lee, John Anderson, Wi bong, Hong Chang Sun, Oh Choong Geun, Myung No Shin, etc. and conference funds were from KARI, KUSCO & KSEA.

Officers of the 25th Administration

- President: Saeyoung Ahn
- President-Elect: Kyong Chul Chun
- Vice President: Ki Dong Lee
- Executive Director: Sanghoon Kim
- Secretary General: Choong Kun Oh
- Treasurer: James Joosuk Song
- Publication Director: Ji-Seok Byeon
- Publication Director: Sung-ho Moon
- Publication Director: Jhang Ho Pak
- Publication Director: Eunsik Park
- Membership Secretary: Kap Do Jang
- Projects Secretary: Chul Hue Park
- Database Secretary: Soonam Kahng
- 2nd Generation Secretary: Keith Moon

(11 dedicated EC members are shown here)

(Dr. Song photographed in front of the missing calligraphy by President Chung Hee Park)

Chapter 2

the Second 25 Years

- KSEA, Its Second 25 Years
- 26th Administration
- 27th Administration
- 28th Administration
- 29th Administration
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- 49th Administration

KSEA, Its Second 25 Years

Chueng-Ryong Ji

The 38th President

The Growth of KSEA

We call this book the "*KSEA 50 Years*", the review of the entire half century of history of KSEA. While the previous chapter was devoted to reflecting on KSEA's first 25 years, which was covered in detail in the KSEA 25-Year History Book published in April 1998, this chapter focuses on KSEA's progress in the most recent 25 years. Building on the bedrock established in the first 25 years, the Period of Strong Foundation, the recent 25 years offer rich opportunities for KSEA to become a mainstream nonprofit professional organization that bridges the U.S. and Korea, the motherland to many of us. Over twenty former Presidents of KSEA provided their reminiscence, reflecting their specific administrative terms in this chapter. In retrospect, the recent 25 years could be characterized into the following trends

- 26th – 30th : Period of Endurance
- 31st – 35th : Period of Rebound
- 36th – 40th : Period of Growth
- 41st – 45th : Period of Stabilization/Reflection
- 46th – 50th : Period of Transition

However, these characterizations are not necessarily exclusive to their respective periods as the various challenges, contributions, victories, setbacks and memories of each and every administration period overlap with and affect each other one way or another. In this regard, we identify and present what we, as an organization of proud traditions and deep history, have accomplished as well as what we have learned from each administration and improved in the subsequent ones. We are confident that the history recorded in this chapter will pass onto future leadership for the betterment of KSEA.

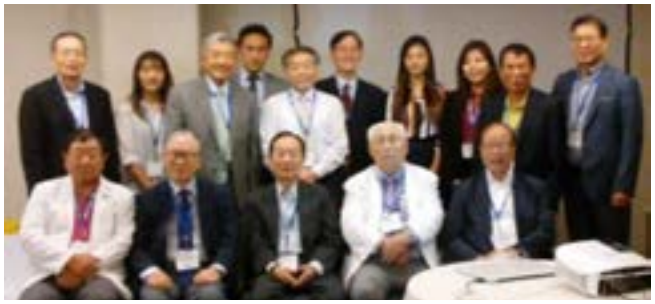
26th Administration - 7th Annual Biosciences Conference of the Society of Biomedical Research, Rockville, MD, July 1997

38th and 39th Directors Committee Members

39th Administration officers with the past presidents, 2010

40th Administration - KSTLC 2012 in Chicago, Mar 2012

46th Professional KSEA Development Forum, Silicon Vally CA, May 2018



47th History Forum, Dec 2019

26th Administration (1997-1998)

Kyong Chul Chun

Highlights and Notable Events

Korea-U.S. Science and Technology Symposium on Computing and Telecommunication

The goals of the Symposium, which was held during April 23-25, 1998 at the Swissotel in Chicago, Illinois, were: (1) to provide a forum for an exchange of ideas, scientific & technological findings, and innovative applications; (2) to foster partnerships with the common goal of advancing scientific research and technological development; and (3) to promote networking of scientific, technological, and business communities between Korea and the United States.

The Symposium was organized by KSEA, KUSCO, KOFST, and KICS (Korea Institute of Communication Science), in cooperation with AAAS, KOCSEA (Korean Computer Scientists & Engineers Association), DCCA (Illinois Department of Commerce & Community Affairs), ICC (Illinois Commerce Commission), and the Illinois Coalition (Public Private Partnership to Promote Illinois Technology).

The event, co-sponsored by such local powerhouses such as Ameritech and Lucent Technologies, was attended by more than 200 researchers and business leaders from Korea and the U.S., and covered topics such as the science of computation; hardware, architecture, and operating systems; mobile/wireless communication; high-speed computational networks; software systems and computing paradigms; and multimedia computing and network computing.

Overseas Research Trend Survey Project II

Following the Phase I survey project conducted and completed by the 24th and 25th KSEA Administrations, the areas covered by the Phase II survey project included: (1) Life Science, Biotechnology and Medical Engineering; (2) Manufacturing Engineering, Multi-disciplinary Design, and Miniaturization; (3) Energy, Earth Sciences, and Natural Disasters; and (4) Artificial Intelligence, Information Sciences, and Robotics. An interim report was prepared and submitted to the Korea Science Foundation.

Overseas Training of Small and Medium Enterprise Executives

"*Telecommunication*" was the subject area selected for the first phase of the executive training program, which was organized by KSEA in cooperation with the Korea Small & Medium Enterprises (SME) Agency. The program, attended by approximately 15 SME executives from Korea in July, 1998, consisted of 3 days of lecture and a 1-day visit to a factory/facility in Boston, MA. Three KSEA members delivered lectures on the subject area at the KUSCO Building.

KSEA Database Enhancement and Update

From the beginning of the 26th Administration, a large-scale KSEA Database System upgrade (a new computer and a new SQL Database system) was launched and completed. Members' personal data were updated and the updated database was sent to the Korea Research and Technology Information Center, so that it could be made available to any business, research organization, university, and professional organization at no cost. The goal was to afford opportunities to all KSEA members: (1) to provide technical guidance, consulting, and lectures, and (2) for employment.

KSEA Web Page Enhancement

The KSEA Website enhancement project was initiated by the 26th Administration to facilitate timely exchange of information among members and to activate a job bank. The dedicated Database Director and the HQ staff completed the project, and the site was launched after member's comments were implemented on a test site and subsequently deployed live.

Compilation and Editing of the 25-Year History of KSEA

Preparation of the History Book of KSEA, first proposed in 1992 by Dr. Kun Sup Hyun, 21st KSEA President, as the "*20-Year History Book*", was re-launched in 1996 by Dr. Dewey Doo-Young Ryu, 24th KSEA President, as the "*25-Year History Book*". Under the leadership of the Compilation & Editorial Committee chair, the late Dr. Kyung-sik Kang, 11th KSEA President, many dedicated Committee members and HQ staff worked tirelessly to complete the project. As a result, a galley proof was issued and a book with the title, "*A Century of Korea-U.S. Science and Technology Exchanges and Role of the Korean-American Scientists and Engineers Association*" was published in September 1998.

1997 World Korean Scientists and Engineers Conference and 1997 South-North Science and Technology Exchange Symposium

Two representatives from the KSEA 26th Administration attended the subject conference and symposium, held at the Russian Science Academy Uzkoe Hotel in Moscow, Russia, during July 13-31, 1997. Representatives from 12 overseas Korean Scientists and Engineers Associations, including, among others, those from China, Japan, Germany, England, France, Canada, attended the events.

Challenges and Difficulties

The 26th Administration started off by initiating an ambitious fund-raising campaign to achieve KSEA's financial independence. However, our hopes were dashed one morning in November 1997 when the Asia Financial Crisis began. Most of our large reliable business donors in Korea cancelled their pledges, and KSEA had to solicit funds from numerous businesses and individual donors in Korea and the U.S., including many Korean and Korean-American owned companies of small to medium size. Although we were able to achieve some success, our valiant efforts fell substantially short of the amount needed to cover even the expenses for KSEA Headquarters operations and the Korea-U.S. Science & Technology Symposium.

Other Items including Members and Chapter/Branch/APS Stories

Scholarships

A total of 10 scholarships were awarded during the 26th Administration, including the General Scholarship, the Hyundai Electronics Scholarship, and the In Yong Ham Scholarship.

During the 26th Administration, a portion of the KSEA Scholarship Fund was invested into Mutual Funds to improve return on investment.

Summer Internship Project for 2nd Generation Korean-Americans

Eight (8) 2nd Generation Korean-American students were selected to participate in the "*Overseas Korean 2nd Generation Science Students Summer Internship Program*" sponsored by the Korea Science Foundation. They participated in the program for a period of 2-3 months at one of the following research institutions in Korea: KIST, KAIST, KRICT (Korea Research Institute of Chemical Technology), KARI (Korea Aerospace Research Institute), and KERI (Korea Electrotechnology Research Institute).

Organizing 2nd Generation Science and Engineering Students

In order to support the organizations and activities of those 2nd Generation Korean-American science and technology students who will be responsible for the future of KSEA, the 26th Administration in 1998 helped organize Young Generation Sections, initially in 5 regions of the U.S. They were provided with a modest amount of seed money to help develop their own programs, create their own personal information database and communication network, and jumpstart activities.

Officers of the 26th Administration

- President : Kyong Chul Chun
- President-Elect : Ki Dong Lee
- Vice President : In-Kap Choi
- Executive Secretary : Yoon-Ho Kim
- Secretary General : Jin Kim
- Treasurer : Soo-Ung Kim
- Publication Director : Soo-Jung Jung
- Publication Director : Austin Kapsang Woo
- Publication Director : Unchung Cho
- Publication Director : Michael Kim
- Public Relations : Jhang Ho Park
- Projects Secretary : Jong-Hee Park
- Database Secretary : Jin-Hyung Roh
- Young Generation Secretary : Samuel S. Lee

27th Administration (1998-1999)

Ki Dong Lee

KSEA has grown together with the growth of the Korean economy. Korea's rapid growth since the early 1960s has indeed been a wonder to the world. Suddenly in 1997, Korea faced financial crisis and its economy crashed. Korea was on the brink of bankruptcy in November 1997. Korea had no choice but to ask for a rescue package from the International Monetary Fund (IMF). It was called the IMF Crisis of Korea.

In July 1998 when I was installed as the 27th President, some of my friends offered words of comfort for assuming the presidency at a difficult time. I believed that difficulty would also bring advantages such as unity and cooperation. In fact, I received a lot of support from members and friends of KSEA. I especially appreciate the core group (directors) of the 27th Administration who sacrificed their time and effort for KSEA and helped me. At the start of my term, I set up a list of agenda items to achieve during my presidency. I summarize tasks achieved during my tenure as follows.

Computerization of HQ Operations
A Virtual Office Implementation Committee was formed to computerize HQ operations. Systems of business operations and communications were converted; from word processor to PC (Personal Computer) and from fax and US mail to email and web. Also, the system of record keeping was changed from paper copies to electronic storage. This task was carried out with drastically reduced income. The number of HQ staff was cut down from 5 to 2. Even with the reduced income we bought two PC's. I would like to recognize contributions of the Executive Director, Dr. Soo-Ung Kim. He dropped by HQ almost every day to supervise these changes.

Conference and Council Meeting
To cope with the situation of the economic hardship in Korea, the 1998 conference was focused on five strategic technology areas of life science, software engineering, information science, energy, and design and manufacturing, in addition to general programs. It was named as the Korea-US Technology Conference in Strategic Technologies (KUTC). It was held at Vienna, VA on October 22-24, 1998 and attended by over 300 participants. Those five areas were selected in consultation with the Ministry of Science and Technology (MOST).

The 27th Council Meeting followed the Conference. The Council discussed and passed a bylaws amendment which included an update of the KSEA mission statement, incorporation of the KSEA Foundation, organization of Technical Committees, and the establishment of KSEA-Junior. However, this important amendment was not passed by the KSEA General Assembly because the quorum was not reached in mail-in votes. Amendments to the KSEA Bylaws had been tried several times in the past but failed to pass due to the quorum requirement specified in the Bylaws.

KSEA Foundation
Financial independence has been a dream and goal since the birth of KSEA. The KSEA Foundation Bylaws were drafted and approved by the 27th Council but were not approved by the General Assembly due to a shortage of the necessary quorum. The 27th Administration, however, decided to establish a separate checking account and deposited $22,000+ as seed money for the Foundation Fund. The ownership of the account was KSEA, not the KSEA Foundation, because the KSEA Foundation was not legally incorporated. This activity was not recorded in the KSEA statistics although Dr. Hong Thomas Hahn (28th President) confirmed the fact. I am glad that this Foundation Fund has grown to a large amount due to enthusiastic support from succeeding KSEA Administrations.

1999 Election
A couple of mistakes were committed in the 1999 election. The first error was in ballot mailing. Voter eligibility is limited to members who paid the membership dues at least once in the prior 3 years. Due to an error in mailing label generation, duplicate labels were produced for members who paid membership dues more than once in the three-year span. Consequently, members who paid the membership dues every year received three ballots. This error was not discovered until after ballot mailing and immediately corrected by distributing new ballots. The second mistake was caused by a slow update of the database. Election results showed that the President-Elect winner was decided by one vote. As this news was spread to members, one member complained that he did not receive the ballot. He paid his membership dues for the first time in 3 years near the voter eligibility cut-off date. His check was deposited, but the database was not updated in time. The

member could have gotten the ballot if he notified HQ within the long election period, not after the election results. This mistake was investigated by an ad-hoc committee formed in the 28th Administration and wisely resolved by the 28th Council.

Scholarships

Until 1998, KSEA invested in the scholarship fund by buying US Treasury savings bonds. It was a conservative investment but returned relatively low yields. In cooperation with the Scholarship Committee, the scholarship fund was moved into a mutual fund which might produce a better yield. Applications to available scholarships were called for throughout the nation, and 10 scholarships were awarded to excellent college and graduate students in May 1999. The Scholarship Committee evaluated applications and selected winners.

Young Generation Leadership Conference

A Young Generation Leadership Conference (YGLC) was held at Vienna, VA on February 26-28, 1999. It was attended by 76 young generation (1.5 generation and second generation) Korean-Americans and 15 speakers. Most attendees were college students and some were young professionals. Participants were excited to have a conference of their own, and most programs were executed by themselves. This was the first YG Conference held separately. In the past, regular KSEA conferences provided YG sessions as a part of their programs. A volume of proceedings was published. At the end of the conference, a 15-member core group was formed to prepare for the organization of KSEA-Junior or KSEA-YG. This effort to organize KSEA-Junior was not continued, but the tradition for YG conferences had survived in the succeeding administrations. I witnessed some participants in this 1999 conference later serving as leaders of KSEA. I noticed one was even elected and served as a Vice President of KSEA.

Research Trend Study (RTS)

The goal of the project was to search, analyze, and evaluate up- to-date research trends in America in 4 strategically selected fields of science and technology. The project was aimed to help the Korean government with guiding research directions in the focused areas. The four areas were: design and manufacturing, energy, information science, and life science and bio-engineering. A chief investigator was chosen in each area, each area was divided into about a dozen subtopics, and each topic was assigned to one or two investigators. This RTS project was first negotiated by the 26th Admin, and later a one-year $100K research contract was signed by the 27th Admin with the Ministry of Science & Technology. The project was successfully carried out, and final reports were submitted in four separate volumes and in a CD format.

Other Activities in the 27th Administration

- A new mission statement of KSEA was drafted by the 27th Admin, approved by the 27th Council, and included in the Bylaws Amendment package for the General Assembly.
- To strengthen KSEA's professional activities, organization of Technical Committees was proposed by the 27th Admin, approved at the 27th Council Meeting, and included in the Bylaws Amendment package.
- In February 1998, Dr. Kyong Chul Chun (26th President) signed a multi-year contract to update the KSEA Database with the Korea Research & Development Information Center (KORDIC) but KOSDIC did not honor the contract.
- The 25-Year History Book was published in August 1998 and distributed by the 27th Admin.
- The 27th Admin elected 2 new KUSCO directors and recommended them to the Korea Science Foundation.
- The 27th Admin supported chapters and their special events.
- The 27th Admin assisted the math competition program throughout the nation.
- The 27th Admin coordinated the Brain Pool Program of Korea.
- The 27th Admin coordinated the Summer Internship Program which sends college students as summer interns to institutes in Korea.

Officers of the 27th Administration

- President: Prof. Ki Dong Lee, University of Illinois at Urbana-Champaign
- President-Elect: Prof. Hong Thomas Hahn, University of California at Los Angeles
- Vice President: Dr. Ho Howard Chung, Argonne National Laboratory
- Executive Director: Dr. Soo-Ung Kim, Litton/PRC, Inc.
- Liaison Director: Dr. John Joon-Suh Hong, Institute for Defense Analyses
- Treasurer: Dr. Howard Sung-Wuk Yoon, NIST
- Publication Director: Dr. Euyheon Hwang, University of Maryland
- Publication Director: Joon Soo Park, George Mason University
- Publication Director: Gail Joon Ahn, George Mason University
- Publication Director: Sohyoung Kim, George Mason University
- Membership Director: Dr. Choong Keun Oh, U. S. Naval Research Laboratory
- Public Relations Director: Dr. Yong Dae Kim, NIH
- Projects Director: Dr. Rho Shin Myong, NASA Goddard Space Flight Center
- Database Director: Jin-Hyung Roh, Giesecke & Devrient America, Inc.
- Young Generation Director: Ms. Joanne Kim, U. S. Patent and Trademark Office

28th Administration (1999-2000)

Hong Thomas Hahn

The 1997 Asian financial crisis, the so-called IMF fiasco, was still having debilitating effects when the 28th Administration took office. Most of Korea's programs had already been cut since the 26th Administration, making it difficult to initiate new contracts with government agencies and businesses in Korea. Nevertheless, we placed the operational infrastructure of KSEA on a stronger foundation to enable a rebound.

The KSEA Vision

International Cooperation: As part of the YG support, the first Young-Professionals Technology and Entrepreneurship Conference (YTEC) was held jointly with the Overseas Korean Foundation in Korea, June 5-10, 2000. The Conference included visits to several cultural sites, national research institutes, and industrial research institutes at Seoul, Daejeon, Pohang, and Gyeongju in Korea.

Career Development: As KSEA matured as a premier professional association, it was necessary to identify and recognize those members who had excelled professionally. Nevertheless, KSEA did not yet have any awards available for this purpose. Thus, the following six awards were submitted by the Executive Committee and approved by the Council: Outstanding Contribution to KSEA Award, Scientist of the Year Award, Engineer of the Year Award, Entrepreneur of the Year Award, Outstanding Chapter Award, and Outstanding Community Service Award.

Another fallout from the combination of the IMF fiasco and federal surveillance was a reduction in membership. Fortunately, however, the Internet-based open communications combined with active chapter support could not only stop the slide but rather double the income from membership dues. The financial support for chapter development more than doubled, and we held a chapter presidents workshop for the first time with more than 30 chapter presidents participating. We also helped establish a new chapter in San Diego, CA.

Community Services: These financial hardships forced us to take many belt-tightening measures. We reduced The KSEA Letters from bi-monthly to quarterly. Its contents mostly featured technical articles in English to appeal to outside organizations with the ultimate goal of generating advertisement income while providing information on the research results of KSEA members.

US-Korea Conference on Science, Technology, Entrepreneurship, and Leadership

Following in the footsteps of the many technical conferences held previously, the 1999 US-Korea Conference (UKC) on Science, Technology, Entrepreneurship, and Leadership was organized and executed with long-term sustainability in mind: (1) its name should be generic and comprehensive, (2) it should highlight entrepreneurship and leadership as well as science and technology, (3) it should be held during the summer when schools are out of session, and (4) its sponsorship should be from within the States. Thus, the conference included an entrepreneurship symposium featuring eleven Korean-American entrepreneurs, while the leadership symposium had nine leaders from various fields, including law and media, who shared their experiences. The young generation was also fully recognized with its forum comprising of four sessions covering science and technology programs and policies in Korea and future careers.

There was no financial support for the UKC from KOFST due to the IMF fiasco. Also absent were sponsorships by

major Korean corporations. The only Korean sponsor was the Samsung Advanced Institute. Thus, we had to do all the fundraising locally. However, this decision was also in line with the Administration's primary desire of developing KSEA's financial foundation more from within the USA. Although this was KSEA's first attempt in this direction, the results were encouraging as the total amount of funds raised was still enough to cover the UKC and other operational expenditures of KSEA.

Operational and Financial Infrastructure

The Administration's overarching goal was to solidify the fundamental and operational infrastructure necessary for the continuous growth of KSEA.

We switched the KSEA website from being outsourced to self-operation. In addition to posting news articles, we used the website extensively to enable cost-effective internal communications: we set aside a subdirectory for administrative contacts with chapters/branches, affiliate professional societies, and members.

The Administration felt KSEA could not wait any longer before taking a resolute step to build a stronger financial foundation. As the previous Administration's attempt to set up a KSEA Foundation failed, the 28th Administration decided to set up a separate budget item, the KSEA Fund, as a first step. Thanks to such belt-tightening measures, fortunately, the Administration was able to complete its planned businesses with a deposit of seed money in the KSEA Fund, including a transfer from the 27th Administration.

Chapter Support

Financial support for chapters took two different forms: an outright subsidy returning membership dues and a project support based on activity proposals. The grant was to support each chapter's general operations, while the project support was for conferences and seminars. We supported thirteen of the 56 chapters and nine branches for their projects and additional six proposals for YG activities. The conferences supported include the following:

- 11th Northwest Regional Conference, New Jersey/New York/Lehigh/Philadelphia Chapters
- 11th North Carolina Technical Symposium, North Carolina Chapter
- 11th-13th Topical Seminars, Pacific Northwest Chapter
- 10th South-Western Regional Conference with a satellite event on High-Tech Venture Investment Forum, Southern California Chapter
- Biweekly Seminar Series, San Diego Chapter

Challenges and Difficulties

The IMF-related economic hardship on KSEA was compounded by the federal government's increased sensitivity toward international industrial espionage. The establishment of KUSCO might have triggered the unjustified sensitivity. Several anecdotal stories about KSEA members being contacted by the FBI appeared, although no federal agencies ever questioned the KSEA President. KSEA's funding from some Korean government agencies, especially KOFST, was to support overt international scientific exchanges rather than any covert industrial operations.

Nevertheless, the federal government's suspicion toward KSEA members placed an unjustified pressure on them to detach themselves from KSEA involvement. As a result, many KSEA members who were federal employees resigned from KSEA membership. Such unwarranted pressure had dealt a haphazard blow to the Executive Committee. Traditionally, the Executive Committee drew most of its members from the Washington DC area, where many KSEA members work for federal agencies. The understandable reluctance of the local KSEA members to serve on the Executive Committee forced an unprecedented change in the Committee demographic: the Committee members had to change from mono-geographic to bi-geographic. Thus, the Executive Committee comprised two groups of members: one from the local area to handle daily operations and the other from the LA area to manage long-term businesses. Fortunately, President Hahn was able to take a leave of absence from UCLA to stay close to the KSEA HQ, and he implemented a teleconference-based operation for the first time.

Early into the 28th Administration, an unfortunate issue surfaced where the 29th President was elected just by a single-vote margin during the previous Administration. The result was challenged by a member who had missed his voting because of an inadvertent administrative error. As the election

result had already been announced previously, a lengthy debate ensued on how to rectify the situation. Eventually, a Fair Election Committee was formed and proposed that the unsuccessful candidate be nominated as the only candidate for the 30th Presidency in the coming election. This proposal was approved by the Council and subsequently voted in favor by the general membership to bring the issue to an amicable close.

Officers of the 28th Administration

Hong Thomas Hahn
President

Sung K. Kang
Vice President

Howard Ho Chung
President-Elect

Hwang Chung
Executive Director

H. Anthony Kim
Projects Director

James K Hahn
Database Director

Tae-Wan Ryu
Database Director

Kwang Woong Won
Publications Director

John Joon-Suh Hong
General Director

Don Choi
Financial Director

H-M Michael Chung
Membership Director

C Dennis Lee
Public Relation Director

James Choi
Publications Director

Seik Oh
Publications Director

Sora Cho
Publications Director

Keith Moon
YG Director

Phillip Hyungjin Chang
YG Group President

Soonsin Steve Oh
CP Committee Chair

29th Administration (2000-2001)

Howard Ho Chung

The biggest challenge for the 29th KSEA Administration (2000-2001) was the unwarranted U.S. FBI's nation-wide interviews (if not, inquiry, interrogation, or investigation) of KSEA and its resulting negative impact. However, courageously confronting with the FBI's interviews, the 29th Administration, steadfastly moving through the strongly footed KSEA programs and activities, was able to finish its term along with reasonable success in all its activities and finances. It was due to dedicated volunteer services of the elected and appointed officers, KSEA staff, and many support organizations that include KOFST, KUSCO, and high-tech industries in the States and Republic of Korea. A successful UKC 2000 and eventful KSEA YG activities were also carried out with harmonious organizational culture and atmosphere.

At the start of the 29th KSEA Administration, four challenging areas were identified as: (1) Increasing the membership and enhancing the membership benefits, (2) Organizing UKC 2000, (3) Instilling an efficient and harmonious KSEA administration, and (4) Promoting KSEA YG activities in the local and national level. All except the first item regarding the membership benefits were achieved.

Prior to becoming the 29th President, Dr. Howard Ho Chung had served in a few key positions in the previous KSEA administrations, including the General Secretary for the 8th (1979-1980), the Vice-President for the 27th (1997-1998), and the President-Elect for the 28th (1998-1999) Administration. As such, Dr. Chung was able to unfailingly succeed and strengthen the KSEA programs and activities established by previous administrations that warrant such endeavors. These include a nationwide KSEA Young Generation (KSEA-YG) program that the 27th President, Prof. Ki-Dong Lee initiated in February 1998 and the UKC (U.S.-Korea Conference on Science, Technology, Entrepreneurship and Leadership) that the 28th President, Prof. Thomas Hahn instilled in August 1999 at UCLA. (Please note that the conference title "UKC" has become the de-facto for KSEA conferences, ever since 1999 up to today).

FBI Interviews of KSEA (2000 Summer and Fall)

Around the summer of 2000, the U.S. FBI started to interview KSEA members with regard to their involvement in KSEA and other related matters. Also in September 2000, two FBI agents visited President Dr. Howard Chung at his residence in Naperville, Illinois without any prior appointment or warning, and conducted an in-depth interview. The interview was focused on KSEA programs and activities and its membership and finance, especially the financial support from Korean industries. President Chung fully cooperated with the FBI and clarified the nature and purpose of our organization to the FBI agents.

The interview questions were extended to some personal level that included questioning Dr. Chung's loyalties to the USA and any possible KSEA roles for technology personnel taking their jobs at ROK industries without legally terminating their respective jobs in the States. President Chung told FBI agents that KSEA had never been involved in such job changing processes and, if it happened, it was their personal decisions or acts and KSEA never played any roles for such illegal job changes. Dr. Chung also had made it very clear and assured their understanding of KSEA with respect to its legality and the openness of its programs, activities, and its finance.

Towards the end of November 2000, President Dr. Chung was contacted again by another FBI agent who requested to provide them a copy of the current KSEA membership directory. The FBI also said that the directory would enable them to assist federally employed KSEA members in security

awareness issues, such as targeting by foreign intelligence organizations, etc. Rather than agreeing to their request, Dr. Chung asked him to formally send such a request in writing with the purposes and the reasons elaborated so that he could bring it to the KSEA Council for its action as the KSEA membership directory contains the personal information that he cannot (or would not) release within his authority. However, as no such FBI letter was ever received, KSEA has not provided the directory to the FBI. Please also note that the FBI visited KSEA-HQ and KUSCO in the fall of 2000.

This unfortunate FBI inquiry could be understood as their precautionary measure spurred by the on-going "*espionage*" inquiry in 1999 of a Taiwanese American engineer, Dr. Wen-Ho Lee at the Los Alamos National Laboratory. Even though he was arrested and imprisoned for 278 days, Dr. Lee was finally charged with one count of "*mishandling sensitive documents*" and later discharged from all other allegations by the U.S. Federal judge.

As the FBI interviews were not coordinated through KSEA there are no data available for the extent of their interviews, e.g., the number and the demographics of the interviewees and their employer organizations. President Dr. Howard Chung directed the 29th Administration Public Relations Director, Daniel Park, to take a necessary step to find out the reasons and the extent behind the FBI interviews by exploiting Daniel's experiences and his personal network as a former U.S. Army intelligence officer. Daniel Park is an intellectual property lawyer at the U.S. DOE Argonne National Laboratory office. He went to West Point and had served as an officer at an intelligence division of the U.S. Army. Daniel Park's finding was as such "*the FBI is not investigating KSEA for any criminal activities*", but "*for the U.S. security measures*". It became clear that KSEA was not the target of any criminal investigations.

The FBI interviews brought some negative impacts to KSEA:
(1) Resignations by a few KSEA Chapter presidents,
(2) Cancellation of KSEA membership by some members,
(3) Reduction of KSEA income
(4) Some psychological discomfort and worries

There were cancellations of KSEA membership by the members who work either in the U.S. government or its contractor organizations as they perceived a potential risk of a job security or felt uneasy regarding the FBI interviews. A few KSEA officers such as Chapter presidents also resigned from their respective positions. These led to a decline in KSEA membership along with its along with its associated financial impact in administering the KSEA activities and programs including UKC 2000.

It is the 29th Administration's understanding that there were no further inquiries to KSEA after the FBI interviews of the year 2000.

UKC 2000, Drake Hilton Hotel, September 1-5, 2000

Carrying the momentum of the two successful previous KSEA annual conferences of UKC 1998 and UKC 1999, UKC 2000 was organized and held on September 1-5, 2000 at the historically renowned Drake Hilton Hotel located in the Gold Coast of Chicago. The conference was titled as "*The 2000 U.S.-Korea Conference on Science and Technology, Entrepreneurship, and Leadership*" with the theme of "*Leading the New Millennium to Global Prosperity*".

The technical program consisted of four tracks: (1) Advanced Manufacturing Technology, (2) Energy and Environment, (3) Information and Communication Technology, and (4) Advanced Transportation System Technology.

In addition, there were four special forums: (1) Science and Technology Policies, (2) Science and Technology Exchange Programs with North Korea, (3) Science and Technology Government and Industrial, and (4) U.S.-Korea Cooperation on Technology-based Ventures. Also included were three tutorial workshops: (1) High-tech Venture Businesses, (2) Internet and Computers, and (3) Retirement Planning and Smart Investments. The conference was attended by approximately 300 people leading to a reasonable success.

What had really made the event successful was an enthusiastic support from KOFST, particularly by its Chairman, Prof. Byung Son Kim and Secretary General, Mr. Koll Sam Lee. KOFST previously planned to have a special symposium in Korea during the same time frame, but instead decided to co-sponsor conference. They had provided a substantial amount of funding and had encouraged scientists and engineers in Korea to actively participate in UKC 2000. KOFST's decision to call the Council meeting for the overseas Korean scientists and engineers associations during UKC 2000 also tremendously helped to raise the impact of the conference as seven presidents of those associations attended the conference. On behalf of the 29th Administration, I sincerely extend profound gratitude to KOFST.

Another successful aspect was the choice of three newly chosen technical areas of manufacturing technology, energy & environment, and advanced transportation systems. The Manufacturing Technology track was most successful as it drew the largest attendance, including many from the Korean Institute of Industrial Technology (KFTECH), a research institution under the Ministry of Commerce, Industry, and Energy (MOCIE). Many sponsorship organizations, including ICU, KARI, KITECH, KUSCO, LG-America, and SAIT, provided great contributions for the success of the conference, especially for two conference celebration social programs: (1) Special luncheon at John Hancock tower sky-lounge restaurant, and (2) Music concert at the Northeastern University in Chicago where a violin and piano duo recital presented Mozart, Beethoven and Brahms.

All conference papers were published in a CD and distributed to the attendees and the sponsoring and participating organizations.

KSEA YG (Young Generation) Program

After the 1st successful YG Conference in February 1999 organized by the 27th Administration under the leadership of Prof. Ki Dong Lee, YTEC 2000 was held in Korea in June 2000 hosted by the Korea Oversea Foundation and led by President Prof. Thomas Hahn of the 28th Administration where more than sixty KSEA YG members participated. In both conferences, Dr. Howard Chung served as the Technical Program Co-Chair under the capacity of the 27th Vice-President and the 29th President-Elect, respectively.

During the 29th Administration, the KSEA YG organizations and their activities were further enhanced by their conference activities at UKC 2000 in Chicago where more than 40 YG members participated with their special technical programs and social activities.

KSEA Administration

The annual KSEA Council Meeting was held on September 2, 2000 at the UKC 2000 conference hotel, Drake Hilton Hotel, Chicago, Illinois.

KSEA had gone through a difficult period in the year 1999 due to complicated election issues mainly stemming from some difference of opinions and positions regarding the extremely tight presidential election result. After this issue was finally resolved with fairness, there was some need for healing processes. The 29th Administration put all their efforts to achieve a harmonious atmosphere by uplifting any undue negativism in the society and promoting "cooperation" and "genuine volunteerism".

Harmonious efficiency with the administration officers and the KSEA staff was promoted and achieved. Also, full support was provided for the forthcoming 30th administration, especially for the success of UKC 2001.

For the 29th KSEA Administration the following officers served for one year from July 1, 2000 to June 30, 2001.

Officers of the 29th Administration

- President : Howard Ho Chung
- Vice-President : Paul Mannsik Kang
- President-Elect : Nak-Ho Sung
- Executive Director : Hemin R. Chin
- General Director : Kyu-Myong Kim
- Finance Director : Seon Ki Park
- Membership Director : Michael Hyung Min (Michael) Chung
- Public Relations Director : Daniel D. Park
- Projects Director : C. Peter Cho
- Database Director/Webmaster : Yoo-Eup Hyung
- Publication Directors : Heung Rae Lee, Jong Hee Park, Thomas (Tong-Yong) Yi
- Chapter President : Peter Woo
- Auditors : Kwon Shik Dennis Kim, Kwang Hae Kim, Michael Kyongil Kim

30th Administration (2001-2002)

Nak-Ho Sung

Historical Backdrop

In 1997, a financial crisis (IMF trauma) started in Korea, and KSEA encountered a real hardship in fundraising since then, causing a severe problem in the 29th Administration. Also, a technology espionage issue on artificial diamond manufacturing between IL-SIN Industry and GE triggered a FBI review of many science and engineering organizations tied to foreign nationals, and this led to FBI interviews of some officers and members of KSEA This created undue concerns on many members, especially those working in government and federal labs, and the membership of KSEA dropped significantly. Both factors negatively impacted KSEA, and member participation experienced a substantial downfall.

Challenge

A major concern for the 30th Administration was how to restore the stature of KSEA and strengthen the organizational infrastructure, thereby sustaining a healthy growth of KSEA.

Strategy

The top priority was fundraising. Second was to create new programs, thereby increase the member participation in KSEA activities. Third was to enhance services to the community.

Major Activities

UKC-2001: The conference organized by KSEA in collaboration with KOFST and KUSCO was held at M.I.T. in Cambridge, Massachusetts on August 10-12, 2001. The meeting was a great success, attended by more than 400 people, 100 from Korea and 300 from the U.S. and over 260 people presented technical papers in 4 Symposiums with 24 Technical Sessions, 3 Special Forums, one Workshop and a Career-Job Fair. Attendance was largest seen up to the year 2001, and we were able to draw broad support from many Korean organizations, and the level of interest in KSEA affairs from Korea appeared to be resurrected. Industry sponsors and exhibitors expressed their satisfaction. UKC 2001 contributed very much to the revitalization of KSEA.

A major grant from SK Telecom enabled to support travel expenses, and the participants enjoyed free meals; Friday Gala dinner, sponsored by LG, and Saturday's lively entertainment of the Boston Harbor Cruise Dinner, sponsored by SK Telecom.

The three-day program was run smoothly, thanks to the efficient work coordinated by staffs from HQ and New England Chapter and Local Organizing Committee members. Proceedings of the conference were made available in CD form for the first time.

KSEA Letters: As a part of an effort to increase membership and member participation, **KSEA Letters**, the only official publication of KSEA, was published in **five issues**, a record in KSEA history, including the Memorial Issue for Professor Inyong Ham (Vol. 30, No. 2). Extra efforts made by the Publication Directors were deeply appreciated.

New Initiatives

KSEA NMC (National Math Competition): The inauguration of a national-level competition of mathematics was launched in April 20, 2002. The Ad-hoc Committee, led by VP Quiesup Kim, overcame many start-up obstacles and coordinated all participating Chapters to launch a successful NMC. This event became the most popular activity among young Korean Americans and their parents. NMC became a KSEA signature

program, making important contributions to KSEA publicity, the local Chapter vitality, member participation, and to community service.

Annual KSEA Awards: For the first time in 30 years, KSEA officially launched Annual Awards (KSEA Letters Vol. 30, No. 4, p8), starting with the Outstanding Service to KSEA Award and Entrepreneurial Award. The inaugural awardees were: Dr. Hyung-Sup Choi (former Minister of MOST), Dr. Seung-Soo Han (former Prime Minister, Chief of Staff to the President of ROK, Chair of UN), and Prof. Shoon Kyung Kim (1st President of KSEA). Dr. Byiung Jun Park and Dr. Steve Kim were recognized for their entrepreneurial achievements.

Endowed Scholarships: A campaign for creating private-donor named scholarships was successful in generating two accounts. "***The Chunghi Hong Park Scholarship***" had been endowed with $50,000 to support women students and "***The Yohan & Rumie Cho Scholarship***" was endowed with $25,000 to support students in the information science and technology area. Effectively, these scholarship funds increased by more than 50%.

Committee Workshop: In December of 2001, a special workshop was held at HQ for three Committees, Long Range and Planning, Rules, and Award & Discipline, as a part of a strategy to strengthen the authority and responsibility of the Committees. The workshop generated many ideas for strengthening KSEA.

Other Activities

KSEA and KUSCO Interaction: In October 18, 2001, the KUSCO Board, led by the Chairman, Dr. Jung Duk Kim (KOSEF Director), proposed a major by-law change to transform KUSCO as an independent U.S. entity, and in the process, KSEA's involvement, well defined in the original by-law, would have been completely eradicated. This shocked everyone and 30th Administration coordinated an all out fight, and eventually revived the KSEA-KUSCO relationship, including the retention of two Board seats from KSEA.

Chapter President Committee: This committee was created to effectively support the activities of Chapters and Branches and enable better communication between HQ and Chapters and Branches.

Annual Election: March-April 2002

Young Generation Leadership Forum: May 11, 2002

Overall, the 30th Administration is proud to make a significant impact on the restoration of KSEA stature and enhancement of the organizational infrastructure.

Officers of the 30th Administration

- President : Nak-Ho Sung
- President-Elect : Chan Il Chung
- Vice President : Quiesup Kim
- Executive Director : Hemin R. Chin
- Financial Director : Jongil Han
- General Director : Kyu-Myong Kim
- Membership Director : Hyung-Min Michael Chung
- Project Director : C. Peter Cho
- Database Director : Yoo Eup Hyung
- Publication Director : Kang-Won Wayne Lee
- Publication Director : Kwang-Soo Kim
- Publication Director Kwi-Yung Jung
- Publication Director : Dong-Woo Kim

Young Generation Leadership Forum on May 11, 2002

Some of the dignitaries that attended UKC 2001 held in August at Cambridge, MA

31st Administration (2002-2003)

Chan Il Chung

Motivation to serve as a President of KSEA

KSEA was at its lowest point in 1999–2001 with sharply decreasing memberships and a diminishing reputation because of the fiercely contested presidential election result and the US government's inquiry into possible lobbying activities of KSEA or its members for Korea. I had been a strong supporter of KSEA, but did not actively participate in the administration of KSEA. Near the end of my career in 2000, I decided that it was the right time to devote myself to revive KSEA as a service to the Korean-American community and also to Korea in a larger extent. Here are my major accomplishments.

Establishment of the first English Bylaws of KSEA

30 years after its foundation, KSEA in 2001 had only Korean Bylaws and still did not have English Bylaws. KSEA needed English Bylaws to manage itself properly according to the applicable US laws and to formally register as a non-profit US organization. The Rules Committee had tried to translate the Korean Bylaws into English for many years by requesting each of its members and Headquarters staff to translate, but the effort did not succeed because of insufficient participation of the members and incoherent language & structure in their translation.

During my tenure as the President-Elect and the first two months as the President, I prepared a complete English Bylaws by translating the Korean Bylaws exactly into English as much as possible and updating the contents to reflect the current state of KSEA at the time. I reviewed my English translation with a corporation lawyer (Ms. Bonnie Lawless), and the lawyer prepared formal English Bylaws based on my translation with minor changes and legally necessary additions (ex. Finance Director becomes a Councilor as required by the law) for a very low charge. The lawyer presented the formal English Bylaws at the 31st Council Meeting held at the Headquarters over two weekend days in September 2002. It is noted that the expensive two-day weekend Council Meeting was held separately from UKC mainly to establish the English Bylaws. The Council overwhelmingly approved the English Bylaws by secret paper ballot (35 approve, 3 oppose, 0 abstain) with minor changes after careful discussions and debates. The general members also overwhelmingly approved the English Bylaws by mail ballot in early 2003 (191 approve, 3 oppose, 0 abstain), and the first English Bylaws of KSEA was established in 2003.

Establishment of the first English Policies of KSEA

The Korean Policies also had to be translated into English, with the necessary changes and additions reflecting the current operations of KSEA at the time. I did not have the time and opportunity to establish English Policies during my Presidency. I volunteered to serve on the Rules Committee after my Presidency to work on English Policies. Dr. Kun Sup Hyun as the Rules Committee Chair, and I translated the Korean Policies into English during 2003-2004. The final English Policies were prepared by consulting with all members of the Rules Committee, and they were approved by the 34th Council in 2005.

Establishment of an interactive membership website

The membership data had been managed by the Membership Director who relied on students to handle the computer file, resulting in a poor membership database and probably causing the serious problem in the election. We initiated a web-based, interactive membership database that could be managed by Headquarters and updated directly by individual members. I am delighted to see that the web-based, interactive membership database had been improved over the years to the present excellent state.

Drastic expansion and improvement of the KSEA HQ office

The KSEA HQ Office was located on the third floor off a hallway inside a large lobby-like area, and it was not visible from the hallway. On the third-floor hallway walls, there were many pictures of Korean national laboratories and a large KUSCO sign near the elevator. The KSEA HQ Office was located on the right in the lobby-like area, and the room on the left had a big sign, "KUSCO Chairman", on the door. The KUSCO Chairman from Korea seldom came to this office. These surroundings could easily give an impression that KSEA was a sub-organization of KUSCO.

I successfully convinced the Chairman of KUSCO and his staff during my visit with him in Korea to drastically improve the appearance and substance of the KSEA HQ Office by removing the pictures of Korean national laboratories off the walls, posting a KSEA sign next to the KUSCO sign off the elevator, converting the large unused lobby-like area to KSEA's lobby by installing a large glass door between the hallway and the unused lobby-like area, and assigning the KUSCO Chairman's room as the KSEA President's room. Before the Council Meeting in September 2002, the new KSEA lobby was decorated with a large KSEA logo, the plaques of all former Presidents, and a display stand containing KSEA's historical materials. All expenses for the decoration of the new KSEA lobby were paid by contributions from most of the former Presidents. KSEA HQ finally acquired a spacious office and distinguished appearance that it had deserved.

The 2002 UKC held in Seoul, Korea

As a means of motivating KSEA members and attracting new members, the 2002 UKC was held in Seoul, Korea, in conjunction with the World Congress of KOFST. Most airfares between the USA and Korea were reimbursed to all KSEA participants. Although it was expensive and difficult to coordinate, the 2002 UKC held in Korea improved KSEA's relationship and stature with KOFST and other Korean organizations.

Establishment of full-time employment status and structure for Headquarters staff

There were two staff members at HQ when I took over the Presidency in July 2002; one very capable primary staff with an advanced college degree and many years of service at KSEA HQ, and the other minor staff. They worked full-time, but they had part-time employee status. All KSEA officers are non-paid volunteers, and they seldom come to HQ. The HQ staff handles virtually all KSEA paperwork, and also makes many routine decisions. Utmost loyalty and dedication cannot be expected from part-time employees who can be terminated at any time. Lack of loyalty and dedication of the staff members were obvious. Most KSEA meetings at the HQ took place during weekends, and HQ staff did not work during weekends and did not assist the weekend meetings. Overtime pay had to be paid if they worked over eight hours per day or during weekends.

After individual discussions with the HQ staff members and with the approval of the Executive Committee, the part-time status of the two HQ staff members was converted to exempt professional status with annual salary and without overtime pay. The primary staff was appointed as the Administrative Manager responsible for administration of all HQ affairs and staff.

32nd Administration (2003-2004)

Quiesup Kim

This administration had been challenged successfully with local sponsors to perform the many activities previously established, in addition to celebrating the 100 years of Korean Immigration to the USA as scientists and engineers, even under the severe financial limitation from our royal sponsor KOFST (Korean Federation of Science and Technology Societies, President, Si-Joong Kim) due to the default of the International Monetary Fund on Korea.

For ensuring the successful completion of the 32nd KSEA activities and administration, all the members, staff, and volunteers, especially, the Local Chapter President (Chong Do Lee), and the executive members had served KSEA in spite of their own busy schedules. The 32nd Administration focused its efforts on promoting KSEA as a leading professional ethnic organization by providing fellow members opportunities to explore their professional potentials at the international level of leading science and technology, and not only for the members, but also for the newly emphasized community and the future generation education.

In realizing that the future of KSEA depends on how well KSEA develops the younger generations from both the US and Korea, the 32nd KSEA Administration indeed had successfully carried out special projects such as scholarship programs, a summer young generation leadership program in Korea and the US, and the national math contests for the young. This administration had expanded its mission in bridging to society by guiding, for the first time, young girls to pursue interest in mainstream science and technology in addition to encouraging their involvement in professional activities such as technical conferences.

KSEA foresaw that there would be great opportunities for our youth as well as older generations. The young second generation may survive and prosper in the 21st-century US without having anything to do with Korea, Korean industries, or Korean culture. Korea also realized the second generation Korean-Americans as an instrumental leading power of the world in fostering the "second industrial revolution" in Korea.

The following paragraphs summarize some of the highlights of the various activities of the 32nd Administration:

KSEA National Mathematics Competition

This nationwide annual event has now become one of the most popular activities among young Korean-Americans and their parents in the US. The Council approved the policy of the National Mathematics Competition (NMC) to a Standing Committee that was prepared by the Rules Committee. The Standing Committee policy had passed and would have been formed at the coming Council Meeting. KSEA praised the following members for their dedicated services on the Rules Committee, Drs. Kun Sup Hyun, Yong M. Cho, Chang Hum Paik, Byong Kwon Cho, Sung Won Lee, June Key Lee, Chan I. Chung, lnhwan Oh, and Dr. Jae Hoon Kim, the primary author of the Standing Committee policy.

Girls Electronic Mentor Program in Science, Engineering, and Technology (GEMSET)

Last October, KSEA launched the GEMSET (girls electronic mentoring in science, engineering, and technology) program in partnership with the US Department of Labor following the recommendation from the 2003 Council Meeting. More than 110 (required 75) junior and senior high school students of the Korean ethnicity were participating in the GEMSET program by reading the Daily Digest and by utilizing the website designed by the Women's Bureau at the US Department of Labor. The girls asked educational and career development questions about science, engineering and technology fields, and they received answers from vast numbers of women who were GEMSET professionals and who volunteered as GEMSET mentors in order to encourage girls to study and enter the fields of science, engineering, and technology.

Young Generation (YG) Program

Realizing the importance of young members, KSEA was encouraging young generation members in college and graduate school to be active and to lead their fellow members in three different forums. One in July in Korea by cooperating with KOFST, one in August in UKC, and one in June at KSEA

Headquarters. The 2004 YG Leadership Forum was held at KSEA HQ on June 18-19. It was attended by about 15 YG Group leaders selected from many different universities in order to facilitate new university YG Groups.

UKC 2003 at Caltech in Pasadena, California

The proceedings of UKC 2003 held on August 5-10, 2003, in Pasadena, California were published in January 2004, in CD format. The proceedings were distributed to all participants of UKC 2003. The CD proceedings were prepared by Prof. Tae Wan Ryu. Prof. Ryu was the webmaster of UKC 2003. Thanks to the dedicated local volunteers at the 2003 US-Korea Conference on Science and Technology, more than 450 professional engineers and scientists were in attendance, including more than one hundred from Korea. The UKC 2003 Committee was also proud to have presented a Nobel laureate keynote speaker, Prof. Rudy Marcus, to the plenary session for the first time in UKC history and also to feature the timely topic of reunification of Korea at the Conference. This would not have been possible without meticulous preparations by the organizers, Headquarters staff, executive committee members, and the local staff members from the Southern California Chapter. The proceedings may be obtained from KSEA HQ.

The President Scholarship Fund

One more designated scholarship, in honor of Prof. Soon Kyung Kim, was installed during this administration. The total number of designated scholarship of KSEA grew to five. The other existing scholarships were designated for Prof. In Young Ham, Hyundai, Yohan and Rumie Cho, and Chunghi Hong Park.

World Joint Council of the Korean and Korean-Ethnic Scientists and Engineers Association

In late September, the president of KSEA had a chance to participate as a vice Chair at the general meeting of the 2003 World Joint Council of the Korean and Korean-Ethnic Scientists and Engineers Association. The council was held on September 24-26, 2003, in Geseke, Germany. The council consisted of organizational leaders including fifteen representatives from the Korean and Korean-Ethnic Scientists and Engineers Association from different countries all over the world. Each representative presented his reports about his country and shared and discussed common interests and challenges to promote his organizational specialties that could have contributed to world prosperity. At the end of the meeting, the council adopted a Joint Resolution for the Korean and Korean-Ethnic Scientists and Engineers for the leadership of the council.

Former Presidents Meeting

A number of former presidents exchanged opinions regarding a plan to revitalize KSEA. This meeting was held on February 1, 2004, with a primary focus on developing a "*Revitalization Strategy for KSEA*". In attendance were former presidents Drs. Yong Nak Lee (10th), Kyung Sik Kang (11th), Ki Hyon Kim (15th), Chai Chin Suh (19th), Hong Thomas Hahn (28th) and Nak Ho Sung (30th). At the round-table meeting, participants presented various suggestions and ideas, with Dr. Yong Nak Lee acting as moderator of the discussion. During the second-half of the session, the participants formed a consensus regarding the final contents of the recommendations and their respective priorities. Soon after the Forum, a joint session was held between the EC members and the former presidents, where Dr. Nak-Ho Sung briefed the summary to the EC members. The President and the EC members of the 32nd Administration thanked the former presidents for their support and dedication, including bearing their own travel expenses to conduct the meeting in person.

Those were some of the highlights performed by this administration excluding routine performances of this administration; updating membership drive, revival of local chapters, KSEA Letters publications (4 times), KSEA-KUSCO interactions, and visits to the major science and technology organizations in Korea.

Officers of the 32nd Administration
Executive Members

Quiesup Kim
President

Sung Won Lee
President-Elect

Hwang Chung
Financial Director

Kwang-Hae Kim
Vice President

Hyung-Min Chung
Membership Director

Kwang Woong Won
Publication Director

Yong Suk Joe
Publication Director

Tae W Ryu
Publication Director

James Choi
Publication Director

Yong M Cho
Executive Director

Minbo Shim
Information Director

Jinho Kim
Publication Director

Chong Do Lee
Southern California Chapter President

Headquarters Staff

Ashley Kim, Administrative Manager
Joyce Lee, Administrative Associate

34th Administration (2005-2006)

Kwang-Hae (Kane) Kim

The 34th Administration started quietly on July 1 with the understanding of the following challenges:

- How to turn around the declining membership trend that started sometime in the 1990's?
- How to conduct young-generation (YG) activities in meaningful forms and a YG membership drive in a sustainable form?
- How to facilitate high-quality interactions between members of KSEA and the talented scientists and engineers in Korea?
- How to increase the number of warm-hearted volunteers in KSEA?

Answering how to generate a spirit of serving for the Association such that more members are willing to run as the president, the VP, councilors, executive committee members, and others was not a easy task. It was not easy to find qualified members willing to serve. However, the 34th Administration was fortunate enough to find such talented executive members willing to serve the Association. KSEA believes that if a member learns the real status of KSEA, many righteous members would come forward to help restore the health of KSEA which was mighty strong before. The Association got hurt badly by occasional outbursts of unusual internal challenges in the past 15 years. KSEA needs to emphasize the harmony and openness in this organization. KSEA looks forward to have your contributions and to hear your guides and advices to be a better organization. The followings summarize some of the highlights of the various activities of the 34th Administration:

UKC 2005 in UCI, California

The 2005 US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2005) was successfully held at the campus of the University of California, Irvine, from August 11 through 13, 2005, under the auspices of the Korean-American Scientists and Engineers Association (KSEA) and the Korean Federation of Science and Technology Societies (KOFST). The three-day conference attracted 580 registered participants who contributed over two hundred fifty technical papers and presentations covering active research areas in science and engineering as well as various topics of interest to scientific communities in the USA and Korea. At the conference, paid registrants received a 384-page book of abstracts & biosketches entitled "*Frontiers in Science and Engineering*" as well as a CD of conference proceedings containing electronic versions of 236 selected full papers and presentations, which were edited by Dr. HeeKoo Moon and Dr. Sohye Kang. Additional copies of the Proceedings CD and the bound-volume book of abstracts & biosketches were made available for purchase at KSEA Headquarters.

Scholarships

The scholarship committee evaluated total of 51 applicants and recommended the 27 top ranking students (15 graduate students for KUSCO/KSEA scholarships and 12 undergraduate students for the named KSEA scholarships) to the Executive Committee for acceptance. Due to the increased resources ($35,000) from KUSCO, it was decided to award $1,500 to each recipient. In addition to the scholarship, travel support of up to $700 per person were provided for UKC 2006 participants.

2006 National Mathematics Competition

The NMC of the 34th Administration was competed on the April 22, 2006, participating 19 Chapters over throughout the Country. One thing noteworthy is that the Washington Metro Chapter produced a top in grade year 4, 5, 6, 7, and 9. This Chapter headed by Jung-Ho Kim, as the first 2nd generation Chapter President had the 2nd highest level of participation (209 students) and the largest number of top scorers of the award winning competitors.

The 2006 Election

The Election Committee Chair, Dr Young-Chang Lee, sent us a report on the results of the recent election. The vote counting for the 2006 election took place at KSEA HQ on April 29, 2006.

Young Generation Technical Leadership Conference

One of the primary goals of KSEA is to nourish opportunities for leadership skills and networking environments to our young generation Korean-American students and professionals. To this end, KSEA has been continuously and successfully expanding YG-related activities. These include meetings, seminars, and conferences at local student chapter and national levels. With the amazing success of the first Young Generation Technical and Leadership Conference (YGTLC) 2005, the 2nd YGTLC on June 10, 2006, at University of Texas at Dallas, with a total of 110 people registers and 90 in attendance, under the theme of "*Leaders in Science and Engineering for the 21st Century and Beyond*" was organized. This was accomplished with a budget of $10,000 that included $5,000support from the KSEA HQ.

Approximately 25% of the attendee was 2nd generation Korean-American students and the remaining 75% was a mix of 1st and 1.5 generation students and professionals.

Published KSEA Letters

Three issues of KSEA Letters were published during the 34th term, and all two issues were published right on schedule.
KSEA Letters Vol. 34 No. l (Serial No. 196) web version
KSEA Letters Vol. 34 No. 2 (Serial No. 197) web version
KSEA Letters Vol. 34 No. 3 (Serial No. 198) web version

R&D Trend Study

A new project, "Overseas Science and Technology Policy, Organization, and Trends" was funded by KOFST this year, and the study was carried out from Oct. 1, 2005 to March 31, 2006 focusing on Information Technology and Quantum Computation by a team of prominent KSEA members. The final report of the project (200+ pages) was submitted to KOFST in April 2006, and the online version of the report was uploaded to the KSEA website. The project was headed by Prof. Kane Kim of UC Irvine (KSEA President), and Dr. Se June Hong of IBM Research and Prof. Yong W Kim of Lehigh University served as the principal investigators. Contributors of the study include Prof. Sang Hyuk Son of University of Virginia, Prof. Insup Lee of University of Pennsylvania, Prof. Myung Jong Lee of City University of New York, Prof. Hyeong-Ah Choi of George Washington University, Prof. Lawrence Chung of University of Texas, Dallas, Dr. Kyung Dong Ryu and Dr. Kang Won Lee of IBM Research. R&D Trends Study in the Advanced Materials Technology and the Aerospace Science and Technology was performed during the 35th Administration.

e-Directory

KSEA had thousands of members with diverse technical backgrounds in the areas of science and engineering in different locations. However, the organization had not had a useful membership directory that could be shared among members. With the support of KOFST, KSEA had developed an electronic membership directory (e-directory) with flexible and effective member management. The project was carefully planned and designed from various perspectives to reflect all possible needs from different users of the system including the HQ staff members, HQ officers, local chapter officers, regular members, and sponsors. The major features of the system were summarized as follows:

- A centralized membership database allowing localized management
- Many useful member management features such as member search, member list download, email communication, membership statistics, etc.
- Secure membership data that could be shared among members
- Multi-level membership directories based on the level of membership information, detail including telephone-level directory, name card-level directory, and resume level directory
- Technology service and infrastructure support for local chapters

The system was successfully designed, implemented, tested, and deployed. The system had been operational the last few months of the admin term. The initial feedback from the HQ staff members, officers, some of local chapter officers was very positive.

With the new system, HQ staff and officers could maintain a high-quality membership database and provide the necessary membership information services to sponsors. The local chapters didn't have to maintain their own database any longer. The new system had already showed some of the local chapters the expandability by providing student registration and management support for the 2006 KSEA national mathematics competition.

Officers of the 34th Administration
Executive Members

Kwang-Hae Kim
President

Sung Kwon Kang
President-Elect

Yong M Cho
Vice President

Zang-Hee Cho
Advisor

Yong-Wook Kim
Advisor

Sung Won Lee
Advisor

Wonsup Park
Executive Director

James Joo-Suk Song
Finance Director

Kenneth H. Yu
Public Board Member

Yong Chang Lee
Public Board Member

Young Bae Choi
Public Board Member

Hee Koo Moon
Public Board Member

Minbo Shim
Information Director

Tae W Ryu
Membership Director

Gye Won Han
Membership Director

John C. Lee
Membership Director

Jungho Kim
Public Board Member

Headquarter Staff
Ashley Kim, Administrative Manager
Junghwa Oh, Administrative Associate

35th Administration (2006-2007)

Sung-Kwon Kang

New Visions for KSEA in the 21st Century
By serving as the 28th VP, Dr. Sung-Kwon Kang experienced many challenges/difficulties faced by KSEA during that period. As a PE candidate in 2004, he critically discussed various issues, and proposed the new visions and strategies to revitalize KSEA (KSEA Letters, Vol. 33, No. 1, Dec, 2004). The ideas of the new visions and strategies were immediately incorporated in preparation for the 2006 UKC.

At the first EC meeting, the same new visions and strategies were discussed and adopted as the guiding principle for the 35th Administration; ***i) KSEA to become a united and professional organization of the Member, by the Member and for the Member, ii) KSEA to represent the majority of ethnic Korean scientists and engineers in the US, and iii) KSEA to serve the Korean-American communities as well as the mainstream American society.***

The 2006 UKC the first in the Greater New York Metro Area
The UKC 2006 Organizing Committee members in the US and Korea worked extremely hard for the one year to prepare an *outstanding conference*. The Program Committee attempted to replicate the spirit of the original ***"Symposium"*** written by Plato, the great Greek philosopher. As a result, this UKC provided many new *"symposiums"* & *"forums"* to discuss the truth and beauty of science, technology, and education, while celebrating *our global friendships.*

UKC 2006 was a record-breaking event. More than 700 people attended and 354 presentations were made in 12 symposiums, 2 forums, and 4 plenary sessions. The quality of technical programs was world-class. The spectrum of program topics was very current and broad. Several new symposiums were added this year, such as AMT, FST, GE, and MST, all making the technical programming even stronger and more attractive. A few forums discussed unique topics such as education in science and engineering, women's career issues, and a joint program by NSF/KOSEF for Young Generation members. KUSCO/KSEA scholarships were awarded to graduate students at this conference. An impressive roster of distinguished speakers from Korea and the US was assembled for the opening ceremony and plenary sessions including Dr. Woo-Sik Kim, Deputy Prime Minister, MOST. For the first time, the conference was managed with a comprehensive online process. Generous sponsorships from many industrial companies and research organizations from the US and Korea greatly contributed to the overall success of the conference.

The Local Arrangement Committee consisting of NY Metro and NJ Chapters, and KASBP members committed to provide the maximum hospitality for the first UKC hosted in the Greater NY Metro area. The leadership of NY Metro, NJ Chapters, & KASBP (APS) decided in advance to cancel their annual Northeast Regional Conference (NRC) this year to fully support UKC 2006.

Two Bottles of Water
This is a most memorable story from UKC 2006, not-much-told to the public yet. Dr. Wook-Sik Kim, then Deputy Prime Minister of MOST, attended UKC2006 for the first time, (later attended every year 5 times until 2010).

Dr. Wook-Sik Kim (Deputy Prime Minister of MOST) from the right, Dr. Yung Bog Chae (KOFST President), and Dr. Sung-Kwon Kang (KSEA President) at a dinner table of UKC2006

Dr. Wook-Sik Kim (Deputy Prime Minister of MOST) received "Two Bottles of Water" at the registration desk of UKC2006

On the opening ceremony day, Dr. Kim came directly to the registration desk to pick up "*Two Bottles of Water*" as a conference gift. He was checking out whether the statement made by the Conference Chair, Dr. Sung-Kwon Kang at the dinner table the last night was true or not. At the dinner table, Dr. Kang told that KSEA has prepared UKC2006 in a very frugal way of not even spending any money on conference gifts, but simply supplying "*Two Bottles of Water*" to all the people registered.

This story touched the Deputy Prime Minister so much at the dinner table and he immediately ordered one of his Directors to investigate more support for KSEA. This has eventually resulted in an increased funding to the future UKCs.

The Strategies to Revitalize KSEA

From the beginning of the 35th Administration, several new visions were set up to revitalize KSEA as well as to represent the majority of ethnic Korean scientists and engineers in the US. To accomplish this goal, the 35th EC team had vigorously executed many strategies to *1) establish a strong membership network, 2) revitalize Chapter activities, 3) promote national and regional conferences, 4) promote young generation activities, 5) support affiliated professional societies, 6) emphasize public relations on KSEA, 7) encourage community services, and 8) enhance working relationships with the science and technology communities in Korea.*

Accomplishments by the 35th Administration

Owing to the dedicated efforts by all EC members, Chapter leaderships, Technical Group Councilors, Committee members, Auditors, and devoted members, many activities planned were completed during the 35th term, such as UKC 2006, NMSC 2007, YGTLC 2007, 10 regional conferences, 4 affiliated professional society symposiums, publication of three issues of KSEA Letters, dynamic/open management of the website, and more. The total number of KSEA national and regional events completed during the 35th term was unprecedented.

The HQ operation became very stable and efficient through the cooperation among all the staff and EC members. By the initiatives of ED Chang Lee, many cost-saving measures were implemented such as reducing telephone and teleconference fees, recovering the overpayment of a rental photo copier, collecting Rockville property utility bills, investigating the Pitney-Bowes postage machine contract situation, and others. This year the HQ finances were extremely healthy and had been able to fund a record number of Chapter activities, young generation activities, regional conferences, and even the activities by our affiliated professional societies (KWISE, KOCSEA, KASBP, BLSA, NEBS, KOEA). The EC members truly demonstrated strong teamwork through the membership drive, e-Directory project, chapter development, and other challenging tasks. By the beginning of May 2007, there were more than 1,500 active members and 16 chapters identified as "*qualifying*" chapters with more than 30 dues-paid members.

The state of KSEA was very strong and promising. The great lesson learned during the 35th Administration was a confirmation of the famous quotation by Andrew Carnegie, ***"Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results."*** The 35th EC hopes the high spirit of excellent teamwork demonstrated during the 35th Administration continues in the subsequent terms for an even greater KSEA.

In appreciation of their tireless, devoted teamwork, the roster of the 35th EC members and staff is included here. Thank You all!

Officers of the 35th Administration

S. K. Kang
President

K. W. Lee
Vice President

K. W. W. Lee
President-Elect

C. R. Lee
Executive Director

S. B. Park
General Director

D. Han
Financial Director

S. S. Ryu
Membership Director

S. Y. Song
Membership Director

E. K. Yang
Membership Director

M. B. Shim
IT Director

S. H Kim
Public Relation Director

H. K. Moon
Publication Director

Y. B. Choi
Publication Director

J. H. Cho
Publication Director

A. Kim
Staff

M. Kim
Staff

36th Administration (2007-2008)

Kang-Won Wayne Lee

Visions for a Sustainable and Stronger KSEA

It was my honor and privilege to serve as the 36th President of the Korean-American Scientists and Engineers Association (KSEA). I was impressed and motivated by the outstanding achievements of Korean-American (K-A) scientists and engineers in their professions and contributions to KSEA. However, throughout serving as the 30th and 31st Publication Director, 32nd Auditor, 34th VP, UKC 2005 Co-Program Chair, and 35th PE, I experienced some difficulties and challenges faced by KSEA during that period. From the beginning of the 36th Administration, we embarked on a new mission to upgrade KSEA as well as to represent the majority of K-A scientists and engineers. To accomplish this goal, a number of strategies were vigorously executed, and some of the achievements could be summarized, e.g., the enhancement of the US-Korea Conference (UKC), the Young Generation (YG) program and National Mathematics and Science Competition (NMSC), improvement of the financial health of KSEA and scholarship program, computerized management and database upgrade, and the development of stronger relationships with K-A affiliated professional societies. I trust that KSEA had a very productive 36th term including the 2007 UKC thanks to the dedicated service of the Executive Committee (EC) and royal members.

The 2007 UKC and Council Meeting, the first in the Washington D.C. Area after Moving to New HQ

UKC 2007 was successfully held at the Hyatt Agency Reston just outside of Washington D.C. in August, 2017. The venue was strategically chosen so that councilors could have their annual meeting at KSEA HQ in Vienna, VA for the first time. UKC 2007 was a tremendous success and featured an exceptionally large number of participants, over 1,000 attendees. Republic of Korea (ROK) Deputy Prime Minister, Dr. Woo Sik Kim presided over the special ULTRA workshop and delivered his congratulatory speech at the opening ceremony. It may be noted that he also made the first visit to KSEA HQ in its history. As another first, National Science Foundation (NSF) Director, Dr. Arden L. Bement and Dr. Harriet Kung of the of the US Department of Energy made keynote speeches at the plenary sessions. Other keynote speakers included the Korean Advanced Institute of Science and Technologies (KAIST) President, Dr. Nam Pyo Suh, Pohang Institute of Science and Technology (POSTECH) President, Dr. Chan-Mo Park, and University of California at Merced Chancellor, Dr. Steve Kang, among others. All symposium organizers reported that the papers presented in their respective symposiums were of very high quality. One more important event was that all ROK research institutes sponsored UKC 2017, and all their Presidents had the first gathering to discuss about how they could work with KSEA for further cooperative efforts. The Local Arrangement Committee lead by Dr. Jungho Kim et al. provided smooth and enthusiastic support.

The Strategies to Revitalize KSEA

The 36th Administration tirelessly promoted the application of science and technology for the benefit of society, fostered international cooperation (especially between the US and Korea), and helped K-A scientists and engineers develop their full career potential. Particularly, the following tasks were focused on to overcome pressing challenges in order to meet the demands of both the changing organization and society: (1) make KSEA more relevant to the Korean community in the US, including young professionals and students, (2) strengthen our connection with existing K-A professional societies to promote open environment and a quality-oriented image, (3) be more proactive in reaching out to YG K-As, (4) continue working on the establishment of the KSEA Foundation, (5) encourage chapters and technical groups to become more active, and (6) increase membership through the NMSC, scholarship programs, UKC, and joint efforts with various professional societies.

Selected Accomplishments by the 36th Administration

Thanks to the dedicated efforts by all EC members, chapter leaderships, technical group councilors, committee members, Auditors, and devoted members, many activities planned were completed during the 36th term, such as UKC 2007, NMSC 2008, YGTLC 2008, regional conferences, affiliated professional society symposiums, publication of four issues of KSEA Letters, dynamic/open management of the website, and more.

To be more proactive in our outreach to K-As whose primary or only mode of communication is English, we expanded our YG programs. The 4th YG Technical and Leadership Conference (TLC) was held in San Diego, January 4-6, 2008. YGTLC could be seen as the replacement of the one-day

YG Leadership Forum in 2005, and this three-day YGTLC 2008 included technical presentations and involved a wider spectrum of participants. The success of the conference was possible due to the YGTLC 2008 Committee including Dr. Sam Ryu, Mr. John Lee, and Ms. Jungmin Lee et al. I believe that these YG activities helped build the strong foundation and bright future of KSEA. It may be noted that the 36th Administration invited the YG Committee Chair to become an Executive Committee (EC) member.

The National Math Competition (NMC) had grown smoothly in magnitude, spectrum and popularity, and the 35th Administration added a science portion, and became the National Math and Science Competition (NMSC). In addition, as the Korean-Canadian Scientists and Engineers Association (KCSEA) joined from the 35th Administration, it was held as an International Math and Science Competition (IMSC). The competition took place in 33 different cities under the supervision of 21 chapters in the U.S. and 10 chapters in Canada, and became a major venue for outreach to the K-A and K-C communities. It also may be noted that some dormant chapters were revitalized via the IMSC. It led to create a new position in the EC, i.e., Chapter Affairs Committee (CAC) Director.

Scholarships were handed out with an increased number and funding: the donation from Dr. Wankyu Cho, President Emeritus of Seoul National University (SNU) and Prof. Kwanghoi Kim who provided $10,000 to establish a permanent scholarship from the KBS Award in Science and Technology.

Continuous efforts were made to strengthen connections with K-A professional societies to promote an open environment and a quality-oriented image so that outstanding professionals will feel that it is worthwhile to obtain and maintain membership and participation in activities. A Bylaw amendment related to these organizations were recommended by the 35th and 36th ECs, and voted on by Councilors on January 14, 2008. All possible leaders of professional societies were invited to be candidates for HQ Councilors and committee members.

The web content and services for KSEA.org were moved to a new dedicated server hosted by a commercial web hosting company. It allowed upgrading the online application and evaluation system for the scholarships and IMSC. All FTP accounts and SQL authentications were also in the new system. A baseline of membership was established although there was a little setback. To improve the membership database, members that were on KSEA.org and KSEAHQ.org were split, renamed, and then moved to MSSQL.KSEA.org. This computerized database and e-Directory project were joint efforts of the 35th, 36th and 37th Administrations.

We are also proud of publishing all 4 KSEA Letters on time. We also had the honor of installing the first Distinguished Service Member in our history, i.e., Prof. Ki Uk Lee, in accordance with the Bylaw. The newly created two Presidential Advisors' help was also critical to move forward.

The HQ management system was improved, e.g., use of QuickBooks software at HQ. Due to increased activities, a part-time staff was added as an initial step for the expansion plan and the operation became stable and efficient through the cooperation among all the staff and EC members. I took a sabbatical leave for 6 months in Korea as PE and had an opportunity to secure a then-record fundraising which results over $1M expenditures. Consequently, the financial situation was stabilized and in sustainable condition for the foreseeable future despite a $60,000 decrease in KOFST support. I also prepared a special bill to at least double the operational support from the Korean Foundation for effective execution of all activities from the 37th Administration with the help of Deputy Prime Minister Kim, KOFST President Chae, and Congressman Suh.

I trust that the state of KSEA was very strong and promising at the end of the 36th Administration, and hope that the cooperative spirit could continue in the subsequent terms for an even greater KSEA. In appreciation of their tireless devoted teamwork, the roster of the 36th EC members and staff is included here. Thank you all!

Officers of the 36th Administration

K. Wayne Lee
President

K. W. Lee
President-Elect

C. R. Ji
Vice President

G. Kang
Executive Director

M. Cho
Financial Director

S. B. Park
General Director

M. B. Shim
IT Director

S. S. Ryu
Membership Director

S. Y. Song
Membership Director

E. K. Yang
Membership Director

H. K. Moon
Publication Director

Y. B. Choi
Publication Director

S. Kim
CP Director

B. Cho
PR Director

E. J. Shim
Publication Director

Y. T Choi
Publication Director

John Lee
YG Director

Jung Min Lee
YG Director

A. Kim
Staff

W. Han
Staff

37th Administration (2008-2009)

Kang-Wook Lee

Amendment to the Bylaws for Further Development and Integrity

Incorporating APS

1. Affiliated Professional Societies (APS) are defined as part of the KSEA organization in the Bylaws for the first time in KSEA history. At the 35th Annual Council meeting, VP Kang-Wook Lee strongly pushed for its amendment. As the consensus kept growing and the 35th and 36th admins had invited some APS representatives to the Council meetings, the proposed amendment was finally made in the 37th term.
2. The financial support for APS conferences had increased. As an example, the NY Korean Biologists (NYKB) had held its first conference in Feb 2009 with the supports from KSEA HQ ($2,000) and KUSCO ($3,000) which were unprecedentedly large at that time. As of 2020, NYKB has been the largest APS for the last six terms.

Enabling E-voting

1. The General Assembly (election) voting had been made only through mail until the 36th term. This amendment made e-voting possible.
2. The first e-voting was successfully trialed only with the Council & DC members during the 37th term (57 members e-voted and no issues were found). The e-voting has been fully incorporated since the 38th term.

Establishing Two VPs

As the association had kept growing, the two-VP system was incorporated into the Bylaws and practiced from the 39th term.

Defining the Duties of PE and Establishing Separate EC and DC

1. A clause of defining the duties of PE was added to the Bylaws so that the PE could have a legal authority of preparing the businesses for the next term.
2. As the EC could have only 6-9 members in the amended Bylaws, another committee was needed to work for the admin. A Directors Committee (DC) was created in the Policies and practiced from the 37th term.

New Major Sources of UKC Funds

New Item in the Korean National Assembly Budget for Overseas Conferences

Fig. 1 (a) At the Prime Minister's office in Oct 2008: President Kang-Wook Lee, Prime Minister Seung-Soo Han and 25th President Saeyoung Ahn; (b) President Lee presented the Outstanding Contribution-to-KSEA Award to Dr. Wan-Kyoo Cho (former KOFST P) at KOFST in Oct 2008. (c) 37th EC/DC Members at the transition meeting in June 2009

VP Kang-Wook Lee during the 35th (2005-2006) admin wrote and personally delivered a proposal of yearly UKC and YG Activities to MOST (과학기술부) in Korea. The proposal was written with the name of President Sung-Kwon Kang who made a major contribution to convincing MOST Deputy Prime Minister Woo-Sik Kim and Congressman Sang-Kee Suh during UKC 2005. As the result of the combined efforts, MOST included the new budget item from their 2008 budget which was subsequently passed by the Congress in the fall of 2007. KSEA received its first support of $111k (1.5억원) for UKC 2008. This support had increased to $470k (5억원) for UKC 2011 and has then kept decreasing to $240k for UKC 2019. As of 2020, this support is still the largest fund for UKCs.

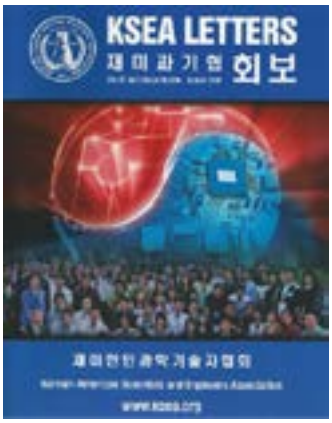
KETEP's First Support for UKCs

PE Kang-Wook Lee in the fall of 2007 secured the major support ($50k) from KETEP (Korea Institute of Energy Technology Evaluation and Planning) for the first time. Their large-scale supports had continued for the next 5 years.

KIAT

P Kang-Wook Lee in the fall of 2008 secured the major support ($113k; 1.5억원) for UKC 2009 with the help of KOFST President Ki-Jun Lee, PE CR Ji and Dr. Saeyoung Ahn, 25th P of KSEA. Their supports had continued for more than 10 years.

Full-color KSEA Letters



KSEA Letters had changed from mostly black & white to 100% color from the 37th term.

KSEA Handbook in English with Legally Necessary Contents

The KSEA Handbook was published in English for the first time in KSEA history. It included a new organizational chart, Bylaws, Policies, roles & responsibilities of officers, office operation guidelines and employment agreement, etc. Handling of an unlawful behavior such as sexual harassment was included in the Handbook. It's called "*KSEA Handbook 2009*". The next ones were published as "*Handbook 2014*" and "*Handbook 2021*" to which Dr. Lee had also contributed.

Other Officers of the 37th Administration: Chueng-Ryong Ji (PE), Esther Yang (VP, the first woman VP in the history of KSEA), Young-Choon Moon (ED), Young Bok Lee (FD), Sam Ryu (GD), Kyung Dong Ryu (ITD), Seungbae Park (External Affairs), Sung Y. Song (Database), Gye Won Han (MD), Kookjoon Ahn (MD), Duck Young Chung (MD), Tom Oh (YGD), Yongtaek Choi (PD), Jane C. Oh (PD), Jeong Seop Shim (PD), and Seongwon Kim (Web Design).

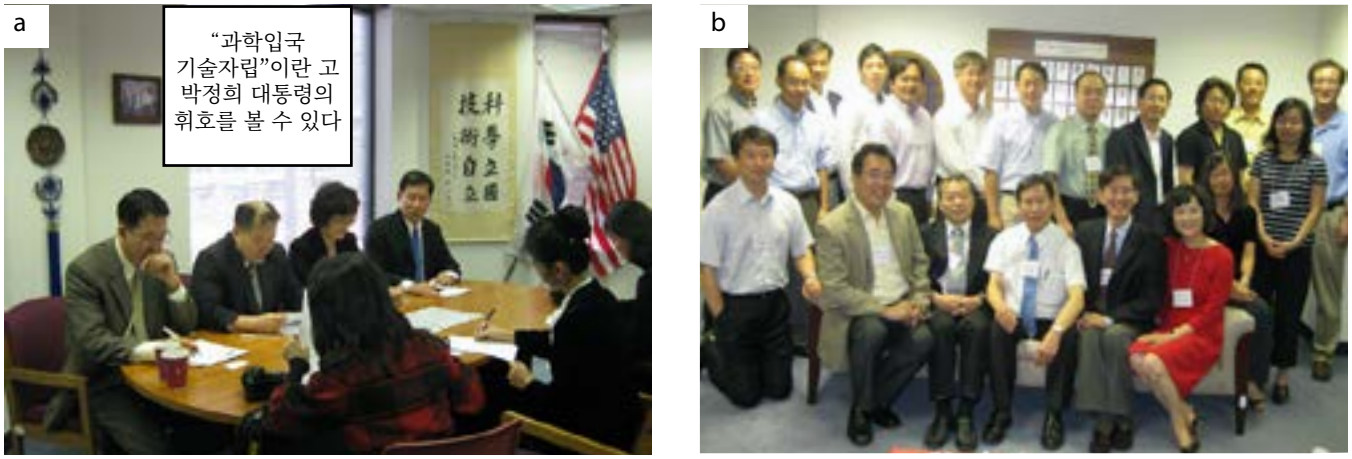


Fig. 2 (a) NMSC 2009 Press Conference: VP Esther Yang, PE Chueng-Ryong Ji, P Kang-Wook Lee, KUSCO manager WooJin Lee, and 3 reporters. (b) 37th-to-38th transition meeting in June 2009: those sitting on the sofa from left: incoming VP M. Chung, incoming P CR Ji, outgoing P K-W Lee, incoming PE J. Kim and outgoing VP E. Yang. The others were the directors of the 37th and 38th admins.

38th Administration (2009-2010)

Chueng-Ryong Ji

Vision for the healthy KSEA

Despite a volatile world economy due to the 2008 global financial crisis, the fundamentals of KSEA in the 38th administration turned out very healthy and continuously growing on the solid foundations established over the previous several administrations. The key in retrospect was the maintenance of the integrity even in difficult times. The 38th President, Prof. Chueng-Ryong Ji, made a significant effort to embrace the differences in thoughts, presentations and actions of the individual members as a nature of the voluntary professional organization. He then drew individual talents and enthusiasm of volunteers toward the organizational objectives of KSEA. This effort paid off in the end to attain extraordinary results.

Creative Minds for Global Sustainability, UKC 2009 in Raleigh, North Carolina

Reflecting the image of overcoming the sluggish global economic situation, the theme of UKC 2009 was selected as "*Creative Minds for Global Sustainability.*" This sustainability theme was divided into the five primary topics for science and engineering research: ***Life, Infrastructure, Fundamentals, Energy, and Natural Resources***. It marked high participation of non-Korean heritage speakers (total 112 persons), reaching approximately 12% of the total speakers with heightened collaboration between the researchers of the US and Korea. Attracting high conference attendance (938 registrants) and high attendance in networking and sponsor appreciation dinners (total 450 participants), more than 650 abstracts were submitted and 581 presentations were actually made. Nobel laureate in Chemistry (1989), Dr. Sidney Altman, and Founder of Zyvex group, CEO James Von Ehr, were among several distinguished invited speakers. Three University Presidents from Korea, Dr. Sunggi Baik (Pohang Univ. of Science and Technology), Dr. Bae-Yong Lee (Ewha Womans University), Dr. Sung Woo Lee (Kookmin University), along with President of the Milwaukee School of Engineering, Dr. Herman Viets, delivered the presentations. UKC 2009 was an ample example to provide unique opportunities of forming "*Korean academic networks*" and "*Korean American Business Network*" for the growing populations of the Korean faculty members and business persons in US institutions and companies, respectively, maintaining the balance between academia and industry. President of the Korean Federation of Science and Technology Societies (KOFST), Dr. Ki-Jun Lee, who co-chaired UKC 2009, Former Deputy Prime Minister, Dr. Woo Sik Kim, Former Minister at the Ministry of Science and Technology, Dr. Yung Bog Chae, Congressman of the Korean National Assembly, Dr. Sang-Kee Suh, President of the National Research Foundation, Dr. Chan-Mo Park, Chairman of the Korea Research Council of Fundamental Science and Technology, Dr. Dong-Pil Min, were among distinguished participants from Korea. In spite of the economic recession, high fund-raising (approximately $520,000) and increased sponsor benefits were achieved. The Program Committee led by Dr. Richard Kim and Dr. Jane Oh, Local Arrange Committee led by Dr. Yongbaek Kim, Dr. Sungwoo Kim and Jintae Kim, Executive Committee co-chaired by Dr. Kiwook Kim as well as about 90 KSEA members who volunteered to offer their invaluable services were exemplary.

Highlights of Accomplishments during 38th Admin

Besides UKC 2009, selected notable accomplishments are summarized below.

KSEA DVD

To enhance the stature of KSEA and to capture the 38 years of KSEA history, a 15-minute KSEA DVD was made, presenting chronicled important events, the formation and the vision of KSEA.

E-Voting for the 2010 KSEA Election

- The KSEA eVoting system (http://election.ksea.org/) had been implemented for the 2010 Election, which was successfully used in full scale with no paper ballots.
- The 40% voting rate was the highest one in KSEA history.
- Election operation cost was saved (more than $10k).
- The system/DB back-up plan had been designed for emergency cases.
- The entire eVoting process was smooth without any major accidents or troubles reported, providing also a tool to effectively analyze the election for better participation in the future.

Virginia State Tax Exemption

Finally approved the Virginia State Tax Exemption on April 2010.

Success of Membership Drive and New Chapters/Branch

- KSEA paid members in the 38th term (5/1/09-4/30/10) has increased to 1,967 compared to 1,714 in the 37th term.
- Two new chapters, Kentucky and North Dakota and a new branch, Peoria.

Distribution of Promotional Tote Bags, Fleece Jackets, and KSEA Event Calendars

These incentive items were made for the promotion of KSEA activities and memberships.

KSEA HQ Reorganization

- Two Administrative staff were newly hired for efficient HQ operation
- One IT staff was hired for IT improvement

NMSC 2010

- In total, 2,300 students and 1,000 students participated in the math competition and science competition respectively, with the participation of 31 local chapters.
- Online registration fee payment had been first introduced through Google Checkout

2010 Scholarship

Established the Yoon Soo Park named scholarship

YGTLC 2010

The 6th YGTLC was held in Washington D.C. from January 8th to 10th, under the theme of "*A Bright Future through Innovation and Leadership*," recording 183 online registrants.

KSEA Letters

Three issues of KSEA Letters were published.

Officers of the 38th Administration

Chueng-Ryong Ji
President

Michael H. Chung
Vice President

Jae Hoon Kim
President-Elect

Jane Oh
Executive Director

Sung Y. Song
Database Director

Kookjoon Ahn
Membership Director

Sung Woo Kim
Membership Director

Christopher Ha
Membership Director

Sam Sangsoo Ryu
General Director

Yonil Park
Financial Director

Yongbaek Kim
Scholarship Director

Kyung Dong Ryu
IT Director

Tom Oh
YG Director

Benjamin Lee
YG Director

Yongtaek Choi
Publication Director

Steve Lee
Publication Director

Jintae Kim
Publication Director

Junho Cha
Web Design Director

Seung Seok Choi
IT Manager

Kelly Han
Finance Manager

Woori Han
DB/Finance Associate

Se Eun Choi
IT/Admin Associate

Euna Yoon
Administrative Associate

Former Admin Manager
Ashley Kim

Former Publication Coordinator
Mison Jeon

39th Administration (2010-2011)

Jae Hoon Kim

Vision and Commitments of the 39th Administration

The 39th Admin had focused on the quantum-jump growth and sustainable operation of the KSEA organization by establishing the organizational systems through a strong and healthy KSEA operational budget ($2.2M); creating the HQ Operation Director (HOD); founding the Young Investigator Grant (YIG) award; digitalizing all KSEA Letters since 1971; upgrading the IT/Web system and member database; improving the graphics design and publication system; updating the employee training and performance review system; formalizing a legal document system; deploying the computing, network and security server system; adding VPN (Virtual Private Network) remote access; getting a security surveillance monitoring system; and installing the KSEA Logo and building signboard outside the KSEA/KUSCO building. The vision, commitments and achievements of the 39th Admin was clearly described in the "Message from the President" column of the KSEA Letters Vol.39 No.1 (Nov.19, 2010), No.2 (Mar. 19, 2011), and No.3 (Oct. 19, 2011), respectively. In addition, "*The 39th Administration Achievements Report*" was published on June 25, 2011.

The 39th Admin's Accomplishments

The "*39th Administration Achievements Report*" was prepared for a record, general guidance and reference for the future administrations. The highlights of the accomplishments from the report is summarized below;

Record-high Operational Budget Secured

- Secured a strong and healthy KSEA operational budget ($2.2M) through KOFST, UKC 2010 fundraising, etc.
- Secured the record-high level of KOFST funding in KSEA history in support of KSEA operation with a significant increase to Korean ₩500,000,000 (US $450,000) from Korean ₩200,000,000 in the past.
- Secured additional new funds (US $45,000) from KOFST solely for APS support for the first time in KSEA history; KSEA awarded 7 APS Groups with this KOFST direct funding.
- At the end of the 39th Admin, the total budget of US $577,000 was transferred to the KSEA Foundation contribution (US $467,000) and Next Admin carry-over (US $110,000), respectively.

KSEA HQ Infrastructure Improvements

- Installed a new networking system and office equipment with 2 high performance servers, 4 Laptop PCs, ergonomic chairs for HQ staff, color printer, high-speed scanner, video camera, and office water dispenser.
- Installed and maintained a security surveillance monitoring system at KSEA HQ for the Staff safety.
- Installed the large-size KSEA Logo and Building Signboard outside the KSEA/KUSCO building.

KSEA HQ Operation System Enhancements

- Established HQ positions of the IT Manager (Seung Seok Choi) and Admin Manager (Euna Yoon) and had all staff trained with the required advanced job skills (e.g., Quickbook, MS Excel, Word) to improve the KSEA HQ operation.
- Established the KSEA HQ Operation Director (HOD) for the sustainable operation of the KSEA organization.
- Established an enhanced publication system by using a standard format for contributing articles, stopping outsourcing of the design work, and using in-house graphics design and layouts for all KSEA publications, including KSEA Letters, UKC Reports and any documents, thus saving the operating cost.
- Established the KSEA Letters digital archiving process and made all published KSEA Letters (since the first issue of KSEA Letters in 1971) available for online access.

- Established the HQ operating expense reduction for KSEA web server operation and all virtual meeting teleconferencing services.
- Established the KSEA Legal system and formalized all legal documents including the Employment Agreement, Employee Confidentiality Agreement, Non-Disclosure Agreement (NDA) forms and other miscellaneous documents with help from the KSEA Legal Advisor (Mr. Sang Jun Han, Attorney-At-Law).
- Revised the KSEA Operation Handbook reflecting details of the 39th Administration's structure and approach.
- Prepared and maintained a complete Inventory List of all purchased KSEA HQ properties.

IT Computing and Network System Upgrade

- Installed KSEA HQ networking infrastructure including a network server (Dell PowerEdge), security server (Netgear ProSecure STM600), LAN, and VPN (Virtual Private Network) to remotely access KSEA Servers.
- Upgraded the KSEA Web System (i.e., CPU, RAM, Windows Server, and DB Server upgrade).
- Completed a Web Hosting Services upgrade, and thus could provide the improved services to all thirty (30) qualified Local Chapters and fifteen (15) Affiliated Professional Societies (APS) in the standard format; as a result, the Local Chapters no longer needed any external web hosting services and the related expenses.
- Migrated from goDaddy.com to SingleHop.com with annual Server operation cost saving at $1,200.
- Completed the KSEA-KOTRA Membership DB Web Search System under KOTRA sponsorship.
- Completed all IT/Web projects; redesigned the KSEA public website, online membership management with bulk email capability, enhanced online processes for the scholarships, e-Voting, NMSC, and UKC registration.

KSEA Technical Achievements

- Established the "*KSEA Young Investigator Grant* (차세대 과학기술자상)" career development awards and provided the first grant to two selected recipients in two categories of Science and Engineering, each with a $10,000 cash award plus travel support for UKC participation.
- Established the "*KSEA TechBook Series Project*" and published the first Tech Book, "*Green IT: Technologies and Applications*" by the Springer-Verlag Publisher in June/July 2011.
- Published the first "*KSEA Who's Who in Science and Technology* (재미한인 과학기술자 인명록)."
- Organized UKC 2010, hosted by the Seattle Chapter, on August 2010 at the Hyatt Regency Hotel in Bellevue, WA.
- Organized YGTLC 2011, hosted by the Seattle Chapter, on January 2011 at Hyatt Regency Hotel in Bellevue, WA.

KSEA Organizational Achievements

- Provided a record-high budget support to the local Chapters and APS Groups (Refer to the 39th Admin Final Report).
- Achieved a KSEA membership database with 3,192 total members (as of May 2011) and a separate YG database of 1,500 members; this number is considered as a record-high in KSEA history.
- Established six (6) Local Chapters: reactivated-Oregon, Georgia, Utah, Central Florida, Michigan and Wisconsin; these chapters were in a growth mode through the active membership campaign.
- Established seven (7) new APS groups: BLSA, KOPANA, KASBI, KEPS, KAMSA, KAIPLA, RTP B&B.
- APS activities were covered by the KSEA Letters on a regular basis, in parallel to the Local Chapters activities.
- Established seventeen (17) YG Chapters; they grew in number along with YG membership.
- Successfully organized the 10th anniversary of NMSC with a record-high number of participants.
- Established the KSEA History Committee (KHC) in support and preparation of the KSEA 50th History publication.
- Completed digital archiving of all KSEA Letters since KSEA foundation in 1971 in support of KHC activities.
- Submitted various recommendations to the Rules Committee for improvement of KSEA Bylaws and policies for better operations of UKC, History Committee, Local Chapters, Technical Groups, and the Election process.
- Explored the opportunity and potential of the "*KSEA Foundation*" (in coordination with KOFST and KIAT).
- Explored the future business opportunity of Technical Review and Technical Consulting Services to the small/medium businesses in Korea (in coordination with KIAT, KOTRA, KITECH, KOVA). As a result, we submitted several proposals ($1M) jointly with KIAT to MKE (지식경제부 / 산업자원부) for 2012 funding and carried them over to the 40th Admin for follow-up to secure the required budget for KSEA proposed projects.

Conclusion

At the end of the 39th Admin, we reflected on the past performance, going back to the point of departure of the 39th Administration and reviewing what we planned and what we committed. Overall, we can proudly say that we have achieved all of what we proposed and promised to the fellow KSEA members. Special thanks should go to the Executive Director Dr. Jihie Kim and General Director Dr. Sam Ryu for preparing the 39th Admin Achievement Report. Finally, thanks to the unselfish support and dedicated services of all the EC/DC members and HQ Staff, the 39th Admin had made the greatest achievements and written a new KSEA history together. Thank you.

Officers of the 39th Administration

Jae Hoon Kim
President

Hosin"David" Lee
President-Elect

Jane Oh
Vice President 1

Myung Jong Lee
Vice President 2

Michael H. Chung
Financial Director

Jihie Kim
Executive Director

Sam Sangsoo Ryu
General Director

Taek Jin Kwon
Technical Director

Junho Cha
HQ Operation Director

Seong Gon Kong
Publication Director

Sung Woo Kim
Publication Director

Steve Lee
Publication Director

Hwajung Lee
IT Director

Yongtaek Choi
Membership Director

Tom Oh
Membership Director

Yoohwan Kim
Membership Director

Benjamin Lee
YG Director

Michelle J. Lee
YG Director

40th Administration (2011-2012)

Hosin Lee

The 40th year is a very special year in biblical history when all slaves were set to free. For KSEA, it was also a very special year where all past records were broken. For example, the 40th administration's budget of over $2.7 million, a 21% increase from the previous term, is the highest in the history of KSEA of 50 years. What and how did the 40th administration accomplish with the highest budget? Please continue to read….

It all started with people who enjoyed working together as a great team at UKC-2011 "*US-Korea Summit on Science and Engineering*" at the Canyon's Resort, Park City, Utah, August 10-13, 2011. To produce the high-quality proceedings, we kept the papers under 300 (1/2 podium and 1/2 poster). Despite a rather small number of papers, over 1,000 people attended all sessions and dinners. However, it created a shortage of dining chairs, and during the dinner time, we had to ask over 200 YG's to go to the hotel rooms to order room service. We did not anticipate that all 1,000 people would come to the dinner on every day. We had cabinet-level speakers from USDOT, USPTO, White House OSTP and PCAST. We had over 70 sponsors, which included three Samsung Co's (SAIT, Heavy and C&T), LG, GE Health, SIEMENS, and Varian. We also matched 21 Korean companies with 21 American companies. UKC 2011 started with a dinner on top of mountains via a ski gondola and ended while watching the Utah Symphony playing the Tchaikovsky 1812 Overture under the stars on the hills of Deer Valley. Yes, we raised $1.6 million at UKC 2011. To watch the beautiful scenery at the Canyon's resort in Park City, Utah, visit https://www.youtube.com/watch?v=GR_qNBO4OB0

The 40th administration's next challenge was to upgrade the KSEA LETTERS to the technical journal level from the newsletter level. First, we appointed four nationally recognized scholars from Harvard, Columbia, UC Berkeley and UCLA as an editorial board and featured each at one of four issues (we also increased from three to four issues per year). KSEA LETTERS featured papers from the top scholars in the US. We also created an electronic newsletter called "*SCRIPTA*," where we featured KSEA news along with an introduction of two of KSEA's directors in each issue.

On December 11, at Washington DC, we celebrated the 40th birthday along with 18 former presidents, all wearing the same birthday ties. Our birthday ceremony was also attended by the Korean ambassador, other dignitaries and many employees of the Korea Evaluation Institute of Industrial Technology (KEIT), who were attending the one-week training program organized by us. We established an MOU with KEIT so that our members can develop research need statements and participate in the research projects funded by KEIT. At that time, President Lee wrote in the LETTERS, "*Like Rick said in Casablanca, Keit, this is only the beginning of a beautiful relationship*" and he was right.

Opening ceremony of UKC-2011 at the Canyon's Resort, Park City, Utah

Closing of UKC-2011 at the Utah symphony concert, Deer Valley, Utah

On January 6-8, 2012, we organized the 8th Young Generation Technical and Leadership Conference (YGTLC) in San Francisco, where the first YGTLC was held with 45 second-generation Korean Americans. We received a record number of applications from 330 people, but to increase the quality, we only accepted 251 people. We co-hosted the mid-term council meeting with Kelvis' dinner performance. To watch Kelvis' performance, visit
https://www.youtube.com/watch?v=7eRtrwETd1U&t=39s

On February 8-9, 2012, We organized the workshop to introduce the Institute of Basic Science (IBS) along with the advisory committee meeting in Boston for the Minister of Ministry of Education, Science and Technology (MEST), which was attended by over 100 scientists from local universities such as Harvard and MIT. On March 5, 2012, we organized a workshop with the Advanced Technology Center Association (ATCA) where Executive Director Yongho Sohn and Membership Director Hanseup Kim gave presentations. On March 16-18, due to the increasing interests from the first-generation Korean students, we organized the Korean Students Technical and Leadership Conference (KSTLC) in Chicago. Over 150 students attended Dale Carnegie training on communication skills, workshops on advanced presentation skills and career development.

On April 21, 2,312 students (a new record) from 4th to 11th grades participated in the National Math & Science Competition (NMSC). On May 12, we organized the official award ceremony at Tysons Corner Marriott Hotel in Washington DC, and invited the 24 NMSC winners, 45 scholarship winners and 2 YIG winners. Among them, 10 NMSC winners, 12 scholarship winners and 1 YIG winner and their family members from all over the US had attended. The KSEA President's advisor and President Obama's science advisor James Gates, Jr. and President Seung Jong Lee of KUSCO gave awards to recipients and their families. After 10 years, Executive Director Yongho Sohn said, "*This award ceremony resulted in a great recognition of KSEA by dignitaries and NMSC (scholarship and YIG) winners and their parents. I also recall this event to be the most memorable and rewarding one for me as well – this made me to stay active as a KSEA member.*"

40th Anniversary Celebration with former presidents and the 40th admin, all wearing matching ties

Despite the record-breaking fund raising, we always tried to save money whenever we can by having Directors share hotel rooms (i.e., President shared a room with Executive Director). 45 KSEA members (including President, Executive Director, General Director, Membership Director, Publication Director 1) contributed about $50,000 for KSEA activities and scholarship to establish the Woojin scholarship in memory of the late 34th President Kwang-Hae (Kane) Kim. As a result, KSEA members significantly increased to over 4,600 members, a 31% increase from the previous term. At the end of the term, we contributed over $0.5 million (highest record) to the KSEA reserve fund for KSEA's future. President's Advisor Gates said, "*The development of world-recognized iconic products and processes will rely on communities similar to KSEA community that are able to create an environment where the cultural uniqueness of societies and individuals can be welded to the rigor and demands of science and engineering.*" Now what..? Vice President Kookjoon Ahn became the 43rd President, Publication Director 3 Jae Yu became the 45th President, Technical Group Director Eun-Suk Seo became the 46th President, Executive Director Yongho Sohn became a 49th President-Elect Candidate and Publication Director 1 Byungkyu (Brian) Park became the 50th President. No more words…

Action! Serve KSEA!

Record breaking 69 Sponsors' logos for the UKC 2011

41st Administration (2012-2013)

Hyungmin M. Chung

Highlights and Notable Events in 2012-2013

Inaugural SEED (Science and Engineers Early Career Development) Workshop

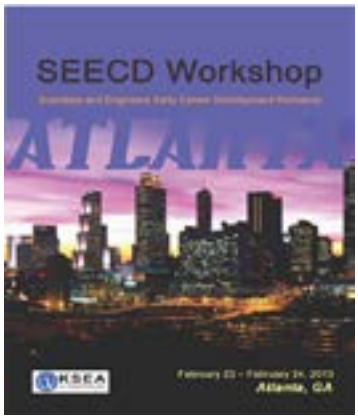
Dr. Hyungmin M. Chung founded the SEED (earlier, it was named SEECD) Workshop, which was held in Atlanta in February 2013 and San Francisco in April 2013. Created to support the professional advancement of young scientists and engineers, the workshop helped assistant professors, post docs, and staff researchers envision their goals while fostering the future development of KSEA.

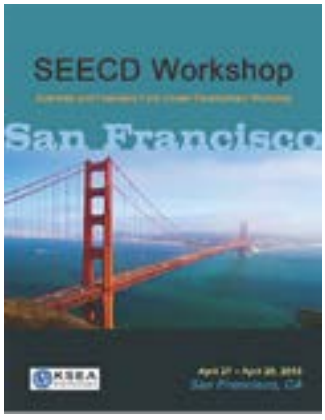
The workshop focused on topics pertaining to both research and life, such as climbing the career ladder, attaining resources, and effective writing and presentation skills. Speakers included Dr. Nam-Pyo Suh, the former President of KAIST, program directors and managers from NSF, NIH, and national laboratories, as well as speakers from UC Berkeley, GIT, Samsung, LG, SK, and ETRI. About 330 early career professionals applied and 200 were accepted and participated. The workshop has been established as an annual KSEA event since its inception in 2013.

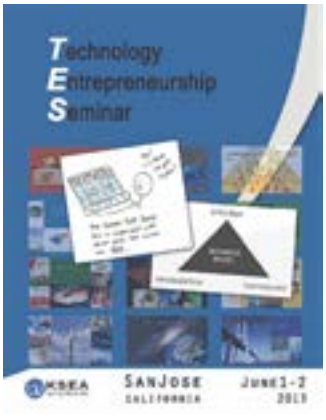
Inaugural Technology Entrepreneurship Seminar (TES)

Dr. Chung founded the entrepreneurship seminar that was held in the heart of Silicon Valley in San Jose, California in June 2013. TES was a KSEA initiative to support the professional advancement of young post-graduates, industry professionals, non-academic career researchers, and senior engineers and scientists. The main topics of the seminar included business models, commercialization of technology-based ideas, intellectual property, venture capital, and managing internal financial flow. Through TES, participants expanded their perspectives beyond their respective fields and were exposed to new ideas and challenges.

Speakers included Chong-Moon Lee, the former Chairman of Diamond Multimedia Systems and CEO of AmBex Venture Group, SBIR/STTR specialists, intellectual property lawyers, venture capitalists, and several Korean-American technology entrepreneurs. About 120 professionals from the United States, Canada, and Europe participated in the two-day seminar. It was covered extensively in the news and by government and industry organizations such as the Korean Consulate, KOTRA, KITECH, Samsung, LG, and SK. The seminar has been established as an annual event in many KSEA programs since its inception in 2013.







Chapters

Dr. Chung helped newly establishing the KSEA Tampa Bay, Orlando, and Gainesville chapters in Florida. He also helped in revitalizing the Ohio chapter.

2013 Young Generation Technical and Leadership Conference (YGTLC 2013)

The 2013 Young Generation Technical and Leadership Conference (YGTLC 2013) was held at the Renaissance Hotel in Los Angeles, California from January 4-6, 2013. There were over 200 participants from academia, research institutions, industry, and government agencies in the United States, as well as guests from countries across North America and Europe.

The conference demographic was focused on 1.5 and 2nd generation Korean Americans in technology and about 200 attendees were selected through competition.

KSEA HQ President Hyungmin Michael Chung and the Southern California Chapter supported the conference, making it the second YGTLC conference to be hosted by KSEA.

The conference's theme was "*Ygnite*" and encouraged participants to ignite a spark of collaboration amongst themselves and discuss topics like personal goals and career challenges. YGTLC 2013 offered three career counseling tracks for young professionals as well as undergraduate and graduate students. Outside of the program, the participants visited Los Angeles' famous Koreatown and experienced the local culture there.

KSEA's first Technology Entrepreneurial Seminar (TES) held at San Jose/Silicon Valley on June 12, 2013 during Dr. Hyungmin M. Chung's term as 41st President. The photo shows Keynote speaker Chong-Moon Lee (left next to the President), the former Chairman of Diamond Multimedia Systems and CEO of AmBex Venture Group, SBIR/STTR specialists, intellectual property lawyers, venture capitalists, Korean-American technology entrepreneurs (right side of the President and back), and the consul general (right next to the President) of San Francisco. About 120 from the United States, Canada, and Europe participated in the two-day seminar. The seminar has been established as an annual event in many KSEA programs since its inception in 2013.

42nd Administration (2013-2014)

Myung Jong Lee

Vision

The 42nd admin set out to promote the vision "*Harmonious and Sustainable growth for all KSEA constituents.*" The sustainable growth must come from the three tightly coupled areas: membership, technical excellence, and finance. Together with the team of dedicated, good-hearted, and able directors and staffs, the 42nd admin was able to faithfully carry out the mission.

New Initiatives for the Healthy Growth of KSEA

Bylaws Change/Council Restructuring: Two important KSEA Bylaws changes were finally passed in the general member voting: the relaxation of the membership qualification to accommodate non-Korean ethnic groups and the restructuring of the KSEA council. By this passage, anyone interested in promoting the US-Korea collaboration, anyone wanting to contribute the welfare of KSEA members, and anyone willing to participate in the community services can now join KSEA without any restriction. The current council structure was not effective and scalable for the future of KSEA, thus the passage of the restructuring mandate was indeed an urgent issue for the healthy growth of KSEA. The 42nd council approved the Policy amendment for the council restructuring, which enabled the formation of a 45-member council as required by the Bylaws.

Maximum Number of EC/DC Members to 30: By amending the relevant policy, the maximum number of DC members increased to 30. This allowed 23 EC/DC members to join the 42nd admin team, helping substantially to achieve a good number of projects and events.

The International Math Competition 2014 included the US, Canada (already joined 2007), Austria, and Singapore. Many European countries already expressed their intent to join the next year. The goal of this initiative was to evolve the math competition to encompass all Korean ethnic students in the world. On April 12, 2014, a total of 2439 students participated in the NMSC/International Math Competition 2014 (Chair Dr. Gye Won Han).

A New Industry and Entrepreneurship Director (IED) ***and a New APS KASTE*** (a.k.a TekOne) (Korean-American Society of Technology Entrepreneurship) to emphasize entrepreneurship as future growth of KSEA was expected from industry and entrepreneurship areas. (IED Bo Ryu, President of TekOne)

First KSEA/US-Korea Environmental Workshop: In collaboration with and through the financial support by the Korea National Institute of Environmental Research, the first workshop was held in Seoul, May 2014 for atmospheric dust research and development. This was a showcase of expanding project collaborations into many non-traditional agencies.

Accomplishments by the 42nd Administration

UKC 2013: *"Toward the Harmonious World with Science, Technology, and Entrepreneurship"* This was the second time UKC was held in New Jersey, the first being UKC 2006. The record number of abstract submissions at a total of 974 (702 oral) and about 1200 attendees. It consisted of 5 plenary sessions, 14 technical group symposiums, 7 harmonious and interdisciplinary symposiums, and 18 sponsored "*named forums*." The Entrepreneurship track was introduced to help many Korean industries in their search for young talents, along with project evaluation and collaboration. The track offered an IP forum, a business venture challenge with a $10,000 award for the winner team, and an Industry forum. Minister Mun-Kee Choi (Minister of Science, ICT and Future Planning) attended. (Program Chairs: Yongho Son, Kyungjae Myung, Sang Hyuk Son, Local Arrangement Chair: Jeong Sup Shim)

New Project Development: Traditionally, KSEA's major collaboration had been with KOFST and the ministry of science and technology in Korea. In the pursuit of diversifying funding sources: initiated KEIT technical demand survey with more than 200 surveys and led the project planning the World Korea Conference (WKC) KOFST in 2016.

Record Membership, New Chapters and APSs: As of June 20th, 2014, the total number of voting members, a.k.a.

active members, ***exceeded 6,300 for the first time.*** Four new chapters (Berkeley, Gainesville, Arkansas, Southwest Ohio) were created and the total number of chapters and branches stood at 78. Four more APSs (Korean-American BioMedical Engineering Society (KBMES), Korean Biological Sciences Research Group at Michigan (KBM), KAGES (Korean-American Association for Geospatial and Environmental Sciences) Korean-American Society of Technology Entrepreneurship (KASTE, or TeKOne)) had been created.

YGTLC 2014: This year marked the 10th year anniversary of YGTLC. By keeping the program quality high, YGTLC experienced a growth of 50% per year.

ProDew 2014: The Professional Development Workshop (ProDew) 2014 set out to offer practical guidance for postdocs, assistant professors, early career researchers, and engineers. It was the first national and comprehensive program grown out of positive experiences from the regional program SEECD. This event was co-sponsored by KOFST. (Chair Seog Joo Jang)

NMSC, NHSPC: This year, NMSC had reached its 13th year for Math (2092 students) and 9th year for Science (712 students) and 2nd year for NHSPC (82 students).

KSEA Handbook 2014: Since the first publication of the KSEA Handbook in 2009, it became necessary to revise it to accommodate all the changes made including the Bylaws, Policies, Roles and Responsibilities of directors, chapter presidents, technical group councilors, HQ staffs, and various manuals. The Handbook Task Force (Chair Dr. Kangwook Lee) completed its mission successfully and printed copies were sent to all regular voting members.

50 Scholarships for Students: With the help from the KUSCO, Finance management committee, and the 43rd admin, the largest number of students were awarded: 25 undergraduate and 25 graduate students.

Sewol Tragedy Donation: Many KSEA members have generously stretched their helping hands and offered donations, which were delivered to the families of victims through UNICEF Korea in the amount of $15,000. We were so grateful to all of the KSEA members who joined the cause.

Recognition: KSEA was awarded by KOFST as the "*excellent organization*" out of all 17 overseas Korean scientists and engineers associations, specifically citing YGTLC and ProDew conferences.

Here, it is thankfully noted the generous supports by all the 42nd chapter/branch and APS presidents, sponsors and partners, without which all achievement mentioned above would not have been possible. Special thanks go to dedicated EC/DC members and HQ staffs, and the presidential advisor Dr. Kang-Wook Lee for his wise counsel. I wish KSEA continues to work for the welfare of the world via science and technology.

Officers of the 42nd Administration

Myung Jong Lee
President

Kook Joon Ahn
President-Elect

Gye Won Han
Vice President 1

Youngsoo Kim
Vice President 2

Jaehoon Yu
Executive Director

Youngrock Yoon
Finance Director

Hyunggun Kim
General Director

Seong Gon Kong
TG Director

Jungwoo Ryoo
Technology Director

Steven An
HQ Operations Director

Byeong-Uk Kim
Membership Director 1

Jung-Joo Hwang
Membership Director 2

Jun Bum Shin
Publication Director 1

Hanseup Kim
Publication Director 2

Ken Choi
Publication Director 3

Seogjoo Jang
Project Director 1

Jong Y. Park
Project Director 2

Junho Cha
Project Director 3

Kyung A. Kang
Project Director 4

Jiyoung Kim
Project Director 5

Michael J. Lee
YG Director 1

SJ Claire Hur
YG Director 2

Bong-Kyun Ryu
Industry Entrepreneurship Director

43rd Administration (2014-2015)

Kook Joon Ahn

I appreciate all the members for your dedication to KSEA. It had not been an easy and smooth ride this year. However, we did work hard to better continuity and integrity of KSEA.

We tried to promote US-Korea cooperation in UKC 2014 with quality presentations and with many participants who shared leading edge knowledge and experience in science and engineering for a better future of us.

Our membership growth was moderate due to the passion and sacrifice of all members who devoted time and efforts for KSEA. I am deeply indebted to all of them for this. Paid numbers were about 5,400. About 1,460 exercised their voting right this year resulting in a greater than 25% voting rate. This passion exposed the strength of KSEA membership and also the weakness in our IT system that needed improvement.

Our YG grows impressively. Their activities are well planned and executed. They prepare themselves for KSEA's bright future since they are the ones who will lead KSEA in the near future. I am confident our YG is on the right track to that future. One of our YG leaders got elected as the leader of YGF alumni in YGF 2015 in Korea.YGPF 2014 in UKC was successful. Ygnite (YGTLC) 2015 in Orlando was bright too.

Our career development programs are also getting into maturity. The opportunities are given equally to all members in academia, industry, and public service areas including undergraduate students who are starting their careers for the first time in their lives.

Six regional conferences were held all over the country. Southwest RC in San Diego marked the 25th anniversary, Northeast RC held their 24th event. And there are more: 9th Northeast RC in Portland, 5th West Gulf Coast RC in Houston, One RC in NC, and the first RC in FL. NMSC 2015 was great. We ran a pilot contest for the third grade.The third grade students liked the program very much contrary to the concerns on being too young to compete. The 2nd KSEA Techbook on Biomedical Engineering was finished in a timely manner and expected publication by Springer-Verlag.

We also performed a resources database project on distinguished scientists and engineers of non- KSEA members. This area needs more attention for cooperation and membership development.

My sincere appreciation goes to each and every one of you.

YGTLC Group photo with KSEA council members

Officers of the 43rdAdministration

- President : Kookjoon Ahn
- President-Elect : Youngsoo Kim
- Vice President1 : Steve J. Lee
- Vice President2 : Yongho Sohn
- Executive Director : Sung Yi
- Finance Director: Youngshin Lee
- Presidential Advisor : Jae Hoon Kim
- Presidential Advisor : Yong Nak Lee
- GD/HOD : Junho Cha
- Membership Director : Donghoon Yoon
- Membership Director : Haejung An
- Membership Director : Seungwook Lim
- Membership Director : Youn Shim
- TG Director : Hanjoong Jo
- Publication Director : Sohyun Kim
- Publication Director : Byeonguk Kim
- Publication Director : Sooyeun Kim
- Publication Director : Sang Hyuck Park
- Publication Director : Yuna Shim
- IT Director : Changmo Kim
- YGD : Sunmin Jung
- YGD : Dennis Hong
- Project Director : Jung Hwan Kim
- Project Director : Chang Hwan Park
- Project Director : GyeWon Han

44th Administration (2015-2016)

Youngsoo Richard Kim

KSEA's 44th Administration faced two significant challenges: a funding cut from our sponsors in Korea and election issues. This report summarizes the major accomplishments of the Administration and the decisions made to overcome these challenges.

2015 US-Korea Conference (UKC)

UKC 2015 was clearly a successful event, with 732 presentations and over 1,100 attendees. Excellence and service were the fundamental principles behind the theme, Pursuing Excellence with a Servant's Heart. These guiding principles shone through in the plenary speeches, video presentations, and the ways the organizers and volunteers served the conference participants and sponsors. Also, we were able to establish the 'project-based sponsorship' concept at UKC 2015, which has provided future administrations with more effective and additional fund-raising opportunities. UKC 2015 served to ensure that the high quality of KSEA's annual conference would continue into the future.

Young Generation Events

Young Generation (YG) events held during the 44th Administration included the Young Generation Technical and Leadership Conference (YGTLC) and two Scientists and Engineers Early Career Development (SEED) workshops. The 2016 YGTLC was held in Dallas, Texas January 22-24, 2016 and again provided excellent networking opportunities to our YG members. For the first time in KSEA's history, a SEED workshop was held twice during a single administration: the first at KSEA Headquarters in Vienna, Virginia December 5-6, 2015 and the second in Silicon Valley, California April 30-May 1, 2016. These SEED workshops proved to be among the best career development workshops that were available to KSEA YG members. In addition to these recurring YG events, a new YG Leaders Workshop was held in New Orleans.

Bylaws and Policy Changes

The Council made several important changes to KSEA policies. These decisions include:

- Incorporation of a regional concept into KSEA's administrative structure so that local chapter presidents can be represented properly on the Council. The Council adopted a policy change to create eight Regions in the KSEA chapter structure. Each Region is composed of four to seven local chapters. Regional Representatives are now selected from the pool of chapter presidents based on rotation. In this way, each local chapter (regardless of size) has the opportunity for its president to serve as a KSEA Councilor.
- Integration of Technical Groups and Affiliated Professional Societies. The Council adopted policy changes that strengthen the responsibilities of the Technical Group Councilors and strengthen the relationship between the Technical Groups and Affiliated Professional Societies.

Redesign of IT Database System

During the 44th Administration, the IT team developed a system that allows KSEA members to encrypt their passwords and update their membership information in the database. This capability has strengthened the security of the membership database and serves an important function in developing the voter registry for future elections. In addition, the IT team developed an automatic proposal submission and review system. Finally, additional security measures were developed and applied to KSEA's online elections.

Non-profit Organization Registration of Local Chapters

The 44th Administration hired the company, Nonprofit Elite, to provide twelve local chapters with non-profit formation

and 501c3 application. This status change equipped these local chapters with the necessary legal protection to raise funds on their own.

National Mathematics and Science Competition

The National Mathematics and Science Competition (NMSC) is the flagship community service event held by KSEA. A total of 35 chapters/branches participated in NMSC, with 1,779 students competing in the Math Competition.

Local Chapter Events, Regional Conferences, and Affiliated Professional Society Meetings

The 44th Administration received and funded 176 local chapter proposals, 7 Regional Conference proposals, and 19 Affiliated Professional Society (APS) meetings. Activities by local chapters and APS memberships continued to expand during the 44th Administration, which was a healthy sign for the growth of KSEA.

US-Korea Collaborative Opportunities

During the 44th Administration, we established new US-Korea collaborative opportunities through three memorandum of understanding (MOU) documents. These MOUs were made between KSEA and the National Marine Biodiversity Institute of Korea (MABIK), the Seoul Metropolitan Facilities Management Corporation, and the Seoul Water Institute. The collaboration with the City of Seoul that started in the 44th Administration continues today as an important relationship both technically and financially.

Election Issues

Not all the tasks during the 44th Administration were pleasant ones. We had to address election problems that had spilled over from the previous administration. The election information-sharing session prior to the annual council meeting concluded that there was no evidence that the integrity of the 2015 election database had been compromised, which was a critical step to validate the legitimacy of the elected officers. In addition, the Honors and Awards Committee's thorough investigation revealed the serious violation of the election process by an officer from the 43rd Administration, one of the then vice-presidential candidates. The Council made the difficult decision to expel the person from KSEA, and the Executive Committee followed the Council's decision. This process was a very painful one for all the members involved in the process. However, the step was necessary in order to clear the way forward and focus on what our beloved organization is all about. Although this matter was closed during the 44th Administration, the noise that was created resulted in a degree of low morale within KSEA. This unfortunate episode temporarily left a negative image of KSEA by some members and outside organizations.

The resolution of difficult problems and the overall accomplishments of the 44th Administration were made possible by the many capable and dedicated Directors, Councilors, and headquarters staff members. I thank each of them from the bottom of my heart. With their hard work, the 44th Administration was able to pave the way for the expansion and growth of KSEA.

45th Administration (2016-2017)

Jaehoon Yu

Prologue - Every administration of KSEA has faced difficulties one way or another and had to overcome challenges from factors both external and internal to the organization. The 45th administration, however, started out with a very grim outlook both in the morale of the organization and the anticipated formidable financial difficulties. This was from the self-inflicted wounds by the 43rd administration whose president had even left the organization instead of working to rectify the wrong committed by its leadership. Many members left the organization disgusted by the blunt immorality, and many longtime strong supporters of the organization held back their supports. The organization was on the brink of a disastrous and humiliating demise. The 45th administration, however, was able to overcome these difficulties together with the remaining members, the officers in the leadership and most importantly with the tremendous efforts of HQ staff, through the focused and strategically planned approach. It was able to turn around the organization's disparaged reputation, stabilized its finances–in fact it was one of the administrations that contributed most significantly to the KSEA funds–and strengthened organization's foundation for the subsequent administration to rebuild and to focus on increasing the membership and expanding KSEA's reach.

The Beginning and the Vision for KSEA

While starting out the administration on a difficult footing, the fundamental goal of the 45th administration was changing the approach KSEA had been taking in the past 45 years to increase the opportunities to make KSEA known to much broader communities. These goals were set since the way KSEA had worked with Korea in the past 45 years, as more of a giver than a collaborating partner, is no longer effective thanks to the remarkable advances Korea underwent in the past half century and the change of KSEA demographics from 1st generation to 1.5th, 2nd and 3rd generation Korean-American dominant needs to be reflected.

These changes necessarily required drastically different approaches and a new funding model for KSEA to be more effective in working with Korean entities, more effectively bridging the U.S. and Korea and serving our members for their benefits. For this to happen, the fundamental nature of KSEA needed to change. Thus, one of the most important goals of the 45th admin was to make KSEA known more broadly so that it would be a sought-after organization of technical excellence, and the 45th admin was able to achieve it! In addition, the 45th admin prepared to work much more closely with Small and Medium businesses (SMB) in the U.S. and in Korea. Playing a technical leadership role in strengthening SMB would be a unique and essential function of KSEA's.

Overcoming the Immediate Hurdle

These goals could not serve any good unless the immediate financial difficulties were overcome. The 45th admin took a naturally strategic approach to reduce the expenditure while increasing the income–to overcome this hurdle. The most important event that causes the biggest expenditure and also brings in the largest flux of funds in any administration is UKC. The 45th admin made several critical decisions at the on-set of UKC 2016, starting at the contract signing, and worked very hard to keep the expenses in check. It also implemented a few unpopular policies to further save costs, e.g. the room sharing requirements for council meetings, eliminating the double dipping of subsidies, shared responsibilities of travel by EC/DC members for reduced administrative costs, etc. The fundamental philosophy of the 45th admin was that since KSEA is a non-profit organization, it must keep non-essential costs in check.

Diversifying the Source of Income

The 45th admin had also worked hard on diversifying the source of income. The collaboration with the Korea Academy of Science and Technology (KAST) was a successful example of such diversification. Another example was the Korean Evaluation Institute of Industrial Technology (KEIT) which became one of KSEA's more traditional partners but had changed its approach to work with us and provided a great potential to continued increase in their funding. The projects we worked with became much more difficult and stringent, but it was worth the efforts since this was how we demonstrate the value of KSEA and attract more projects.

In addition, the 45th admin had pursued U.S. entities for financial supports. Successful examples were the gold level ($30,000) contribution from the University of Texas at Arlington and the copper contribution ($5,000) from the

University of North Texas contributing cash to UKC 2016. This was the first time any U.S. university had contributed to KSEA in its 45 year history. In addition, an MOU was signed with the University of Texas at Arlington on the last day (June 30, 2017) of the administration to broaden opportunities for KSEA to be integrated into the fabric of U.S. society and for diversifying funding sources into the U.S entities.

Shifting Focus to Small and Medium Business Potentials

The 45th admin had also worked with the Korean Small and Medium Business Administration (KSMBA) to attract them to work closely with KSEA and worked for a potential collaboration with the Institute of Civil Military Technology Cooperation (iCMTC) close to the end of the 45th admin. KNIH and Korean Ministry of Foreign Affairs (KMOFA) were the others we had attempted to work with. The work with KSMBA, iCMTC, KNIH and KMOFA did not quite finish within the 45th admin time frame for various circumstances that were out of our control, but it was clearly seen as a great demonstration of the potential for these to be long term partners for us. It was hoped the following administrations continue strengthening these relationships for much more diversified funding sources.

Working with Members and Cleaning up the Stain

While the 45th admin had been focused on the overarching goals above, it had strong and enthusiastic participation and care of the members and those who were willing to run for various positions of service for KSEA. It had successfully and transparently elected the officers to serve KSEA, including for the first time a president-elect of the 1.5th generation! The health of an organization depends crucially on the ownership everyone possesses within it. In this regard, the tremendous efforts of the 44th administration to strengthen the organization's fundamentals undergoing an excruciatingly painful process had paid off!

Recovering the Normal and Creating New

Despite the concerns of potentially low attendance in KSEA's flagship programs, NMSC 2017 was another success, drawing over 1,600 participants! The preparation for NMSC 2017 had a special meaning since KAMSA, one of KSEA APS's, worked to prepare the contests as a closer collaboration with KSEA, just like AKPA works closely with KSEA for the national physics contest. Building on this success, the tight working relationship continues to this day for the good of our next generations and us, helping KSEA to continue increasing the number of participants, opening this service to a much broader community!

In addition to these important events to fulfil KSEA's missions, to help accomplish the overarching goals above, the 45th admin had introduced many new programs in addition to the existing ones. At UKC 2016, it had implemented the public lecture by a Nobel Laureate, inaugurated ***the Youth Science and Technology Leadership Camp (YSTLC)*** to plant the seeds for membership early and spread KSEA's name to 40,000 local residents through the UKC banquet at the Texas Rangers Stadium. The 45th admin interacted more closely with local Korean Societies to bring KSEA closer to the general public. For the first time in UKC history, UKC 2016 had cash donations from two U.S. universities, as well as hosting a U.S. Congressman, the Honorable Joe Barton who subsequently worked with KSEA to bring two Congressional Committees continually to UKC for meaningful policy discussions with Korean National Assembly members.

Fig. 1 The 1st YSTLC participants with the plenary keynote speaker, 2011 Nobel Laureate professor Bruce Beutler of the Univ. of Texas Southwestern Medical Center

New Programs for Young Professionals

The 45th admin started a focused young professional career workshops. SEED 2016 focused into a workshop focused solely on professionals in academia, which for the first time was jointly organized with the Korean Academy of Science and Technology (KAST). This change served two purposes, making KAST to be an integral partner in helping young professionals in academia in the U.S. and to relieve some of our financial difficulties.

The amazingly successful inaugural young entrepreneur focused iPEC (industry Professional Entrepreneurship Conference) was held May 20 and 21, 2017 in LA, organized by project directors Drs. Jong Park and Hae-Bum Yoon with the absolutely essential efforts of SCA chapter president Dr. Seon Kim. iPEC then turned into the Professional Development Forum (PDF) in the 46th admin. In addition, the 1st and smashingly successful Mentorship and Leadership Training (MeLT) which was designed to develop professional training materials, train potential instructors for professional workshops to increase the pool of the qualified instructors and to share the lecture materials was held at HQ in early May 2017, organized by the project director Dr. Seogjoo Jang. Moreover, stemming from the successful SEED 2016, the 1st KSEA-KAST joint workshop on science and technology innovation was held in Seoul in mid-May 2017, organized by the 44th president Dr. Youngsoo Kim and the executive vice president of KAST, Dr. Wook Jun Yoo. The parting take-away message from this workshop was to continue the tight collaboration between KSEA and KAST for the good of the U.S. and Korea.

These first-ever events were not the only ones the 45th admin carried out. It kept up with chapter activities, many regional conferences, YG activities and APS activities! Perhaps not as many as we ideally wanted but sufficient to provide firm and strong bases for the next administrations to leverage on to make them better.

Wrapping Up yet Advancing

The 45th admin was working on two MOU's with two U.S. entities and was able to set the basis for and helped the successful ***1st U.S. – Korea National Science Policy Forum on 4th Industrial Revolution at UKC 2017***, inviting Dr. R. Holt, former U.S. Rep and AAAS CEO. In addition, the 45th admin led a KSEA former presidents' delegation to Korea to take part in the 50th anniversary celebration of KOFST and proposed to the Korean National Assembly to support KSEA's new initiative for close interactions of young generation in the two countries, enabling them to join the members for a long term research experience. This program bore fruit in the 46th admin as a young professional forum and continues to draw support from Korea to this day.

The 45th admin aimed to continue expanding and diversifying its working relationships with many more entities both in the U.S. and in Korea. It also worked closely with other Korean-American entities, including the Korean Societies in various regions. It is a mission of KSEA's to bring science and technology closer to the general public, and these Korean Societies, churches and Korean schools must be at the frontline, in addition to diving directly into the U.S. general public.

Strengthened Fundamentals of KSEA

All these efforts can only be effective when they stand on the bedrock of strong membership and members' ownership on the organization. In this regard, the 45th admin enjoyed the steadfast support and faith in it from members. I am proud to claim with confidence that the 45th admin opened the gate of transformation. It has laid down a cornerstone for such transformation, and this transformation must be kept up through each and every one of the members taking a strong ownership to put more cornerstones one at a time!

Epilogue

The 45th admin had overcome arguably one of the most difficult challenges, not just because of the financial situation but more importantly because of the significantly eroded morale of the organization. It certainly felt as though KSEA is like a phoenix who rises from the ashes and becomes stronger every time it does! We must not only be a leader in the Korean and Korean-American societies but also in the fabric of U.S. society in general.

I, as the 45th president, am truly in debt to all KSEA members who put their faith in the admin, the 45th EC/DC members who, despite the grim outlook and most definitively expected failure, took the risk, devoted their efforts and trusted my leadership, and the HQ staff who supported quietly and firmly! Without forming the united front, KSEA could have had its demise after a mere 45 years. Looking back at the 45th admin and thinking how close we were to the disastrous ends, I am truly grateful to be able to write this review article for the 50th anniversary book of KSEA!

Long live KSEA!!

Officers of the 45th Administration

46th Administration (2017-2018)

Eun-Suk Seo

The first woman President in KSEA's 46-year history

A new era of KSEA began when the first woman President was elected in 2016. KSEA serves the community by promoting science and technology for society's welfare, US-Korea cooperation, career development, and professional networking. The 46th administration's vision was to enhance the stature of KSEA and make this great organization greater by empowering the Korean-American community. The Executive Committee demonstrated its leadership and teamwork to carry out about two hundred events throughout the year. The KSEA membership which was in decline for the previous three terms was reversed to start an upward trend. The declining trend of funding was also reversed. KSEA was awarded the Outstanding Oversea Association of the Year by KOFST in recognition of its excellent UKC 2017 program and its contributions to promoting next generation scientists and engineers. A new program to support the next generation leaders in science and engineering (NET) was developed and YGF was expanded to include YPF.

Setting standards for a cost-effective UKC

UKC 2017, held in the Washington DC metropolitan area, successfully brought together over 1,000 participants, including scientists, engineers, government officials, industry executives, and policymakers from both the US and Korea. The conference program covered broad areas of science and technology with the theme, Engagement Opportunities for Global Challenges: Convergence and Innovation through Cooperation. A summary report was published in 과학과기술 2017년 9월호. Some of the key issues we dealt with are illustrated in the newspaper headlines given below. Despite the challenging funding climate, new sponsors including Celltrion, Sigong Education, Korea University, Korea Astronomy and Space Science Institute, Springer, American Physical Society, etc., joined us. The key to this success was early planning and teamwork.

New initiatives

The Memorandum of Understanding (MOU) which was signed during the 46th term to establish our partnership with the Institute for Information & Communications Technology Promotion (IITP) resulted in Korea-US joint research projects. IITP solicited proposals annually with a ~$7M budget starting in 2019 for the high potential individuals Global Training Program in the research area of A.I., Big data, Cloud computing, Block-chain, AR/VR, ICT /SW convergence, and other ICT / SW.

Our collaboration and partnership with the Overseas Koreans Foundation (OKF) started to expand. A KSEA speaker was invited by OKF for the 15th World Korean Business Convention, Changwon, Korea, October 2017, specifically for the Fourth Industrial Session. It was followed by OKF's decision to sponsor the National Math and Science Competition (NMSC) for the first time starting from the next term.

A STEM Fair was successfully implemented for the first time in the Southern California Chapter in conjunction with NMSC. It increased the number of NMSC participants significantly and offered a great opportunity for members to interact with the public and promote STEM education to inspire future generations.

Internally, the Small and Medium-Sized Enterprise (SME) Committee was approved by the Council as a new Standing Committee. Through this Committee, KSEA planned to play a major role at the time of inevitable changes brought by the 4th Industrial Revolution. KSEA Letters were published quarterly during the 46th term, whereas it had been published three times per term in previous years. It was to stay closer to the community through frequent publication and thereby to build a stronger organization. Looking ahead, a committee was formed in preparation for the 50th Anniversary and it was approved at the beginning of the next term. For the HQ operations, a staff retirement plan was implemented for the first time in KSEA history.

Other Accomplishments

UKC is not a one-time event, but rather an engagement opportunity for continued productive collaborations. For example, the Korea Evaluation

Institute of Industrial Technology (KEIT) selected two out of six white papers submitted at its UKC 2017 forum and ten out of eighty-six technical demand survey responses for the new project development program. They were reflected in the targeted projects planned in 2018. This strong collaboration with KEIT continues to benefit more members.

Following UKC 2017, the Scientists' and Engineers' Early-Career Development (SEED) Workshop was successfully held in December 2017. SEED is offered by experts and mentors from academia and industry, who truly understand the needs and challenges facing young Korean-American scientists and engineers to provide valuable opportunities for successful career development. Our goal is to inspire the young generation, including those who are just beginning their careers, and help develop their full career potential. SEED provides an effective platform to "*seed*" our future leaders. The energy and enthusiasm of the participants were remarkable at SEED 2017.

The Young Generation Technical and Leadership Conference (aka. Ygnite 2018), which was held in January 2018, set a record for the highest number of applications in Ygnite history. It is organized by our YG for the YG to "*ignite*" participants' passion and creativity to realize their full potential.

KSEA is a success story as reported in my presentation "*How the Korean diaspora in the US engages in/contributes to the development of science policy in Korea,*" at the American Association for the Advancement of Science (AAAS) 2016 Annual Meeting, Global Science Engagement, Networks of Diasporas in Engineering and Science (NODES), Washington DC; and at a Workshop on Emerging Diaspora Opportunities and Challenges: Host and Home Countries, "*Leveraging the Diaspora as source innovation, technology and research*" World Bank, 2016.

Our remarkable achievements would not have been possible without the cooperation and teamwork of 70 local chapters and branches, 30 affiliated professional societies and 13 technical groups, and tireless efforts of dedicated directors, committee members, chapter presidents, HQ staff and numerous volunteers. I would like to thank all, especially the Executive Committee for a remarkable journey together. I hope the next 50 years would bring a quantum leap for KSEA to become an even greater organization.

Officers of the 46th Administration

Eun-Suk Seo
President

K. Stephen Suh
President-Elect

Yong-Rak Kim
Vice President 1

Hanjoong Jo
Vice President 2

Sunkyu Park
Executive Director

Chang Soo Nam
Financial Director

Jeho Park
General Director

Do-Gyoon Kim
Membership Director

Chong Shik Park
Membership Director

Donghoon Yoon
Membership Director

Changmo Kim
IT Director

Munhwa Kim
IT Director

Young-Kee Kim
TG / APS Director

Jong Y. Park
Project Director 1

Seogjoo Jang
Project Director 2

Jiyoon Yoon
Project Director 3

Sang Mok Chung
HQ Operations Director

Benjamin Lee
Publication Director 1

Jun Bum Shin
Publication Director 2

John Lee
Publication Director 3

Jullia Lee
Publication Director 4

Daegene Koh
Publication Director 5

Ryuwha Stella Kim
Publication Director 6

Stella Chun
YG Director 1

Young Yim
YG Director 2

EunaYoon
Administration Manager

Jongsung You
IT Manager

Kelly Han
Finance Manager

Michelle Cho
Associate Project Manager

47th Administration (2018-2019)

K. Stephen Suh

It has been an honor and a privilege to serve as the 47th president of KSEA during 2018-2019. The successful operation of the 47th administration was possible with the wholehearted devotion of the EC members (VP1: Tom Oh, VP2: Soolyeon Cho, FD: Jun Ho Shin, ED: Donghoon Yoon, ITD: Ryan Chung and Sam Chung), DC directors, chapter/branch/APS presidents, exceptional YG leaders, event/activity chairs and HQ staff. We participated in over 250 KSEA, YG events, and KSEA-affiliated activities throughout the US. The roles of the 47th administration started in 2017 with the EC/DC formations, fundraising, UKC-New York preparation (leaders: Min Suk Kang, Ohbong Kwon, Juhyun Lee, Eunju Im) with the close cooperation of NY & NJ chapter members and leaders from the St. Johns University venue site.

For any President-Elect of KSEA, preparing for UKC is a monumental task, especially since the venue was taking place in one of the world's most expensive cities. As the PE, I made three fundraising trips (minimum two weeks) to Korea and conducted over a dozen regional fundraiser meetings in New York and New Jersey during 2017 and 2018. The countless fundraiser meetings with traditional leaders in Korea and the 1st generation leaders in the New York Metropolitan region were difficult because I was the first 1.5 generation Korean-American PE in KSEA history. The funding from the US side was about 5% of the total. The 47th term started with UKC 2018 with a theme '*Leading Discoveries in the Era of 4th Industrial Revolution*' (August 1–August 4) and a slightly different format from the previous years. The Saint Johns University venue provided a feeling of a school campus conference rather than the hotel with open BBQ dining in the field with live music performance and brown-bagged lunches. The elimination of evening programs allowed the attendees to enjoy the Queens area restaurants and entertainments, including the evening Manhattan river cruise. The event included more industry-oriented and less academic-based lectures with topics related to the 4th Industrial Revolution and combined academic-industry partnering forums and sessions. The Public Session (leaders: Stella Kim and Sungsoo Kim) designed full-scale 2-day sessions to educate science and technologies to the students, parents, public guests in the New York region, and the family members of UKC attendees, adding more excitements and enthusiastic participation from regional sponsors and local companies.

Pre-UKC and UKC programs (July 27–August 5) were the longest event in KSEA history. The Youth Science and Technology Leadership Camp program YSTLC started 5 days before the VIP dinner of UKC, and 13 high school students had an intensive 9-day schedule. The youth enjoyed CSI experiments, IBM-AI center visits, college tours of Harvard, MIT, Columbia, Cooper Union, NYU, CUNY, and many special UKC programs and poster presentations. The next day, a new KSEA-KUSCO program, The Next Generation Global Exchange, started for 17 graduate students and postdoctoral fellows from Korea for an 8-day schedule. They focused on learning professional development in academia and industry each day and visiting Princeton Plasma Physics Laboratory, Cold Spring Harbor Lab, Brookhaven National Lab, and networking with KSEA YG and YP leaders. As the last part of the Pre-UKC program, KSEA hosted KAST (Korea Academy of Science & Technology) of Korea and NAS (National Academy of Science) of the US and held a joint program (July 31–August 1), Frontiers Scientists Workshop, for the first time in KSEA history with 20 top scholars in various STEM fields. Many VIPs, scholars, and regional dignitaries congratulated the UKC-New York opening, including the Minister of Science and ICT (Young-min Yoo), KOFST president (Myoung-ja Kim), KUSCO president (Jung-Hye Roe), and regional politicians (Assemblyman Ron Kim and National House Representative Grace Maeng) and VIPs. On top of over 1200 UKC attendees, the newly designed 2-day Public Session (August 2 & 3) opened the door to learn about the innovative technologies and job-matching programs with the UKC sponsors to over 2600 offsite|online participants from the US. It was the first major public event for the local

public in UKC in KSEA history, with local fundraisers to support the event. The match-making platform allowed the sponsors and jobseekers to interact online weeks before UKC. UKC provided onsite interview opportunities for selected applicants, further enhancing incentives for the sponsors and YG|YP members and nonmembers to attend UKC. The YP group enjoyed a full-size capacity YGPF with over 150 participants and guests from Korea and the US. They focused on professional career developments and new technologies. For the first time, all APS presidents were invited and supported by UKC to brainstorm ideas regarding the synergy between KSEA and APS. With over 500 posters, papers, lectures, interactive sessions, and sponsor forums, UKC-New York was pure excitement, joy, and a learning experience for the participants and KSEA members. After accomplishing the productive council meeting and cleanup, a long 13-day UKC journey ended. I am grateful to all volunteers and in debt to local members and UKC 2018 leaders.

A busy 47th administration operation with over 70 KSEA chapters and branches and 30 APSs began after UKC-New York. The leaders provided sufficient fundings to all corners of KSEA and affiliated events, accomplishing over 250 activities nationally and internationally throughout the term with six regional conferences. As OKF (Overseas Korean Foundation: President Woo-sung Han) rejoined as a key sponsor, YG|YP (recruit >1000 new members) and NMSC fundings were plenty to be proactive and hold more events. YG also launched many YG|YP Summit Conferences nationally. The total KSEA membership increased over 40% compared to the previous two administrations, suggesting investments to YG|YP can significantly benefit the membership. The publication directors tried new content formats with President Suh's direction, publishing four Newsletters containing more pictures than texts because a picture says a thousand words. One significant change was IT restructuring and organizing the database by outsourcing to a private company and working with the KSEA HQ. IT directors repaired database security, server data backup/storage, general schema, payment systems, member identity duplicates, event websites, and automation. For the first time, KSEA-KOFST set up a new YG|YP activity at the KSEA HQ named NET (October 26-27, 2018) to stimulate networking, entrepreneurship, and technology on open topics. The applicant groups of YP in the US were evaluated, selected, and provided grants to explore open-innovative ideas, and over 30 YP groups participated. The annual SEED (December 8-9, 2018, leader: Tae-Youl Choi) workshop hosted over 80 YP attendees and mentors, and the 2-day program included topics on leadership, career development, innovative ideas, and interview skills. A successful YGTLC|YGNITE-Los Angeles (January 10-13, 2019, Theme: Disrupting The Status Quo, leader: Katherine Cho) hosted over 350 YG|YP attendees, speakers, guests, funders, and KSEA council members. The YP leaders started a fundraiser-Gala event for the first time in YGTLC history, opening doors to more future fundraising efforts. The NMSC (April 13, 2019) hosted about 1400 4th-12th grade students nationwide with a generous sponsor from OKF, competing for math, physics, and science projects. The second year of the Professional Development Forum (PDF-Austin, June 21-23, leader: Steve Moon) provided nearly 70 YG, YP, and early career KSEA members a wide array of educational lectures on technology, market trends, leadership, and career topics and various networking opportunities, including visiting Samsung's semiconductor Foundry. The transition of the 47th to the 48th administration took place at the KSEA HQ on June 14-15.

As the president, I truly enjoyed working with all KSEA members and leaders, always intensely discussing the optimal ways to benefit the KSEA members and the Korean-American community. We are always fulfilling details on evaluations and plans, reaching productive conclusions, and smiling when the bright futures of KSEA is defined. I am genuinely proud of this fine organization.

Award winner Professor Daniel Dongyuel Lee from Cornell Tech during UKC 2018 with Myung-Ja Kim from KOFST

University Leadership Forum during UKC 2018

48th Administration (2019-2020)

Jun-Seok Oh

Introduction

One of the main efforts as the 48th President of KSEA was promoting entrepreneurship in KSEA. KSEA made great contributions to advancing science, technology, and engineering; however, its effort for entrepreneurship was relatively lacking in accommodating latest needs. Despite difficulties and hurdles in forming the leader group within KSEA and developing contacts in Korea in the beginning, I was able to identify many supporters thanks to the strong interests in entrepreneurship in the U.S. and Korea. The first step was initiating the Innovation and Entrepreneurship Symposium (IES) and the Startup Pitch Competition (SPC) during UKC 2019. The successful completion of IES and SPC offered more opportunities to continue entrepreneurship activities. As a result of the first IES and SPC, we were able to link a cross-border startup program at the Young Generation Technical Leadership Conference (YGTLC, a.k.a. Ygnite) in Seattle in January 2020 and launch the first Science and Technology Entrepreneurship Partners' Upscale Program (STEP-UP) in Baltimore in September 2020. These events will help expand KSEA's business boundaries and assist entrepreneurs in the U.S. and Korea.

Initiation of Startup Program at UKC

In the fall of 2018, I took a sabbatical leave and stayed at Hanyang University in Seoul. While meeting potential sponsors as the President-Elect of KSEA, I learned about the importance and vigorous activities for startups in Korea. In 2017, the Small and Medium Business Administration was promoted to the Ministry of Small and Medium Enterprises (SMEs) and Startups (MSS). The promotion was to promote business growth and foster business startups. MSS expected technology-based startups to bring innovations to the entire business ecosystem and wanted to foster ideas to turn into new businesses. I also learned that one of the main weaknesses was the difficulty to enter the U.S. market due to language barriers and a lack of understanding of American culture even though there were brilliant ideas and many programs to foster startups. At the same time, I knew that there were many high potential Korean-American startups needing financial supports. I immediately felt that KSEA could contribute to those startups in Korea as well as in the U.S. by providing venues for young entrepreneurs in Korea and the U.S. to get together and help each other. I decided to offer the venue as one of the main programs at UKC 2019 with my sincere hope that young entrepreneurs from the U.S. and Korea work together to create successful companies in the large U.S. market.

I started meeting potential partners and supporters for the program. I visited many government agencies, associations, and universities, including the Ministry of SMEs and Startups (MSS), INNOPOLIS, the Korea Institute of Startups & Entrepreneurship Development (KISED), the Korea SMEs and Startups Agency (KOSME), the Korea Development Bank (KDB), the Born2Global Center, the Korean Venture Capital Association, the Korea Venture Business Association, the Startup Support Foundation at Hanyang University, the Startup Support Foundation at Inha University, etc. I explained my plan to host a startup program at UKC 2019 and also learned more about the startup ecosystem in Korea. Among many, Professor Jung Wha Han at Hanyang University gave me great insights and knowledge on startups from his experience as the former Administrator of the Korea Small and Medium Business Administration. His enthusiasm for fostering startups was very inspiring. Profossor Hyun Oh Ryu, Director of Startup Support Foundation at Hanyang University also provided me with his practical experiences with startups.

With the initial idea, I began forming a team to lead the startup program at UKC 2019. Luckily, I was able to meet three

key players for the program. Professor Deok-Ho Kim at the University of Washington (now at Johns Hopkins University) was very enthusiastic and had a great connection with startup entrepreneurs. He came up with the name of Innovation and Entrepreneurship Symposium (IES). Dr. Kyeong Ho Yang, the founder and Vice President of Korean-American Innovative Technology Engineers and Entrepreneurs (KITEE), led all details of the program with his knowledge and experience at KITEE. Dr. Tae Heum Jeong at KSV Global Innovations dealt with practical details for the startup pitch competition with his valuable insights and experience as a venture capitalist. He also helped expand KSEA's network with many venture capitalists and startups. These three key members successfully developed and ran the first Innovation and Entrepreneurship Symposium at UKC 2019 with Professor Thomas Hahn, the Chair of Small and Medium Enterprise Committee (SMEC) in KSEA.

The first Innovation and Entrepreneurship Symposium (IES) at UKC 2019

For the first time, UKC 2019 offered the Innovation and Entrepreneurship Symposium (IES). IES successfully provided a cooperative environment for current and future aspiring entrepreneurs in the U.S. and Korea to network with high-profile entrepreneurs and investors and to explore growing cross-border business opportunities in the U.S. and Korea. In addition to introducing best practices of startups and offering networking opportunities with potential investors, the Startup Pitching Competition (SPC) in IES selected twenty-two startups as semifinalists and offered a pitching opportunity. Winners were awarded at the closing plenary session on August 17, Saturday, 2019.

- 1st place: Telofarm (Korea)
- 2nd place: ARIS Technology (USA) and Jun Innovation (USA)
- 3rd place: CortiTech (USA) and Chromanose (USA)
- Finalists: Biot Inc. (Korea), cisCovery (USA), JUNGGAM (Korea), Lawfully (Korea), MOIN, Inc. (Korea), and TeraImmune (USA)
- Semifinalists: KB Biomed (Korea), InfoBus (Korea), Mallo (Korea), Exosystems (Korea), Edenlux (Korea), Transnostics (USA), Innovative Play Lab (Korea), Bitsensing (Korea), MARA Nanotech Korea (Korea), Layman (USA), FIGASA (Korea)

Closing Remark

The first IES at UKC 2019 expanded KSEA's boundary to truthful entrepreneurship and built a new network with many entrepreneurs and venture capitalists. Follow-up programs have been incorporated in KSEA activities. YGTLC now includes a cross-border startup program every year, and the new STEP-UP program will also be continued. These programs will help KSEA's young scientists and engineers in turning their ideas into new businesses. I hope many entrepreneurs from the U.S. and Korea work together and help each other for creating successful businesses in the U.S. market. I believe that KSEA will be able to play a central role in achieving this.

Thomas Hahn
UCLA (SMEC Chair)

Deok-Ho Kim
Johns Hopkins University

Kyeong Ho Yang
KITEE Vice President

Tae Heum Jeong
KSV Global

Fig. 1 Organizers of the first Innovation and Entrepreneurship Symposium (IES)

Fig. 2 Sponsors of the first Innovation and Entrepreneurship Symposium (IES)

Fig. 3 Winners and Finalists of the first Startup Pitch Competition (SPC) at UKC 2019

49th Administration (2020-2021)

Soolyeon Cho

The entire experience was new as we started our term in July 2020 at the height of the Covid-19 pandemic and navigated KSEA through such an unprecedented year. With the outbreak of Covid-19, businesses that were not held in the 48th Admin were moved to the 49th Admin, giving us double, perhaps even triple, of what had been our normal workloads. Nevertheless, I am very grateful that we, the 49th KSEA leadership, have done such an outstanding job and made such tremendous efforts in doing what we could with what we were faced with. It is these incredible people who have made it possible to do what had been thought to be impossible when we first began.

Again, due to the pandemic, the 49th Admin began business not quite as usual. In the past, our focus was on UKC and the Council Meeting in July and August, right after the transition of administrations. However, in light of the new circumstances, we were forced to push back the UKC event to December. This created many complications and difficulties for our Admin since almost everything was uncharted territory—not only in sequence of events but in ways of meeting with one another. Thankfully, however, the KSEA members and leadership have successfully conducted several key businesses as follows.

A new program, Science and Technology Entrepreneurship Partners' Upscale Program (STEP-UP), was held in September both virtually and in-person in Baltimore, MD. There were 230 people that attended the conference from both the US and Korea. A startup pitch competition was held as part of the program where winners received prizes totaling $24,000, with first place receiving a prize of $10,000. In November, a special forum, "*Covid-19 Webinar*" was held, inviting medical professionals to share their knowledge and experiences on preparation, response, and planning for the new norm of the Covid-19 pandemic. It was successful with about 200 people participating virtually.

The National Math and Science Competition (NMSC) was also seen in a different format, with the math and science competitions being offered separately. We offered the "*iDrone*" competition event as a science competition where students were to assemble and code their own drones. This event was also successful with approximately 80 students that participated from grades 6-12. The math competition followed afterwards in December, having 720 participants from 23 local chapters and branches.

As special events, YG groups organized the KSEA Tech Trivia, Visual Radio, and Podcast where many YG members and professionals had a great time socializing and networking with one another. These kinds of events were very new, and we believe they have set a good precedent for the future. While we have experienced some difficulties—both technical and logistical—along the way, we have overcome them and have learned many lessons.

After the aforementioned events, UKC 2020 was held in the middle of December in a hybrid format: online for the public and offline in Korea at the Grand Hyatt Hotel Seoul for sponsors. There were about 1,000 participants, including both online and offline attendees. For the Korean venue, it was a challenge to open in-person meetings due to the surge in Covid-positive test results in Korea at that time; however, with the help of KOFST and the support of our loyal sponsors, we were able to hold the event successfully. With the theme of "*Applied Science and Engineering with Social and Cultural Disciplines for a Sustainable Future*," the importance of 'humanity' in the era of Artificial Intelligence (AI) and Machine Learning (ML) was addressed in the UKC 2020 program.

Social scientists were invited to discuss how to better apply technologies in the process of creating a sustainable future through collaboration with scientists and engineers. I believe that UKC 2020 was a great venue where participants in the US and Korea were given the opportunity to discuss many hot topics in these areas through various symposium sessions and forums. The UKC 2020 program included plenary sessions, symposiums, forums, and workshops that covered a variety of subjects in science and technology. We invited more young members by expanding the Young Generation and

Professional Forum (YG/PF) program. We also continued the University Leadership Forum to assist in the globalization of higher education and the Science and Technology Diplomacy Forum.

In the UKC 2020 program, we provided a meeting space for young entrepreneurs to share their ideas and build international networks. Specifically, the Innovation and Entrepreneurship Symposium (IES) provided an interactive environment, allowing for current and future aspiring entrepreneurs in the US and Korea to network with high-profile entrepreneurs and investors and explore growing cross-border business opportunities in the US and Korea. The SEED conference was held at the same time as UKC 2020 in December and went very well with about 70 participants and 15 speakers and panelists. The participants' testimonials were very positive in review of this event.

The YG's flagship event, "Ygnite," was also successfully held virtually in January 2021. At the Ygnite event the previous year (2020) in Seattle, I remember how proud and excited I was when I saw everyone sharing their professional knowledge and experience while networking with one another. And although we were in the pandemic situation with mostly online formats in 2021, I was able to see the same energy and passion from the younger generation. I am confident we can continue our success stories no matter the difficulties we face or the situations we are in.

I am so grateful that we have received three named scholarships during the 49th Admin – Tai Ryang Shin, President at Swagger Foods Corp. ($35,000), Kyongchul Chun, 26th KSEA President ($35,000), and Chanmo Park, 13th KSEA President ($35,000). These will, without a doubt, serve to greatly benefit our next generations and allow us to keep KSEA's future bright.

In closing, I express my sincere appreciation to the UKC 2020 Organizing Committee, EC/DC members, standing committees, and local chapter presidents. Along with this, I would like to extend my gratitude towards the HQ staff members, AM Yoon, FM Han, and ITM Park, as the 49th business and operation would not have been possible without them, especially in the midst of the unprecedented global pandemic. My special thanks go to Dr. Kang-Wook Lee, former president of KSEA (2008-2009), who had served as presidential advisor for me. He had helped me in many ways to make wise and well-balanced decisions and proved to be invaluable in his contributions and efforts for KSEA.

Officers of the 49th Administration

Sooyeon Cho
President

Brian Park
President-Elect

Haejung An
Vice President 1

Young-sup Yoon
Vice President 2

Seri Park
Executive Director

Hyojin Kim
Financial Director

Clair Hur
General Director

Sam Chung
IT Director 1

Joon-Seok Kim
IT Director 2

Yongho Sohn
SEED Director

Il Minn
Entrepreneurship
Director

HungTae Kim
Membership
Director1

Namwoo Cho
Membership
Director2

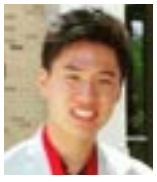
Sung-Ju Kim
Non-Profit
Organization Director

Joseph Jinlee Kim
KEIT Director

Jayoung Kim
PR Director

Gloria Kim
Education Director

Jonathan Young Kim
Publication Director 1


Dong Yeob Kim (DK)
Publication Director 2

Hailey Bae
Publication Director 3

Clara Kim
Publication Director 4

Stella Chun
YG/YP Executive
Director

Ryuhwa Stella Kim
YG/YP General
Director

Hyeon Ki Jeong
YG Director 1

Soobin Park
YG Director 2

Kang-Wook Lee
President's Advisor

Chapter 3

The 50 Years Specifics

- History of KSEA Letters
- History of KSEA Bylaws
- Brief History of KSEA by Statistics
- Demography of KSEA Members
- Conversion of KSEA Chapters and APS to Nonprofit Organization

History of KSEA Letters

Young B. Choi

The 34th, 35th, 36th, and 41st KSEA Publication Director

KSEA Letters is a flagship journal of the Korean American Scientists and Engineers Association (KSEA), and the inaugural issue was published on April 22, 1972. It started as a newsletter and was converted to a journal gradually. The Publication Directors (PDs) collect articles and edit them through KSEA Letters publication meetings with the leadership of the President of each term as the Publisher and the Editor-in-Chief.

The KSEA Letters has strenuously served to communicate with members for the last 50 years with the dedications of PDs and all the enthusiastic KSEA members by publishing major news items and the members' research results. It also fostered the US-Korea relationship since 1972 in the science and technology fields as an effective communication medium between two countries. The archived KSEA Letters shows the profound history of science and technology developments and cooperation between two countries very clearly.

The KSEA Letters has served the KSEA Young Generation (YG) members by offering an open forum for discussion and relevant publication of their various ideas and activities. The KSEA Letters is also accessible to the public freely for the promotion of science and technology in two countries.

The following shows a summary publication history of KSEA Letters.

No.	Issue No.	Publication Year(s)	Publication Directors	Publishers and Remarks
1	1-5	1972	Jhong Sam Lee	Shoon Kyung Kim / The first issue was published.
2	1-6	1973	Myong Chul Kim	Kiuck Lee
3	1-12	1974	Michael J. C. Im	Inyong Ham
4	1-3	1975	Kun Ho Chang, Chan Moo Bahk	Young Bae Kim
5	1-15	1976	Yong Kook Jung, In Soo Kim	Chong Wha Pyun / Publication cycle was changed.
6	1-12	1977	Saeyoung Ahn	Hogil Kim
7	1-8	1978	Chang Hum Paik	Sang-il Choi
8	1-6	1979	Youngil Youm	Je Hyun Kim
9	1-6	1980-1981	Young Suck Hong	Kwang Bang Woo
10	1-5	1981-1982	Youngil Youm	Yong Nak Lee
11	1-5	1982-1983	Kee Chang Yoo	Kyungsik Kang
12	1-6	1983-1984	Woong Moo Lee	Jae Young Park
13	1-7	1984-1985	Dae Soo Han	Chan-Mo Park
14	1-7	1985-1986	Dong Han Kim	Dong Han Kim
15	1-5	1986-1987	Chul Hwangbo	Ki-Hyon Kim
16	1-6	1987-1988	Yong Nam Kim	Soon Kyu Kim
17	1-6	1988-1989	Kyu Yong Choi	Kwang Kuk Koh
18	1-6	1989-1990	Sung Nam Oh	Chin Ok Lee
19	1-6	1990-1991	Moo-Jhong Rhee, Chang Ho Ahn	Chai Chin Suh
20	1-5	1991-1992	Moo-Young Han, Junho Choi, Alex Bae, Young Goo Sohn	Moo Young Han
21	1-6	1992-1993	Hyon-El Choy, Koong-Nah Chung	Kun Sup Hyun
22	1-6	1993-1994	Moon Won Kim, Gunsik Park, Sung Taek Chun, Woo Jung Kim	Hyo-Gun Kim
23	1-6	1994-1995	Sei K. Park, Joohee Kim, Daniel Chonghwan Lee, Samuel Sung-Eun Lee	Moon Won Suh
24	1-6	1995-1996	Gerard Jonghyun Kim, Dong Chun Kim, Young Ae Joe, Jong-hoon Sung, Daniel C. Lee	Dewey Doo-Young Ryu
25	1-6	1996-1997	Ji-seok Byeon, Keith Moon, Sung-Ho Moon, Jhang-Ho Pak, Eunsik Park	Saeyoung Ahn
26	1-6	1997-1998	Soojung Jung, Kapsang Austin Won, Unchung Cho, Michael Kim	Kyong Chul Chun
27	1-5	1998-1999	Euyheon Hwang, Joon Soo Park, Gail Joon Ahn, Sohyoung Kim	Ki Dong Lee

28	1-4	1999-2000	Kwang Woong (Ry) Won, James Choi, Seok Oh, Sora Cho	Hong Taik (Thomas) Hahn
29	1-2	2000-2001	Jong Hee Park, Thomas (Tong-Yong) Yi	Howard Ho Chung
30	1-5	2001-2002	Kang-Won Wayne Lee, Kwang-Soo Kim, Kwiyung Jung, Dong-Woo Kim	Nakho Sung
31	1-4	2002-2003	Kang-Won Wayne Lee	Chanil Chung
32	1-4	2003-2004	Kwang Woong Won, Jinho Kim, James Choi	Quiesup Kim
33	1-2	2004-2005	Jinho Kim	Sung Won Lee
34	1-3	2005-2006	Kenneth H. Yu, Young Chan Lee, Sohye Kang, Young B. Choi, Hee-Koo Moon, Jungho Kim	Kwang-Hae (Kane) Kim
35	1-3	2006-2007	Hee-Koo Moon, Young B. Choi, Jae Hyun Cho, Ashley Kim	Sung K. Kang
36	1-4	2007-2008	Hee-Koo Moon, Young B. Choi, Eun Jae Shim	Kang-Won Wayne Lee
37	1-3	2008-2009	Yongtaek Choi, Jeong Seop Shim, Jane C. Oh	Kang-Wook Lee
38	1-3	2009-2010	Yongtaek Choi, Steve Lee, Jintae Kim	Chueng-Ryong Ji
39	1-3	2010-2011	Seong Gon Kong, Sung Woo Kim, Steve Lee	Jae Hoon Kim / All the issues were electronically archived.
40	1-4	2011-2012	Byungkyu Brian Park, Hyunggun Kim, Jaehoon Yu	Hosin Lee
41	1-4	2012-2013	Young B. Choi, Hyo Joo Han, Byeong-Uk Kim, Jun Bum Shin	Hyungmin Michael Chung / KSEA Letters was renovated.
42	1-4	2013-2014	Hyunggun Kim, Ken Choi, Jun Bum Shin	Myung Jong Lee / ISBN was assigned.
43	1-3	2014-2015	Byeong-Uk Kim, Sooyeun Kim, SangHyuck Park, Yuna Shim	Kookjoon Ahn
44	1-3	2015-2016	Benjamin Lee, Youngrock Yoon, Soolyeon Cho, Jeonghee Shim, Jun Bum Shin	Youngsoo Richard Kim
45	1-3	2016-2017	S.J. Claire Hur, Jun Bum Shin, John Lee, Jullia Lee	Jaehoon Yu
46	1-4	2017-2018	Benjamin Lee, Jun Bum Shin, John Lee, Jullia Lee	Eun-Suk Seo
47	1-4	2018-2019	Ryuhwa Stella Kim, Jonathan Young Kim, Kyu Hwan Han, Young Eun Choi	K. Stephen Suh
48	1-3	2019-2020	Jun Bum Shin, Jonathan Young Kim, Katherine Cho	Jun-Seok Oh
49	1-2	2020-2021	Jonathan Young Kim, DK Kim, Hailey Bae, Clara Kim	Soolyeon Cho / Online blog website established
50	TBD	2021-2022	Jonathan Young Kim, Hailey Bae, Jae Jung, Soyoon Kum	Byungkyu Brian Park

During the 1972-1975 period, the PDs served for one year to publish KSEA Letters from January to December of each appointed year. In 1976, starting from the Volume 5 issues, the publication cycle was changed from the January-December cycle to the current July-June cycle. During each publication cycle, 2-15 issues were published according to various changing organizations' administrative environments of KSEA.

KSEA Letters was published in full color with the leadership of the 37th President Kang-Wook Lee. During the term of 39th President Jae Hoon Kim, all the KSEA Letters published were archived electronically. Starting from Volume 41, the cover design and contents of KSEA Letters were renovated with help from Prof. Jun Bum Shin of James Madison University by incorporating a professional graphic design concept by the initiative of PD Young Choi with the leadership of the 41st President Hyungmin Michael Chung.

The KSEA Letters were published without an ISBN until the June 2013 issue (Serial No. 222, Volume 41, No. 4). The ISBN number 978-0-9911337 was assigned finally starting from the October 2013 issue (Serial Number 223, Volume 42, No. 1).

Currently, the KSEA Letters publication announcement message is distributed via the e-mail system and anyone can access the KSEA homepage 'Information' menu freely to access all the electronically archived KSEA Letters conveniently. So that the content of it becomes more diverse and interesting, voluntary article contribution of the members should be encouraged. The KSEA Letters publication advisory committee maybe organized to suggest promising future publication direction of KSEA Letters to a publication team and the contributions of prominent external experts are expected more in the future. At the same time, reexamination of distribution lists of KSEA Letters would be worthwhile to expand the reachable organizations of KSEA and promote collaborative relationship establishment with them in the future.

History of KSEA Bylaws

Yong Nak Lee
The 10th President

Introduction
The Bylaws of any organization exist to govern all of the activities of that organization. Since every organization evolves, it is a good practice to review these Bylaws from time to time as they move into the future. The purpose of this write-up is to review the current KSEA Bylaws and their major amendments for the first half century of KSEA's history, which will reflect how KSEA has evolved into our present culture, as well as providing my vision for future generations.

The essay begins with a brief overview of KSEA's history. This is followed by a description of the major contents of the original Bylaws and their major amendments. This will illustrate how revised KSEA objectives, as well as pivotal events, changed the direction of KSEA. I served as Chicagoland Chapter President (1974-1975) and the 10th president of KSEA (1981 1982). Through this experience, I feel that I am an appropriate writer who understands the spirit of the original Bylaws. Additionally, I worked for Borg-Warner Research Center as Scientist for 17 years after my Ph.D. from the University of Illinois-Urbana-Champaign. In the years since, I have founded a private R & D company in the area of Heat Transfer in 1986 and I am still running it now.

KSEA History (1971-2021) at a Glance
Any organizational history, including that of KSEA, must include background on the pre-KSEA period. The birth of what is now known as KSEA was a direct result of the dedicated efforts of leaders in the fields of science and engineering in Korea. They were ahead of their time and understood the urgent need for the supply of high-level manpower, which was essential for the modernization of Korea, and to support the efforts of the 3rd Republic of Korea beginning in 1968.

Dr. Choi Hyung Sup, then President of Korea Institute of Science and Technology (KIST), organized a symposium in Columbus, Ohio in 1968. Many prominent scientists and engineers of Korean heritage in the US, as well as from Korea, attended the symposium. Most attendees agreed with the vision of establishing an organization in America of Korean scientists and engineers residing in the US, with the hope that such an organization would help recruit the technical manpower needed in Korea. Thus, the new organization had one major objective, becoming a potential brainpower supplier of scientists and engineers educated in the US to Korea; its goals were shared by the Korean government.

Korean Scientists and Engineers Association in America (KSEA) was born on December 11, 1971 in Washington D.C. with 68 charter members, despite some participant's objections to such an organization, fearing that it might be used by the Korean government for different objectives. KSEA's actual formal activities began on January 1, 1972. The supply of manpower of US-trained scientists and engineers to Korea was the major focus point during KSEA's first decade (1972-1982). In addition, the first major amendment in the KSEA Bylaws occurred when Chapter presidents became ex officio Council members.

Beginning in the second decade (1982-1992), technical manpower requirements in basic manufacturing industries and research institutes in Korea were beginning to level off. On the other hand, the emergence of new IT and bio medical industries were the clear trend in global industrial developments. Therefore, the role of KSEA became more important as a cooperative organization with Korea.

Through its members and Korean engineers and scientists, KSEA also provided mutual networking opportunities, in addition to the supply or assistance in head-hunting for those in the IT and bio-medical fields. A further visible trend was that those who had once done dedicated services for KSEA were beginning to return to Korea. A notable thing happened in that when POSTECH (Pohang Science and Technology University) was established in the early 80's, all of the founding faculty members were KSEA members.

During the third decade (1992-2002), networking between the US and Korea began to gain positive momentum for scientists and engineers through conferences, including UKC activities. The second major amendment of KSEA Bylaws occurred on December 11, 1993 with a name change of our organization from Korean Scientists and Engineers Association in America to Korean-American Scientists and Engineers Association. The Korea-US Science Cooperation Center (KUSCO) located

in Vienna, VA was another milestone in our history. The KSEA HQ office moved from the Rockville office owned by KSEA to the KUSCO building on February 20, 1997.

During the fourth decade (2002-2012), a global trend was a renewed focus on energy and environmental issues. Approaching KSEA's 50th anniversary, Artificial Intelligence (AI) is re-emerging in bioscience and many other fields. AI and "machine learning" can be automated to perform tasks and can also be used for predictions, which are universally needed in this rapidly changing world, and made for the benefit of all mankind. KSEA has adapted to this trend and energy and the environment have been included in the UKC's major programs ever since.

KSEA Bylaws History

1. The original Bylaws (KSEA letters vol. 1.2.): The first Bylaws were adopted in the inaugural promoter's general meeting held on December 11, 1971 in Washington, D.C.

Major contents of the Bylaws are listed below:

- The name of the organization: "*Korean Scientists and Engineers Association in America*". The abbreviated name was KSEA.
- Its objectives: To aim for mutual bonds and fellowship among Korean scientists and engineers in the US and for the contribution to the Korean scientific, technological, industrial and economic development of the Republic of Korea in close cooperation with the mother country.
- Location of HQ: HQ shall be located in the D.C. area
- Local chapters and branches: Via the Council's approval, chapters and branches may be established.
- Committees: Per the Council's approval, standing and ad hoc special committees may be established.
- Fiscal year: July 1 of the current year through June 30 of the following year.
- Amendment of Bylaws: Over 50% majority of votes required for approval of amendment
- Membership Categories:
  1) Regular member: Korean scientists and engineers residing in US and having at least B.S. degree, or equivalent qualifications.
  2) Student member: Students majoring in natural sciences and engineering who are undergraduate and graduate students. When they want to change from a student member to a regular member, they need to apply for regular membership per the same procedure.
  3) Honorary member: Those who have made significant contributions in developing science and technology or who have made significant contributions for the objectives of KSEA
- HQ Officers: 1 President, up to 4 Vice Presidents, up to 21 Council members, 1 Executive Director, and up to 2 Auditors.
- Election of Officers & tenure:
  1) President, Vice Presidents are elected by regular members via recommendation of the Council; Tenure is one year except for Council members to be three years.
  2) President and Vice Presidents become ex officio Council Members.
  3) Executive Director is nominated by President and approved by the Council.
  4) Advisor: Appointed by President via approval by Officers Meeting

2. Amendments made (KSEA letters vol. 4.3. 1975):

- Location of HQ: Should the President consider it necessary an auxiliary office may be installed in other area.
- Amendment of Bylaws: With at least 1/3 of total regular members voting, a 2/3 majority is required.
- Membership Categories:
  1) Two categories (Donor and Fellow member) are added. Donor Member: Organization or individual who made significant financial donations towards the objectives of KSEA and is approved via an Officers Meeting.
  2) Fellow member: One who is a regular member of KSEA and has made significant contributions towards its objectives and is approved by the Council.
  3) Revised "*Council Member*" to "*Elected Council Member*" with its tenure to be three years.
  4) Amended to "Chapter Presidents shall be "Ex officio Council Members".
  Up until this time, Chapter Presidents were invited to attend Council meetings to express opinions, but did not have voting power. This is a major milestone in KSEA history. This author demanded for chapter Presidents to have voting power at the Council meeting as Chicagoland (then Midwest) Chapter President in 1974.
  5) President-Elect elected one year prior shall become ex officio Vice President.

3. Amendments made (KSEA Letters vol. 17.6. 1989):

- Revision in Objectives: To aim for mutual bond and fellowship among Korean scientists and engineers to improve social welfare and professional status, contribution to science and technology, and the industrial and economic development of North America
- Committees: Per the Council approval, standing and ad hoc committees may be established.
- Amendment of Bylaws: With at least 1/5 of total regular members voting, a 2/3 majority is required.
- Membership Categories:
  1) Fellow member: One who has made significant contributions towards KSEA objectives, is recommended by the Council, and is equal in power and status to a regular member.
  2) Donor member: Individual or organization who has made significant monetary contributions and is approved via an Officers meeting.

4. Amendment (vol. 22.2. 1993):

- KSEA's formal full name is changed from Korean Scientist

and Engineers Association in America to Korean-American Scientists and Engineers Association
- Membership Category:
  1) Overseas member is added.
  2) Auditors, 3 are added
- Regular Council Meeting shall be held in principle before the end of September of each year.
- Additional requirement for Honorary member: Required approval by the Council.
- Officers:
  1) Vice President, up to 2 (1st and 2nd)
  2) Ex officio Council member: 3, including an immediate former president
  3) Chapter and Branch Presidents
- Additional requirement for Honorary member: Required approval by the Council.
- Officers:
  1) Vice President, up to 2 (1st and 2nd)
  2) Ex officio Council member: 3, including an immediate former president
  3) Chapter and Branch Presidents
- Vice President function: In case the President is unable to fulfill their duties, the 1st Vice President shall serve as President.

5. Amendments made in 2003 during the 31st term
- Established the first English Bylaws by translating the Bylaws in Korean and reformatting the entire structure so as to have the contents and structure required for a non-profit organization.
- Added a new item in KSEA Objective: Promote and cultivate the next generation of Korean-American scientists and engineers.
- Executive Committee is defined in detail.
- Amendment of Bylaws can be recommended to the Council by either the Rules Committee or the Executive Committee.

6. Amendments made in 2009 during the 37th term
- Incorporated Affiliated Professional Societies (APS) as part of the KSEA organization.
- Enabled E-voting.
- Established two VPs (1 PE + 2 VPs).
- Defined the duties of PE and established separate EC and DC

7. Amendments made in 2014 during the 42nd term
- Defined the number of Council members up to 45.
- Council members are re-defined.
- Expanded the membership to non-Korean ethnic persons.

Conclusion

Even as KSEA approaches its 50th year, I continued to be amazed at the growth, advancement and evolution of the organization and its members. Having been part of the original KSEA Midwest in 1973 and serving as VP of the Chapter and President in 1974, as well as KSEA President in 1981-82, I see KSEA as nothing less than my "fourth child". It has surpassed even the wildest aspirations of a group of young engineers and scientists who simply wanted to contribute to the American Dream and to extend those dreams to our beloved motherland, the Republic of Korea.

The many new bylaws over the years represent the growth and maturation of the organization, much like a child. As the child is now grown, we are strong, confident and capable of meeting the many great challenges that our world will face in the future. As we turn our focus towards global contributions, we are committed to work together to build the size, quality and diversity of our membership in new and exciting fields, such as economics, just as engineering and science were the impetus for our establishment five decades ago.

If ever in doubt, let us be reminded of the fearless determination of our founders on December 11, 1971, and the many valued members that have come since, who were fueled only by courage, hopes and dreams. Despite this, we as a group managed to build KSEA as a revolutionary partnership between the US and Korea, and one of the greatest and most successful cooperative ventures that either country has ever seen.

KUSCO building where KSEA HQ is located and the first KSEA History Committee meeting was held .

Brief History of KSEA by Statistics

Sung -Kwon Kang
The 35th President

When KSEA was founded in 1971, I was a graduate student at the Univ of Pennsylvania. And was fortunate to attend the Philadelphia Chapter inaugural meeting, where I met Prof. Soon-Kyoung Kim, the founding KSEA president. Since then, for the last 50 years, KSEA has occupied a significant portion of my professional life. I continuously participated in various Chapters and HQ activities, while serving as the 35th KSEA president.

To follow up its remarkable growth trends, I have diligently collected the statistical data of KSEA for the last 25 years. The categories of the data include HQ finance, membership, Chapter development, election records, and others. In 2010, the data collected from 1995 to 2008 were first presented at the mid-term Council meeting and recently at the 50 years' History Book editorial board (EB) meeting in June 2019. EB then recommended to collect more data for the last 10 years. This task was gratefully completed with the help of Kelly Han (Finance manager).

Here, some selected data from 1995 to 2018 are presented to review the growth trends of KSEA as well as to envision our organizational directions for the coming 50 years.

HQ Financial Growth

Table 1 contains the financial data of HQ operation in terms of its income and expenditure for each administration. Major income sources are from KOFST projects, the US-Korea Conference (UKC), Young Generation (YG) development, and the National Math & Science Contest (NMSC). Major expense items are for HQ operation, UKC, Chapter development, YG development, Scholarships, Professional societies, NMSC, and Regional conferences.

Fig. 1 displays the overall growth trend of HQ finance (income vs expenditure) from the 24th to 47th term (1995 to 2018). During this period, KSEA has achieved an exceptional growth; more than 4-fold increases in both income and expenditure. This achievement is mainly owing to the strong & steady growth during the period from early 2000 to early 2010. For the last few years, the financial status of KSEA seems to be stable and sustainable.

US-Korea Collaboration

KSEA has upheld a clear vision to foster international cooperation, especially between the US and Korea since its founding. For this purpose, the US-Korea Conference (UKC) has been the most important annual event jointly organized

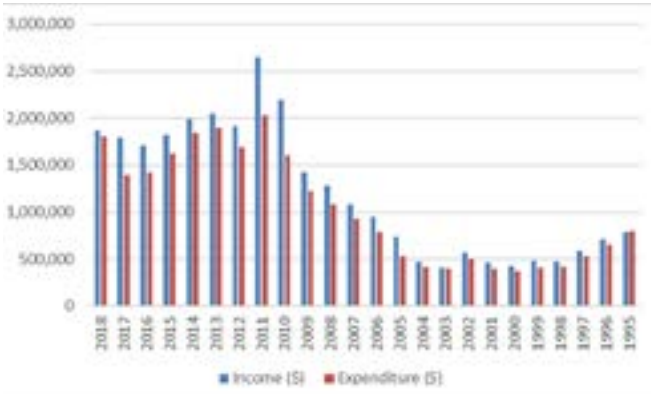


Fig. 1 KSEA HQ Income vs Expenditure Trend (24th to 47th)

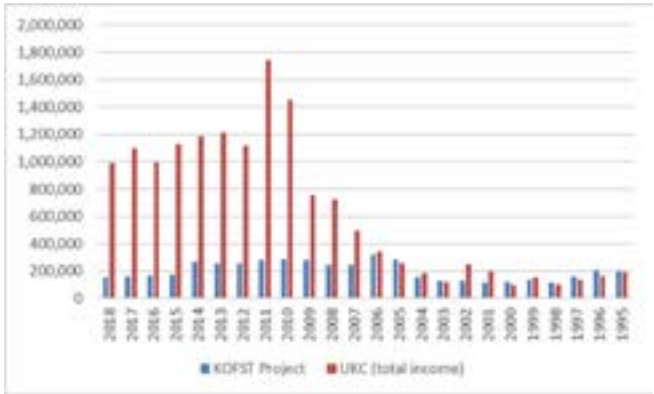


Fig. 2 HQ Major Incomes (24th to 47th)

Table 1. KSEA Trend Study from 1995 to 2018

Fiscal Year	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
HQ Term	47th	46th	45th	44th	43rd	42nd	41st	40th	39th	38th	37th	36th
Income ($)	1,873,904	1,794,365	1,707,935	1,822,000	1,991,705	2,048,341	1,917,950	2,648,793	2,191,630	1,426,651	1,278,153	1,079,299
Expenditure ($)	1,806,942	1,393,327	1,426,126	1,621,747	1,839,559	1,899,816	1,692,115	2,030,163	1,606,445	1,225,724	#REF!	933,649
<< INCOME >>												
KOFST Project	155,203	162,362	169,403	175,168	265,546	254,772	255,380	283,730	284,831	279,168	242,401	243,673
UKC (total income)	991,984	1,096,613	993,372	1,131,529	1,185,781	1,209,412	1,117,087	1,739,717	1,452,358	758,269	726,972	497,366
UKC (net income)	321,307	690,250	556,967	570,537	420,335	606,028	701,038	1,036,951	970,252	358,606	332,617	172,791
Young Gen Dev (Income	355,365	176,559	122,090	119,414	79,223	78,288	54,612	111,739	37,010			
NMSC & Others	76,955	68,805	40,550	72,619	57,450	44,220	45,845	63,615	65,725			
<< EXPENSE >>												
HQ Operation	280,566	296,766	280,679	256,969	250,516	238,209	170,549	244,600	216,363	235,713	228,551	182,628
UKC (expense)	670,677	406,363	436,406	560,993	765,445	603,383	416,049	702,766	482,106	399,663	394,355	324,555
Chapter Dev	113,056	104,557	89,188	112,099	141,053	163,399	157,551	154,967	151,303	96,458	45,120	17,000
Young Gen Dev (Expens	350,905	180,280	148,149	180,038	191,280	218,323	271,624	246,305	88,576	68,749	41,590	48,610
Scholarship	40,000	46,500	44,500	47,500	27,500	62,239	52,398	91,669	87,441	50,641	46,577	54,080
Prof. Societies Dev	32,625	34,462	23,610	37,732	24,115	71,793	82,058	68,504	83,780			
NMSC & Others	74,749	88,498	93,768	84,887	95,235	96,608	92,307	116,874	122,955	62,083	45,964	48,774
Regional Conferences	26,139	25,875	28,025	35,000	22,475	43,900	35,250	54,130	31,000	22,067		
Members (Total)*	3,443	2,387	2,236	2,976	3,781	3,798	3,935	3,888	2,660		7,208	6,500
Members Paid	2,359	2,336	2,204	2,954	3,760	3,777	3,914	3,867	2,639	1967	1,723	1,381
Chapters # (>30)	42	41	42	43	42	40	37	31	28	28	20	18
Ballots sent	3477	3409	3958	5028	5853	5589	5,015	4,322		1,650	2,036	1,744
Members voted	720	662	605	530	1460	1222	978	857		1069	580	294

* Total members registered (regular, grad, underg, international)

Fiscal Year	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995
HQ Term	35th	34th	33rd	32nd	31st	30th	29th	28th	27th	26th	25th	24th
Income ($)	943,828	736,914	477,860	408,716	564,556	464,691	428,326	478,922	473,744	586,664	710,617	789,866
Expenditure ($)	787,028	531,738	414,591	#REF!	503,440	397,307	367,042	408,922	416,907	534,362	650,522	797,557
<< INCOME >>												
KOFST Project	318,664	289,850	153,040	129,292	130,094	118,118	122,274	137,677	117,375	158,805	205,151	200,000
UKC (total income)	345,223	254,327	185,535	119,614	250,621	197,062	94,307	154,043	101,424	132,979	165,922	188,989
UKC (net income)	150,355	122,174	83,184	14,222	76,243	72,408	32,506	47,749	36,126	50,845	58,391	-
Young Gen Dev (Income												
NMSC & Others												
<< EXPENSE >>												
HQ Operation	154,059	167,134	156,682	140,857	132,276	123,603	139,447	139,093	143,695	185,686	188,602	156,979
UKC (expense)	194,868	132,153	102,351	105,392	174,378	124,654	61,801	106,294	65,298	82,134	107,531	188,989
Chapter Dev	30,192	45,165	30,843	30,045	22,395	30,020	35,335	56,800	16,245	25,406	38,767	68,586
Young Gen Dev (Expens	42,646	23,824	31,273	8,427	27,057	11,485	12,091	5,853	36,161	2,627	2,000	1,165
Scholarship	54,843	11,000	29,617	10,300	9,000	7,000	10,000	10,000	10,000	10,000	40,545	30,880
Prof. Societies Dev												
NMSC & Others	46,997	14,900	12,883	14,050	12,330	8,460						
Regional Conferences												
Members (Total)*	4,723	3,234	1,506	1,437	1,380	1,510	1,984	7,021	5,350	4,919	7,345	
Members Paid	1,287	941	611	847	634	746	764	1,220	580	850	1,650	2,000
Chapters # (>30)	16	10	7	11	6		6	9	8			
Ballots sent	1,375	1026	1,098	1,181	972	1,403	976		960	1,650	2,000	1,800
Members voted	318	251	349	458	215	319	362		300	400	800	896

by KSEA/KUSCO/KOFST for more than 25 years. **Fig. 2** compares two major income items (UKC vs KOFST), while **Fig. 3** does three major expenses (UKC, Chapter Dev & Young Generation Dev). The UKC income and expense are by far the largest items. This strongly substantiates how well KSEA has executed its vision to foster the US-Korea collaboration through UKC for the last 25 years and more.

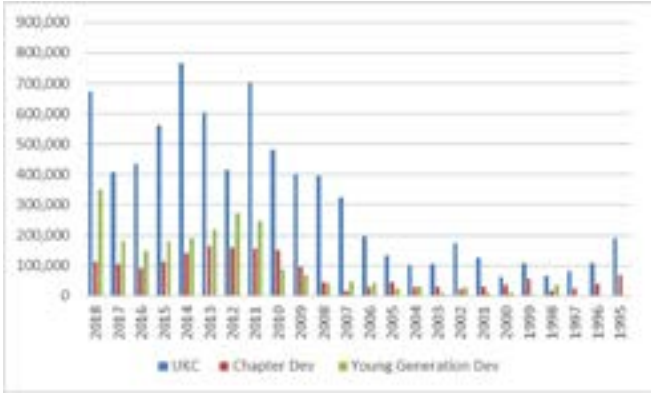


Fig. 3 HQ Major Expenses (24th to 47th)

Membership Development and Participation

Membership data is a key barometer to check its organizational health and vitality. The data collected contains; i) membership (in total), ii) members paid (per year), iii) members eligible for general election, and iv) members voted (in general election), as listed in **Table 1**.

The membership growth trends are illustrated for the last 25 years in **Fig. 4**, where the membership (in total) is plotted against the members paid (per year) for each administration. Large discrepancies are noted between the membership (in total) and the members paid until the recent years. This is mainly due to a loose definition of the membership (in total). But, for the last 10 years, by using a more rigorous definition of membership, the discrepancy has been practically eliminated. In addition, it is worth to mention that the accumulated membership (in total) for the last 25 years is recorded to be well over 30,000 as of May 2020. This data evidently suggests a low retention rate of the membership (10 to 15%). How to improve the member retention rate will be a challenging issue for the upcoming leaderships.

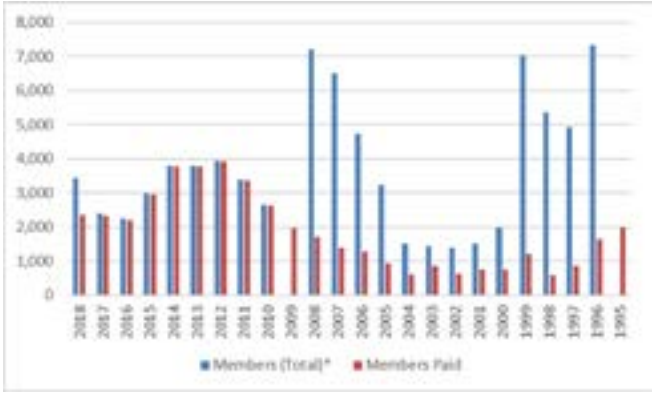


Fig. 4 Membership Growth Trends (24th to 47th)

Fig. 5 depicts the election statistics by plotting the ballots sent out vs the members voted in the general elections for the last 25 years. The ballots were sent to the eligible members who paid their membership fees for the last two years. A significant increase in the total number of ballots sent reflects the strong membership growth for the last 10 years. But the historically low voting rate has not much increased, even though an electronic voting system has been implemented since 2009. Active member participation through general elections is so essential to maintain the organizational vitality.

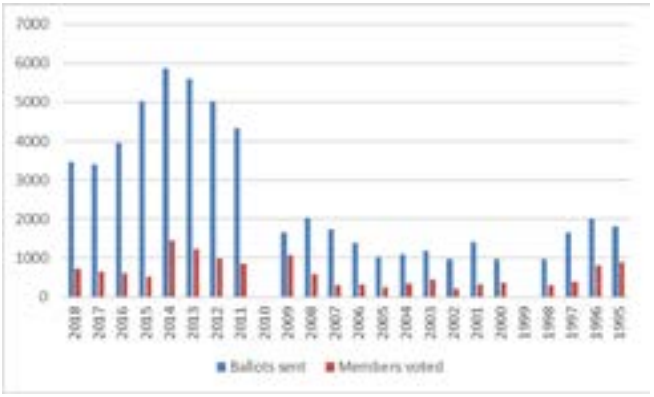


Fig. 5 General Election Statistics (24th to 47th)

Chapter Development

Chapter development is another barometer to determine the organizational strength. According to Policy 4, a local Chapter can be established when more than 30 voting members are recruited from a local community.

Fig. 6 exhibits the growing trend of Chapter development for the last 25 years. Until 2006, the number of qualified Chapters (with more than 30 voting members) was merely 10 or less. In the recent years. owing to the strong membership drive, the number of qualified Chapters has steadily increased to the level of 40 or more. This strong trend in Chapter development is well confirmed in **Fig. 3**, where the HQ financial support for Chapter development has significantly increased for the corresponding years.

Fig. 6 Chapter Development (24th to 47th)

A good correlation between the members paid and the number of qualified Chapters is shown in **Fig. 7**. But some noticeable gaps are recognized for the last 4 years. This may be explained by observing a reduced level of Chapter support for the corresponding period as shown in **Fig. 3**. Another challenging issue for the coming leaderships will be how to further improve Chapter development as well as to integrate with Young Generation activities.

Fig. 7 Growth of Membership vs. Chapters (24th to 47th)

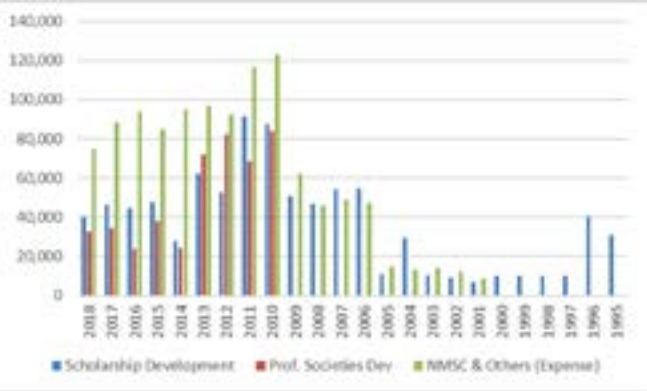


Fig. 8 NMSC, APS, Scholarship (24th to 47th)

Young Generation Development

Among the major expense items shown in **Fig. 3**, the growth of YG development expenditure is remarkable for the last 25 years (more than for the Chapter development). This growth trend has become even more remarkable in the recent years, reflecting the enhanced participation and services by YG members. This is an incredibly positive sign, considering the future of KSEA really depends upon YG members. How to further integrate YG members into the general membership is another organizational challenge for the upcoming period of KSEA history.

Community Services

KSEA is now well established as a volunteering, professional organization to serve its local communities in the USA. The community services provided by both HQ and Chapters include Scholarships, Awards, the National Math & Science Contest (NMSC), KMSO (Math & Science Olympiad by NY Metro Chapter), supports for various Affiliated Professional Societies (APS), and others.

Fig. 8 shows the financial support of NMSC, Scholarship and APS for the last 25 years. Community services through Scholarship and NMSC is focused on the second-generation development, while APS support is designed to integrate various technical societies under the umbrella of KSEA. To be recognized as a truly dedicated professional organization, KSEA must spend a more significant portion of its budget in these categories in the future.

Concluding Remarks

A brief history of KSEA, especially for the last 25 years, has been reviewed in terms of the statistical data on finance, membership, Chapters, Young Generation. scholarship, second-generation education, APS support, and other community services.

Since its founding, KSEA has accomplished a remarkable growth in every category reviewed. This has been only possible through the volunteering services of many dedicated members and leaderships.

Upon its 50 years anniversary, KSEA now faces unprecedented challenges of rapidly transforming new technologies as well as of the unexpected social reforms resulted from the recent coronavirus pandemic. It is a critical time to discuss among all members what should be our new organizational visions for the coming 50 years. Through many active discussions, a consensus can be developed on what kind of KSEA we want for the second half century of our history. For this purpose, this article is hopefully used to reflect our recent achievements.

Demography of KSEA Members

Hong Thomas Hahn* and Myung Jong Lee**

**The 28th President and **the 42nd President*

General

The past 20 years have seen substantial changes in the demography of our members. The total membership size jumped more than five folds to almost 30,000, **Fig. 1.** This contrasts starkly with a mere 1.6 times increase in the Korean population in the US. The increase is most dramatic in undergraduate members: a whopping 14 times. Now undergraduates number slightly lower than regular members.

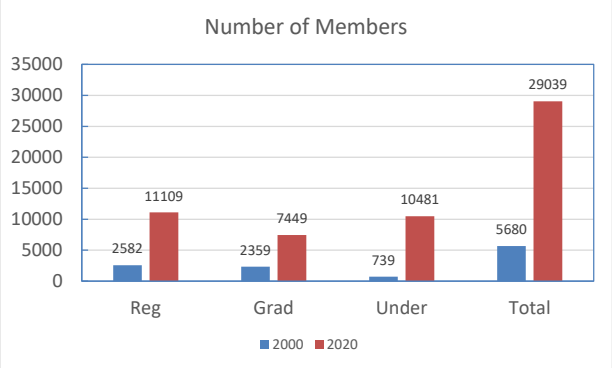


Fig. 1 Membership growth from 2000 to 2020

Of regular members, women occupied only 10% of the total membership 20 years ago, **Fig. 2.** However, it has more than doubled since then, accounting for 24% now. Men with doctoral degrees have decreased slightly from 71% to 66%, although women's share has more than doubled from 7% to 17%, **Fig. 3.**

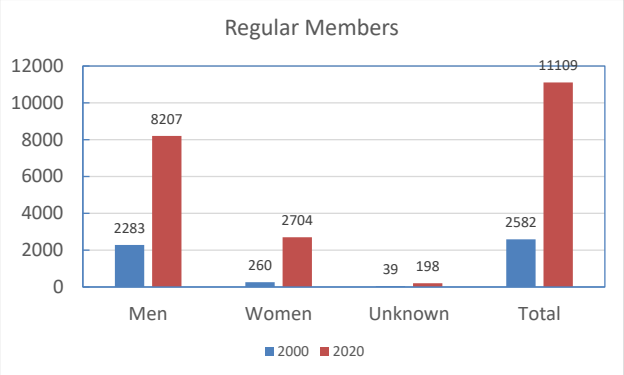


Fig. 2 Gender distribution of regular members

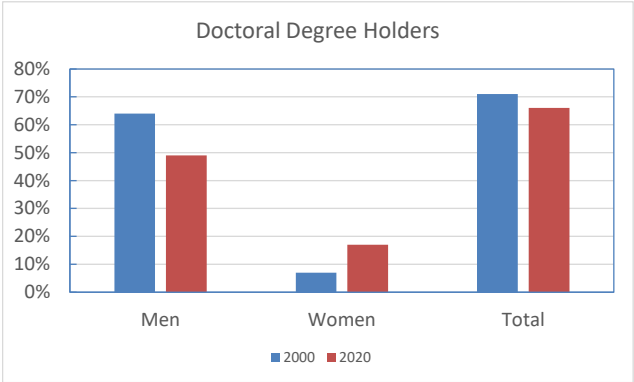


Fig. 3 Percentage of doctoral degree holders

In 2,000, the geographic distribution of members was almost even across the four different regions, **Fig. 4.** Twenty years later, the South gained most members, followed by the West, while the Midwest lost the most. Disproportionately high 37% of the members live in the South, while only 14% live in the Midwest.

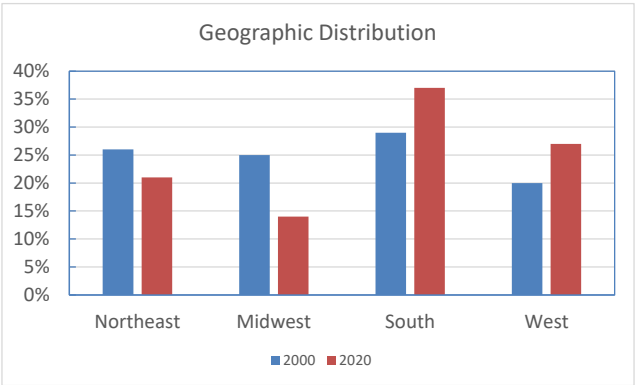


Fig. 4 Geographic distribution of regular members: Northeast - CT, MA, ME, NH, NJ, NY, PA, RI, VT; Midwest – IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI; South – AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV; West – AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

Of the thirteen technical groups, five groups show an increase in their membership shares: D, F, J, L, and M. These increases contrast with the decreases in the following six groups: A, B, G, H, I, and K, **Fig. 5.** The remaining two groups, C and E, show minor changes. These changes reflect the general trends in science and technology: more interest in science,

health science, computer science, environmental science, and management. Now, the life science group predominates membership, accounting for one-fifth. Note that it was only one-fourteenth 20 years ago.

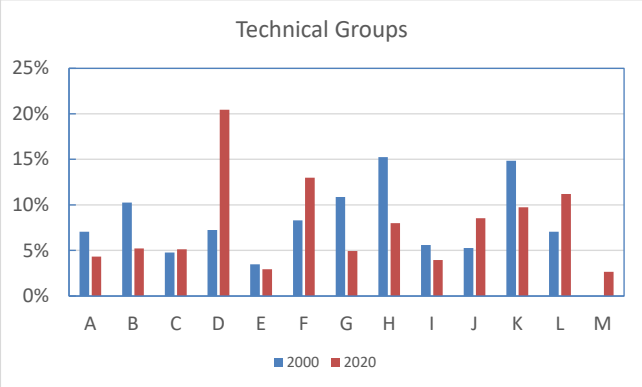


Fig. 5 Technical group distribution of regular members: A (physics). B (chemistry), C (other physical sciences, D (life science), E (agriculture, ecology, food & nutrition), F (health science), G (chem eng, textile eng, nuclear eng, appl chem), H (mech eng, naval arch, aero eng), I (mat sci, metallurgy, mining), J (civil eng, arch, env eng), K (elec eng, electronics eng), L (comp sci, systems eng), M (ind eng, management sci, R&D policy)

Academia

The interest in academic career has increased slightly from 36% to 44% over the past twenty years, **Fig. 6**. Academic affiliations include not only professorial positions but also other temporary positions such as postdocs and visiting scientists. Professorial positions both ladder-faculty positions and non-ladder positions such as adjunct, research, clinical, and visiting. These professorial positions only accounted for 9% in 2000, while they represent a much higher 22% in 2021.

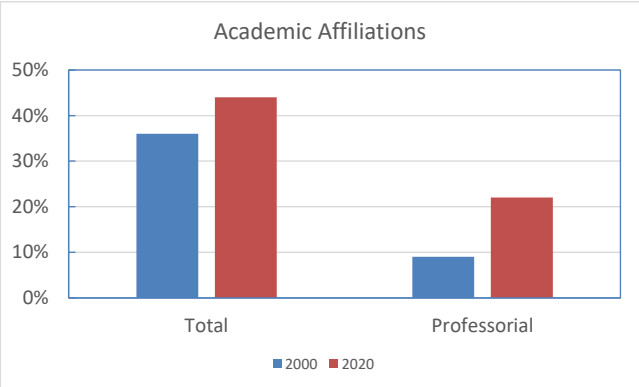


Fig. 6 Regular members with academic affiliations and in professorial positions

The increase in ladder faculty, a coveted academic position, is quite dramatic: from a paltry 125 in 2000 to a respectable 2062 in 2020, **Fig. 7**. The non-ladder faculty shows an even more dramatic increase as the corresponding number jumped from 13 to 254.

The 16-fold increase in ladder-faculty positions indicates the increasing role in academia of KSEA members, **Fig. 7**. The increase in the number of assistant professors is even more stunning: a 33-fold jump.

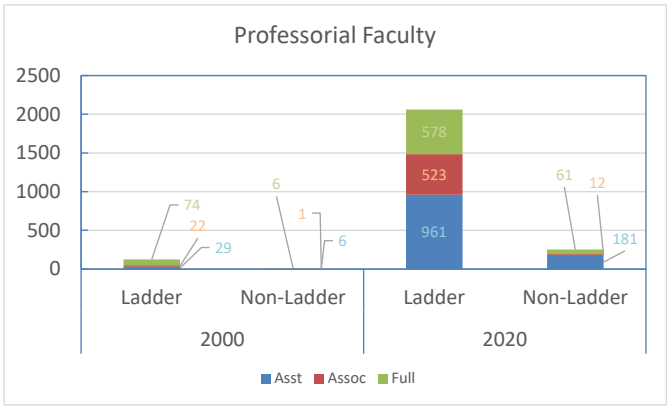


Fig. 7 Ladder faculty and non-ladder faculty

The additional roles and recognitions of ladder faculty, outside of teaching and research, are shown in **Table 1**. Naturally, more members are retired as they age. Twenty full professors are honored with distinguished/endowed chair titles. About the same number of full professors provide administrative services in department chairs' and deans' offices.

Table 1. Ladder faculty in administration, honored positions, and retirement

	2020			2000
Chair's office	0	4	18	2
Dean's office	0	1	3	0
Distinguished/ Endowed	2	1	20	5
Emeritus	0	1	25	3

Industry

The distribution of members with careers in the industry as compared to the total membership increased from 16% (436) in 2000 to 24% (2669) in 2020, an 8% increase, which is interestingly the same as the rate of increase in Academia as shown in **Fig. 8**. Industry members are all regular members and engaged in a wide variety of fields according to 2020 data: 27.4% with the title related to "engineer", 20% with managerial positions including CEO/President at 2.7%. Doctoral degree holders reach 40% of industry members in 2020 data.

Fig. 8 Industry membership

Of industry members, women occupied only 7.8% of the industry membership 20 years ago, Fig. 9. However, it has more than doubled since then, accountnig for 19% now. This conincides with the general women membership trend in **Fig. 2**.

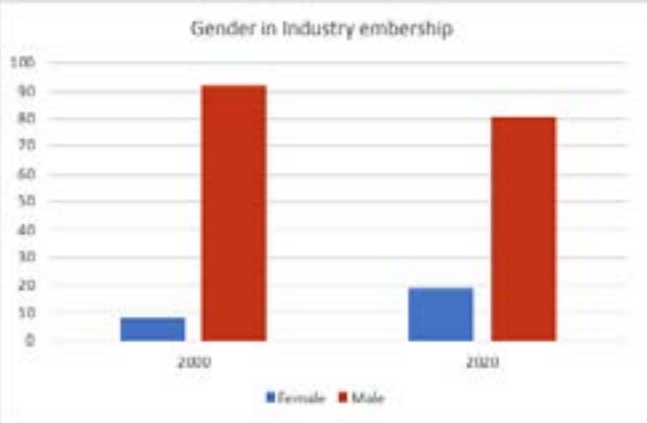


Fig. 9 Gender for Industry Membership

Distribution of technical groups for industry members is shown in **Fig. 10**, which also resembles the trend of general membership in **Fig. 5** with slight difference. Increase is observed in six technical groups: D, F, J, K, L, and M. These increases constrast with the decrease in three groups: G, H, I. The remaining four groups show little change: A, J, C, E.

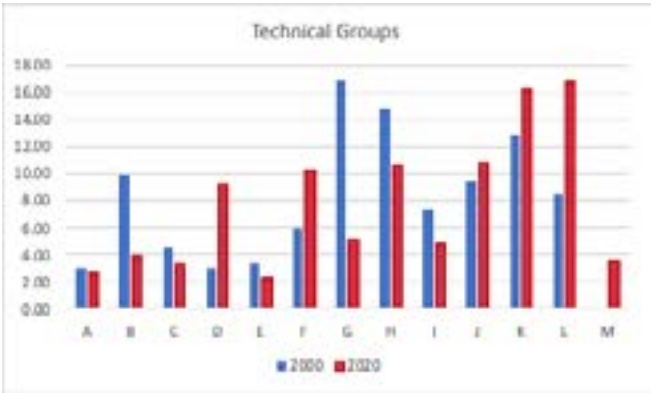


Fig. 10 Technical Groups for Industry Membership

The data that the distribution of industry members is quite similar to the distribution of all members may mean that many of the industry members are engaged in research or development in research institutes or large corporations. Support for this observation comes from the fact that 40% of the industry members have a doctorate degree.

With increased activities for small and medium business and startup, it is expected that new members in the industry will increase.

Summary

Over the past quarter-century, KSEA has grown remarkably in its membership size and its members' services to academia and industry. KSEA's contributions far outweigh the growth of the Korean population in the US.

Conversion of KSEA Chapters and APSs to Nonprofit Organization

K. Stephen Suh

The 47th President

The growth of KSEA in members and size continued for decades. As the new millennium began in 2000, KSEA was arching over with nearly 60 chapters, branches, and STEM-affiliated societies. After 40 years since the establishment in 1971, the leaders and the KSEA headquarters (HQ) routinely reviewed and processed over 200 events and activities each year, followed by busy financial transactions and reports. The HQ fund allocations to the chapters and cascades of other fund distribution networks to branches and the Fund-Sharing with APSs became more complex. Large chapters and APSs such as New York Metropolitan and KASBP were already conducting separate fundraising campaigns and accepting national and international donations to sustain their growth and busy annual agendas. At this point, KSEA HQ was the only KSEA entity officially registered as a nonprofit organization. Most KSEA chapters and branches operated as a subsidiary entity of the KSEA HQ.

The former presidents and leaders of the 44th administration (Dr. Young Soo Kim) in 2015 realized the disconnected infrastructure and concern over the financial and potential legal liability matters that could arise at the State and the Federal level. To improve the integrity and the infrastructure of KSEA, the 46th president, Dr. YS Kim, appointed Dr. K. Stephen Suh to launch a Nonprofit Organization (NPO) Project. Project Director Suh designed a multi-year project to assist all KSEA chapters and APSs and requested the council to earmark and commit to the budget as a multi-year project. The KSEA council first passed the project proposal at the 2015 UKC-Atlanta, and consecutively at 2016 UKC Dallas, 2017 UKC-Washington DC, and 2018 UKC New York. Once the budget was earmarked and allocated by the 46th administration, all KSEA administrations and leaders supported the effort. The elected council members also endorsed the multi-year NPO project to optimize the whole KSEA operation.

Project Director Suh hired a Nonprofit Elite company in 2015 and outsourced the State and the Federal IRS paperwork. The contract was '*Start-to-Finish*' type for a multi-year format to accomplish 1023-Tax Exemptions and 501c3 NPO certifications and IRS approvals. The company worked very closely with the KSEA administration, leaders, and chapter presidents, providing a smaller workload to KSEA. The cost was about $1,000 per chapter, and KSEA paid the expenses from the project budget. With this format adequately set up, KSEA decided to get 42 chapters properly registered as NPO and then work with APSs later. With supervision from Dr. K. Stephen Suh (Project Director 44th Admin, VP1 45th Admin, President-Elect 46th Admin, President 47th Admin), KSEA chapters became registered NPO correctly and IRS approved. Thirteen large-size chapters become NPO by 2015, and KSEA continued to add eleven more chapters by 2016, seven more by 2017, and three more by 2018.

When Dr. Suh became the 47th president, he recruited Dr. Sung-ju Kim from NC State University as an NPO expert, and Dr. Suh transferred the NPO project leadership to Dr. Kim. Once he took over the role, he implemented NPO-related policies and education to the KSEA HQ and chapter presidents. The NPO project remains active for the 48th, 49th, and 50th administrations, and the leaders continue to support the project; however, smaller chapters are reluctant to participate. Thus far, over 30 chapters are maintaining the NPO status correctly and in the process of amending the position. The NPO project continues to be a significant stride to improve the KSEA infrastructure to this date. All chapters, regional meetings, and UKCs benefited by correctly performing tax processing for fundraising and donations and received Tax Exemption and discounts on many services and products. As an NPO, a chapter's dependence on the KSEA HQ lessened, and all chapters gained better sustainability and financial ground. The next phase of the NPO project is aligned to work with over 20 APSs and help these affiliated professional groups to become an official NPO.

Part II

Contributions to Korea and US Science, Technology and Entrepreneurship

Chapter 4

UKC History and Other Conference Activities

- Historical Significance of UKC
- KSEA Northwest Regional Conference (NWRC)
- History of the KSEA Northeast Regional Conference (NRC)
- KSEA's Roles for Korea as an Equal Partner to the U.S.

Historical Significance of UKC (US-Korea Conference) of KSEA; 1971 – 2021

Moon Won Suh
The 23rd President

Significance of KSEA's National Conference

Since the founding of KSEA in 1971, nothing has been more important than simply to meet among its members. Having a nationwide meeting in the United States, however, was most challenging in terms of the costs, geographical distances. Contrary to what the KSEA bylaw clearly states as an objective (Article 1.3.) "*Promote friendship and fellowship among Korean-American professionals engaged in science, engineering, and related fields*", it was almost impossible to conduct a national meeting "*inviting all members to attend*" unless at least a portion of the expenses is covered or the benefits derived from attending such a meeting is justifiable.

Prof. Soon Kyung Kim (1st KSEA President) reflected in the 25 year KSEA History Book [1, p163] that there were about 70 members when KSEA was founded and even with those numbers, Prof. Kiuck Lee (2nd KSEA President) pointed out that "*promoting friendship among KSEA members may seem trivial and easy but is extremely import*" [1, p164].

Significance of "UKC" for KSEA

The "UKC" (U.S.-Korea Conference for Science, Technology and Entrepreneurship) has been the main pillar of KSEA for the last 28 years. While the name is now settled to "UKC" finally, it began first as "*1994 Annual Meetings and Technical Conference*" held at Radisson Hotel in Alexandria, VA during September 22–25, 1994 by Prof. Moon Won Suh, the 23rd KSEA president, when all KSEA members were invited to attend. The tradition has continued for 27 years with no lapse till 2020 (between 1994 and 2021). This is a significant milestone for KSEA in celebrating the 50th founding anniversary. UKC is truly an annual event now for KSEA. While there have been many triannual or biennial conferences held in Korea since 1974 where KSEA members participated, they were proposed by KSEA but funded and managed by the auspices of KOFST (Korean Federation of Science and Technology Societies - 과총), and did not represent the core value of KSEA and its members. Nevertheless, the number of attendees, papers presented, the interdisciplinary nature of the conferences, impact on technology transfer and the scientific as well as economic development of modern Korea are considered astoundingly significant.

It is of great importance to examine how KSEA came to this point in 2021 by reviewing all conferences held in Korea and in the U.S. during the last 50 years and shed light on how KSEA has contributed to forging Korea into a G10 nation of the world.

Summary of UKC–A Statistical Review

1. Number of Conferences

Based on the counting method approved by the KSEA Council, there were 33 UKC Conferences as shown in the table below during 1971 and 2020.

No.	Year	Dates	Venue	KSEA President
1	1974	7/28-8/8	Seoul, Korea	Inyong Ham
2	1976	7/26-8/6	Seoul, Korea	Chong Wha Pyun
3	1978	7/10-13	Seoul, Korea	Sang-il Choi
4	1980	7/14-19	Seoul, Korea	Kwang Bang Woo
5	1982	7/13-21	Seoul, Korea	Kyungsik Kang
6	1991	11/29-12/2	Arlington, VA	Moo Young Han
7	1994	9/22-26	Alexandria, VA	Moon Won Suh
8	1995	8/31-9/4	San Francisco, CA	Dewey Doo-Young Ryu
9	1997	2/21-24	McLean, VA	Saeyoung Ahn
10	1998	4/23-25	Chicago, IL	Kyong Chul Chun
11	1998	10/22-24	Vienna, VA	Ki Dong Lee
12	1999	8/12-14	Los Angeles, CA	Hong Taik (Thomas) Hahn
13	2000	9/2-5	Chicago, IL	Howard Ho Chung
14	2001	8/10-12	Cambridge, MA	Nak Ho Sung
15	2002	7/8-11	Seoul, Korea	Chan Il Chung
16	2003	8/7-9	Caltech, CA	Quiesup Kim
17	2004	8/12-14	RTP, NC	Sung Won Lee
18	2005	8/11-13	Irvine, CA	Kwang-Hae (Kane) Kim
19	2006	8/10-13	Teaneck, NJ	Sung K. Kang
20	2007	8/9-12	Reston, VA	Kang-Won Wayne Lee
21	2008	8/14-17	San Diego, CA	Kang-Wook Lee
22	2009	7/16-19	Raleigh, NC	Chueng-Ryong Ji
23	2010	8/11-15	Seattle, WA	Jae Hoon Kim
24	2011	8/10-14	Park City, UT	Hosin David Lee
25	2012	8/8-11	Los Angeles, CA	Hyungmin Michael Chung
26	2013	8/7-10	New York, NY	Myung Jong Lee
27	2014	8/6-9	San Francisco, CA	Kookjoon Ahn
28	2015	7/29-8/1	Atlanta, GA	Youngsoo Richard Kim
29	2016	8/10-13	Dallas, TX	Jaehoon Yu
30	2017	8/9-12	Washington, DC	Eun-Suk Seo
31	2018	8/1-4	New York, NY	K. Stephen Suh
32	2019	8/14-17	Chicago, IL	Jun-Seok Oh
33	2020	12/14-17	Virtual	Soolyeon Cho

* Note the moratorium practiced in the 4th meeting, 1980.

2. Number of People Attended and the Cost Estimates

Based on the exact and estimated numbers shown in KSEA Letters and other information, the total number of attendees for the 33 UKCs listed above is 20,051. Assuming each attended the conference for 3 days (often 4 days including the workshops and council meetings), a total of 60,153 man-days or 481,224 hours (8 hours/day) were dedicated to 33 UKCs. Therefore, a conservative estimate for the number of hours that went into the conference planning, fundraising, meeting preparation and post-conference tasks is roughly "½ million hours," or equivalent to a minimum of "$50 million dollars" of labor at $100 per hour. These are just the cost associated with the input man-hours whether they were volunteer hours or paid by the member organizations. Once the other costs (lodging, meals, airfares, and other travel expenses, publications, etc.) are added, the total should be around $100 million dollars! In reality, however, KSEA handled and absorbed much of the total costs by providing volunteer labor and enormous amount of conference fund raised by the presidents. Partnership with KOFST and KUSCO were also imperative in accomplishing these. Without these, nothing would have been possible!

Chronological Review of UKC Conferences

1. Early Conferences Held in Korea

UKC (1971 – 1990) - KOFST-Sponsored Conferences in Korea with KSEA Participation – Seoul, Korea

In 1974, KSEA proposed to initiate a joint conference series with KOFST to be held in Korea with travel subsidies for the speakers by KOFST. In different names, the conferences were held either biennially or triennially since then and the tradition still continues. KOFST labeled the conferences as "국내외 한국과학기술자학술대회 (1974, 1차)", "세계한민족과학기술자 종합학술대회 (제1차, 1980)", "세계한민족과학기술자 종합학술대회 (1990, 제1차)". According to several searches, it was found that, the meetings the names as "모국방문 그룹별 세미나", "제x차 모국방문 학술세미나", and "범세계한민족 종합학술대회". In 1980, the KSEA Council decided to participate in the conferences only as individual members in one's discipline, but not in the name of KSEA. In early days, the conference attendees were predominantly KSEA members from the U.S. Aside from the exact number of KOFST-initiated conferences in Korea, KSEA History Committee and the 2018 Mid-term Council meetings decided to include the following 5 conferences as "UKC Conferences" based on somewhat arbitrary criteria which were debated fiercely. As shown in the previous table, the 5 conferences were held in Korea in 1974, 1976, 1978, 1980 and 1982. Due to the limit in KOFST budget allocated only for the speakers, the numbers were rather small. However, the attendees often landed jobs in Korea, producing a sizable impact each year. Examining numerous reports by the former presidents of KSEA [1], there were several other conferences held in Korea which many KSEA members participated but were not counted as UKC perhaps because of the 1980 Council decision. Regardless of the counting methods, many KSEA members have participated continuously between 1981 and 1991. For brevity, the details are omitted.

It is of great importance to note that these conferences in Korea, while the number of KSEA participants was relatively small in each year, created a great momentum in recruiting them permanently to Korean universities, R&D centers and businesses. Consequently, the investment made by KOFST and Korean government was instrumental in harnessing the U.S. educated brain power for accelerating the "*Miracle of Han River*".

2. Special Conferences in the U.S.

#6 UKC (1991) - KSEA 20th Anniversary Conference in the U.S. – Alexandria, VA

6th - Alexandria, VA in 1991

In November 1991, the 20th KSEA president Dr. Moo Young Han organized a conference to commemorate the KSEA's 20th founding anniversary by inviting several speakers from Korea. The 1992 KSEA Letters [2] reports that 240 people including 50 KSEA councilors attended the conference held at Cristal Gateway Marriott, near the National Airport with a fund obtained from KOFST, Korean Science Foundation and several corporations. Former KSEA presidents and only the invited guests attended this meeting. There were no scientific papers presented except several plenary talks on the state of the matters in Korea. Mr. Jin-Hyun Kim, Mister of Science and Technology was one of the invited speakers. This special conference did not contain much technical substances and does not resemble the UKC format, it was included as the 6th UKC by the January KSEA 2018 Midterm Council Meetings.

#7 UKC (1994) – "1994 Annual Meetings and Technical Conference (1994년 학술대회 및 연례회의)" – Alexandria, VA

The KSEA "1994 Annual Meetings & Technical Conference (학술대회 및 년례회의)" was held at Radisson Plaza Hotel in Alexandria, VA for 4 days during September 22-25, 1994 with 450 people attending daily [4]. It was literally the first ANNUAL technical conference of KSEA held in the U.S. that was planned, budgeted and executed solely by KSEA since 1971 and ALL members of KSEA were invited. All attendees were fully subsidized for lodging, meals and registration from a successful fundraising by the 23rd President Moon Won Suh fulfilling his campaign promise [3, Page 8] to "*Follow the KSEA bylaws requiring an annual*

7th - Alexandria, VA in 1994

meeting of all members." The key topics of the conference were Information Technology, Material Science, Life Science, Technology Forecasting, R&D and Quality Management, mostly as plenary session papers. The 12 invited keynote speakers were Drs. Kun-Mo Chung (Former S&T Minister), Sang Hee Lee (Former S&T Minister, National S&T Adv. Board), Blanton Godfrey (Chairman, Juran Institute), Arnold Demain (MIT), Robert Meyer (IBM Watson – Dir.), Tom Doherty (DuPont - Futurist), In Hee Lee (3M – Dir.), Kinichiro Ogawa (AT&T Bell Lab - Fellow), Han Hwangbo (Korea Telecom - VP), William Brinkman (AT&T Bell Lab – VP), Mansub Han (Samsung Aerospace – Dir.), David Brooksyein (Philadelphia Univ. – Dean). A special keynote address was delivered on the role of scientists in social reformation in Korea by President Chong Ryul Choi of Kyung Hyang Daily News (경향신문). A luncheon address by Chairman Se-yung Chung of Hyundai Motor was well attended. A packed reception at the residence of Ambassador Dr. Seung-soo Han was a memorable event which subsequently led President Suh to propose the funding of KUSCO to Dr. Han a year later when he became the chief of staff at Blue House for President Young Sam Kim.

For the first time, many R&D presidents in Korea attended the conference organized by KSEA. They included Dr. Key Hyup Kim (SunKyung), Eun Young Kim (KIST), and Hyobim Ihm (Daewoo), Han Hwangbo and others.

7th - Alexandria, VA in 1994

Point of Departure – In retrospect, the success of this milestone event unshackled KSEA from its own bylaws that "*no event costing more than $10,000 can be proposed or planned unless a credible funding source can be verified*" by the council. In the 1993 council meeting, President Elect, Suh appealed and convinced the council by showing a rough fundraising scheme and a backup plan ("*selling his house if fundraising fails*") for a national conference. President Suh was highly successful in generating $719,161 total income (over $152,000 donations from Korean businesses alone) and an unprecedented support (not entered as an income to KSEA) from Chairman Seung-Yeon Kim of Hanwha Group. Hanwha paid the entire hotel bills and meal expenses for all

7th - Alexandria, VA in 1994

conference attendees, plus the entire cost of an evening banquet on September 23. Hanwha provided an evening gala reception by bringing a full load of virtuoso vocalists, dancers and instrumentalists in a chartered B747 [4]. As reported in several articles [3, 4], this was perhaps the most luxurious UKC reception in the history of KSEA to date. This unexpected mega support from Hanwha and Chairman Kim was never fully recognized although KSEA handed him a plaque after the banquet. With this, a surplus of $152,694 from this conference was carried over to 1995 San Francisco UKC [5] organized by the 24th President Dewey Ryu who did not raise fund for the UKC. Many recognized that 1994 UKC and the support from Hanwha Group were instrumental for bringing a much needed renaissance for KSEA.

8th - San Francisco, CA in 1995

#8 UKC (1995) – "KSEA International Technical Conference and Annual Meeting (KITCAM95) – San Francisco, CA

The conference was held at San Francisco Marriott during September 1-4, 1995 with 500 attending. Some 200 people came from Korea. Dr. Tongil Chu (Lawrence Berkley) and Dr. Un Young Kim were the co-chairs of the conference. The conference was divided into several workshops - Biotechnology, Information Highway and Multimedia, High Performance Materials, Materials for Aerospace Industry. Departing from the 1994 conference in Washington, DC, the papers contributed by members and non-members in Korea characterized the conference. An easy access to Korea, the conference drew a sizable number of attendees but the nearby tourist attraction made many to escape the conference. No notable speakers were tapped for the conference. The major significance of this meeting was that a track for KSEA's "*annual meeting*" was established.

9th - McLean, VA in 1997

#9 UKC (1997) – "KSEA 25th Anniversary Technical Conference" – McLean, VA

The meetings were held at Ritz Carlton Hotel, McLean, VA during February 22-23, 1997, not the usual meeting time in the summer of 1996 as planned because of the opening ceremony for the KUSCO Center. Some 300 people attended the conference of which many were young scientists and graduate students within the U.S. The name of the conference has changed to KSEA 25th Anniversary Technical Conference departing from the earlier two annual conferences. Dr. KunMo Chung, Vice Minister Bushik Lee of Ministry of S&T, Kwan Lim (Samsung R&D), Anne Solomon (State Department) and others attended the conference. The attendance was low due to the season and the weather.

#10 UKC (1997) – "Korea-U.S. Science & Technology Symposium on Computing and Telecommunication" – Chicago, IL

The conference was held at the Swissotel in Chicago, IL during April 23-25, 1997 with 200 people attending. The objectives and themes were (1) to provide a forum for an exchange of ideas, scientific & technological findings, and innovative applications; (2) to foster partnerships with the common goal of advancing scientific research and techno-logical development; and (3) to promote networking of scientific, technological, and business communities between Korea and the United States.

11th - Vienna, VA in 1998

#11 UKC (1998) – "Korea-U.S. Science & Technology – Vienna, VA

The conference was held at Marriott Hotel at Tysons Corner, Vienna, VA during October 22 – 24, 1998 and about 200 people attended the 3-day conference. The welcome remarks were made by Korean Ambassador to U.S. Hong-Koo Lee and Dr. James Phillips (President of ASME) gave congratulatory remarks. Four plenary session speakers invited were Drs. Seungtaik Yang (Inf. & Comm. Univ. – Korea), Chang-Soo Kim (LG), Harvey Dershin (Juran Institute), and Phillip Summers (IBM Watson). The conference was divided into four symposiums where 63 papers were presented (number of papers in parentheses); Life Science and Biotechnology (22), Software Engineering (9), Information Sciences (10), Energy (13), Design and Manufacturing (9). A total of 20 poster session papers were presented. Because of the ongoing global recession IMF crisis in Korea, the conference was much scaled down. Because of the global recession and IMF crisis, the conference was at heavily attended. Some 53 papers were presented in diverse disciplines.

12th - Los Angeles, CA in 1999

#12 UKC (1999) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Los Angeles, CA

The conference was held at Bradley International Center on UCLA campus during August 12 -14, 1999. On the record, the name UKC appears for the first time. The meeting, however, followed basically the same format as previous conferences except the program format shown in this meeting was adopted by the subsequent UKC conferences.

The conference was organized with long-term sustainability with objectives: (1) its name which has to be generic and comprehensive, (2) it should highlight entrepreneurship and leadership as well as science and technology, (3) it should be held during the summer when schools are out of session, and (4) its sponsorship should be solicited from within the States. The last point was well taken but has not been verified by the ensuing UKC's till today. There was no financial support for the UKC from KOFST as a result of the IMF fiasco.

13th - Chicago, IL in 2000

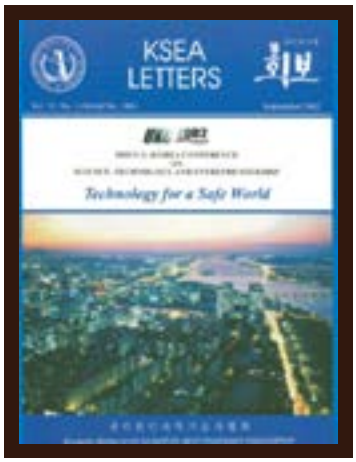
#13 UKC (2000) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" - Chicago, IL

The conference was held at Drake Hilton Hotel in Chicago, IL during September 2 -5, 2000. President Howard Chung stated in KSEA Letters [6] that he had to face multitudes of challenges in planning this UKC conference. The program was shown in the Letters with no information on the contents of the conference or the responses from the attendees. The attendance was low due to the ongoing global financial crisis.

14th - MIT, MA in 2001

#14 UKC (2001) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – MIT, MA

The conference organized by KSEA in collaboration with KOFST and KUSCO was held at MIT, Cambridge, MA on August 10-12, 2001. Some 400 people attended the conference including about 100 from Korea. After several years of low attendance and lackluster funding, this meeting showed a significant improvement. More than 260 people presented technical papers in 4 symposiums and 24 technical sessions, 3 special forums and one workshop. A Career-Job Fair drew a good crowd. Korea appeared to be have been resurrected. Industry sponsors and exhibitors expressed their satisfaction revitalizing KSEA. A major grant from SK Telecom enabled travel and meal support for the participants. The Friday Gala dinner was sponsored by LG, and Saturday entertainment of Boston Harbor Cruise dinner by SK Telecom. The 3-day program was run well by the KSEA HQ staff and the members of the New England Chapter and the local organizing committee. Proceedings of the conference were produced and distributed in CD form for the first time.



15th - Seoul, Korea in 2002

#15 UKC (2002) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Seoul, Korea

For the first time since 1994, the 2002 UKC was held in Seoul, Korea, in conjunction with the World Congress of KOFST with a theme "*Technology for a Safe World*" during July 8–11, 2011 at the KOFST building in Yeoksam Dong, Seoul. Most airfares between the USA and Korea were reimbursed to all KSEA participants by KOFST. Although it was expensive and difficult to coordinate, the 2002 UKC held in Korea provided the attending members of KSEA an opportunity to initiate active networking with Korean scientist in Korea as well as those from other foreign countries and tour many places in Korea.

Over 160 KSEA members attended the Seoul conference and 153 papers were presented by US participants [7]. There were 41 sessions where more than half of the speakers came from the U.S.

16th - Pasadena, CA in 2003

#16 UKC (2003) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Pasadena, CA

The conference was held during August 7 – 9, 2003 at California Institute of Technology in Pasadena, California. The theme of the conference was "*Celebration of 100 Years of Korean Immigration to U.S.*" The proceedings of the UKC 2003 were published in January, 2004, in a CD format edited by Dr. Tae Wan Ryu. About 450 professional engineers and scientists attended including over 100 from Korea. Prof. Rudy Marcus, a Nobel laureate, presented a plenary talk. The local staff members from the Southern California Chapter contributed to the success of the conference.

17th - Research Triangle Park (Durham), NC in 2004

#17 UKC (2004) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Research Triangle Park (Durham), NC

The conference was held during August 12 – 14, 2004 at Sheraton Imperial Hotel, Research Triangle Park, NC. There were 315 registered attendees at the conference. [8]. Over 150 papers and talks were presented and the rooms packed as the visitors were confined largely within the meeting site.

As the conference was held outside the home base (D.C.) of the president (Sung Won Lee), much of the work was performed by the NC Chapter members and student volunteers at NC State and UNC Chapel Hill. Professors

Ki-Hyun Kim (NC Central), Moon Won Suh (NC State) and Heakyoung Lee (Winthrop) contributed much to the management of the daily activities. Of significance was the large number of attendees, especially the top managers from Korea, as the R&D Forum was organized by Moon Won Suh inviting the key R&D managers and specialists in the RTP area and NC State University. The conference was divided into 5 major symposiums; Aerospace Science and technology, Bio Science and technology, Information and Communication technology, Nanostructure Science and Technology, Robotics Technology.

18th - UC Irvine, Irvine, CA in 2005

#18 UKC (2005) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – UC Irvine, Irvine, CA

This conference was organized by the late Dr. Kwang-Hae K. Kim and was held at UC Irvine campus during August 11 – 13, 2005. This was one of earliest conference held within a university campus, and all activities were planned and hosted largely by the student volunteers. While this created a few chaotic moments for seating, meals and accommodations, the format provided a good model for the future conferences. There were 580 registered guests for the conference including those to meet the famous scientist Dr. Woo-Suk Hwang at the time. Governor Hak-Kyu Sohn of Gyeonggi-do, then an aspiring candidate for the president of Korea, gave a plenary talk. The invited speakers also included Nobel laureate Sherwood Rowland (UC Irvine), Zang-Hee Cho (UC Irvine and Gachon Medical School), Young-Hwa Cho (KIST), Chan Mo Park (POSTECH), Key-Hyup Kim (KITECH), Kwyro Lee (LG), Chun-Hwan Lee (ETRI) and others. The conference was run in 9 symposiums and 3 forums. A 384-page CD titled "*Frontiers in Science and Engineering*" was produced following the conference listing the abstracts and proceedings.

19th - Teaneck, NJ in 2006

#19 UKC (2006) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Teaneck, NJ

UKC 2006 was a large conference where 713 people registered and 354 papers presented out of 465 abstract submissions were made in 12 symposiums, 2 forums, and 4 plenary sessions [8]. For the first time, the conference was managed with a comprehensive on-line process.

Papers presented in AMT, FST, GE, and MST sections were well attended. Dr. Woo-Sik Kim, Deputy Prime Minister and Minister of MOST made an illuminating speech on how Korea made advances in R&D spending. He referred to two sets of striking numbers for 1980 and 2004; $480 million (0.84% of GDP) and $19.3 billion (2.85% of GDP), whopping 40-fold increase in 25 years. KOFST president Yung-Bog Chae, KOSEF Chairman Oh-Kap Kwon, Congressmen Sang-Kee Suh and Chang-Sun Hong attended the conference along with many R&D center scientists in Korea.

#20 UKC (2007) – "U.S.-Korea Conference (UKC) on Science Technology, Entrepreneurship and Leadership" – Reston, VA

The conference held at Hyatt Agency Reston outside of Washington, D.C. during August 9–12, 2007 was well attended (near 1,000) with many guests coming from Korea.

Deputy Prime Minister, Dr. Woo Sik Kim led the ULTRA workshop for the young and emerging top scientists, and delivered his congratulatory speech. The support from KOFST President Yung-Bok Chae was good. The keynote speakers included Arden L. Bement (Director of NSF), Harriet Kung (USDE), KAIST President Nam Pyo Suh, POSTECH President Chan-Mo Park, and Chancellor Steve Sung-Mo Kang of UC Merced.

20th - Reston, VA in 2007

20th - KWiSE, Reston, VA in 2007

A total of 389 presentations were made in addition to the plenary talks. The BST (Bioscience and Technology) and NST (Nanoscience and technology) were well attended whereas the other symposiums were not. Of particular significance was the activities and lively talks in the WISE (Women in Science and Engineering) forum among female KSEA members which perhaps paved a pathway for electing a female KSEA president later on.

21st - San Diego, CA in 2008

#21 UKC (2008) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – San Diego, CA

The conference was held at Town and Country Resort & Convention Center in San Diego, CA during Aug 14-17, 2008 San Diego under a theme "*Science & Technology for a Better World*".

It was one of the largest conferences, well attended by 945 registrants and 510 presentations and 650 abstracts, perhaps the largest, among which 75 were non-Korean speakers and 80 as young-generation and professional forum speakers. The UC San Diego provided two excellent speakers, Chancellor Marye Anne Fox, a well-known female scientist and administrator, and Nobel laureate Clive Granger. Chancellor Fox spoke on "*The Research University in the 21st Century*" and Dr. Granger on "*How to Become Nobel Scientists and Engineers*". KOFST President Ki-Jun Lee provided an ample support for the conference and the festive setting around San Diego made the conference most enjoyable as noted in the post-conference comments by the attendees [10]. The conference was marked by the 60 papers presented in math and statistics, the largest number within UKC to date. Deputy Prime Minister Woo-Sik Kim and KOFST President Ki-Jun Lee made the ULTRA program highly visible with an ample support. The "KW*i*SE" group among female members of KSEA was further strengthened in this conference.

22nd - Raleigh, NC in 2009

#22 UKC (2009) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Raleigh, NC

UKC 2009 was held at Raleigh Convention Center, Raleigh, North Carolina during July 16 – 19, 2009 under a theme "*Creative Minds for Global Sustainability*." The theme was further divided into 19 symposiums, 3 workshops and 9 forums and well attended with 938 registrants, 581 presentations (112 non-Korean heritage speakers) out of 590 abstracts submitted. Many well-known speakers included Drs. Sidney Altman (1989 Nobel laureate in Chemistry), James Von Ehr (Founding CEO, Zyvex Group), Dong-Pil Min (Chairman, Korea Research Council of Fundamental Research and Technology) Sunggi Baik (President, Pohang Univ. of Science and Technology), Bae-Yong Lee (President, Ewha Womans University), Dr. Sung Woo Lee (President, Kookmin University), Herman Viets (President, Milwaukee School of Engineering) among others. President Chueng-Ryong Ji UKC 2009 raised more than $500,000 for the conference and the support of KOFST President Ki-Jun Lee was also a big factor for making the conference vibrant. It was noteworthy that President Bae-Yong Lee, a historian and social scientist delivered a speech for KSEA for the first time emphasizing the value of embracing social science by the scientists and engineers in 'branding' Korea. Former ministers of S&T Dr. Woo-Sik Kim, Dr. Yung-Bog Chae and National Assembly Member Dr. Sang-Kee Suh also attended the conference. The ample space at the new Raleigh Convention Center was ideal for the conference presentations, display and poster session presentations. Many from Korea had opportunities to visit the R&D and government centers situated in nearby Research Triangle Park.

23rd - Seattle, WA in 2010

#23 UKC (2010) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Seattle, WA

UKC 2010 was held during August 11 – 15, 20210 for the first time in Seattle WA under a theme "*Green Technology for a New World*." A KSEA Job Fair and Career Workshop were held simultaneously with conference. The conference was divided into 10 symposiums, 4 workshops and 7 forums. While there were 101 invited papers and 172 contributory papers presented, only 341 papers could be accepted out of 434 abstracts submitted, with a 20% rejection rate [11]. The invited plenary speakers included Drs. John Tracy (Boeing), George Arnold (NIST), Preston Marshall (Univ. Southern California), Sunggi Baik (POSTECH), Victor Der (DOE), Woo Paik (LG), Cheryl Goodman (Qualcomm), Joon-hyun Lee (KETEP) and Steve Lipmann (Microsoft). Over 100 people registered for the Job Fair and were interviewed by 17 companies. conference was attended by 1,100 people including a large contingent of congresswomen of Korean National Assembly and many R&D directors from Korea. It was also marked by active participation of many young generation scientists and entrepreneurs at the Young Generation and Professional Forum.

24th - Park City, UT in 2011

#24 UKC (2011) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Park City, UT

UKC 2011, subtitled "*US-Korea Summit on Science and Engineering of 40 Years*" was held at the Canyon's Resort, Park City, Utah during August 10-13, 2011.

Over 1,000 people who attended the conference, technical sessions and dinners were well confined at the conference site, creating shortage of seats, dining chairs and food. The 200 YG members were instrumental in making the conference lively, festive and enjoyable. The number of papers were limited to under 300 but the quality of the speakers from USDOT, USPTO, White House OSTP, PCAST and Korea were excellent. This impressive array of distinguished speakers included; 2007 Nobel laureate Marco Capecchi (Univ. of Utah), Phillip Coyle (White House), James Gates (PCAST – U of Maryland), Patel Appel (USDOT), Dae-Whan Chand (Maeil Business Daily), Robert Stoll (US Patent Office), Phillip Kim (Columbia), Se-Jung Oh (NRF Korea and Seoul National Univ.), Sastry Pantula (NSF and NC State Univ.), Sung-Mo Kang (UC Santa Cruz) and others.

The outdoor performance of Tchaikovsky's 1812 Overture by Utah Symphony [12] was a highlight of the conference. There were over 70 sponsors including Samsung (SAIT, Heavy and C&T), LG, GE Health, SIEMENS, and Varian. President Hosin Lee was able to attract 21 Korean companies and 21 U.S. companies to support the conference, creating a healthy surplus for KSEA's operation.

25th - Los Angeles, CA in 2012

#25 UKC (2012) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Los Angeles, CA

The conference was held at the Hyatt Regency Orange County, south of Los Angeles, CA during August 8 - 11, 2012. Over 1,200 participated mostly from the U.S. and Korea and some from Canada and Europe. Under the goal of Creativity, Innovation, and Integration, the four main themes - Biomedical Sciences and Biotechnologies, Energy and Environment, New Materials and Application, and Information Technologies and Application subdivided into 11 symposiums and 64 sessions and a poster session with 240 presentations. The three-day Young Generation programs were run in four career tracks, and a Career and Leadership forum. The industry forums were run in 16 sessions along with a KWiSE (Korean Women in Science and Engineering) Forum. KSEA's Affiliate Professional Societies actively participated in all conference activities. Recruiting by domestic and overseas organizations recruiters was quite worthwhile for the young professionals.

The invited keynote speakers included those from NIH, U.S. Patent Office, NSF and many universities and businesses. research institutes, and industry representatives including Korean American entrepreneurs were also invited.

26th - East Rutherford, NJ in 2013

#26 UKC (2013) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – East Rutherford, NJ

UKC 2013 was held at Sheraton Meadowland Hotel, East Rutherford, NJ during August 7 -10, 2013 under a theme "*Toward the Harmonious World with Science, Technology, and Entrepreneurship*". A total of 974 abstracts (702 oral presentations and 272 for poster sessions) were submitted setting a record. About 1200 attended the conference divided into 5 plenary sessions, 14 technical group symposiums, 7 harmonious and interdisciplinary symposiums, and 18 "named forums" by the sponsors. The Entrepreneurship track was introduced to help in search of young generation talents. Dr. Mun-Kee Choi (Minister of Science, ICT) attended the conference. Other speakers included Drs. James Wayne (IBM Watson), Nicholas White (NASA GSFC), Myung Ja Kim (KOFWST Korea), Sung-Mo Kang (KAIST), Dennis Choi (SUNY Stony Brook), Sylvester gates (Univ. of MD) and Seung Jong Lee (NRF Korea). As the attendees were well confined within the meeting premise due, the technical sessions were well attended. The larger than expected number of registrants created difficulty in finding rooms in not many nearby hotels.

#27 UKC (2014) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – San Francisco, CA

UKC 2014 was held under a theme "*Forward Together*" at Hyatt Regency Airport Hotel in San Francisco during August 6 – 9, 2014. The conference attracted almost 1,300 people (300 from Korea) in 3 plenary sessions, 12 technical symposiums and 20 forums. About 880 papers were presented (480 oral

27th - San Francisco, CA in 2014

presentations and 400 poster session papers) spanning three large categories; Basic Sciences, Emerging Technologies, Industrial Technologies. KOFST President Boosub Lee, Congressmen Hae Chan Lee, Sang-Kee Suh, Byung Joo Min and Ha Jun Jhun attended the conference. The keynote speakers invited were Drs. Simon Pete Worden (NASA Ames), Preston Marshall (Google), Jae Hoon Kim (Boeing), Duck-Ho Lim (Hanyang Univ.) Sung Hon Kim (UC Berkeley), Jae Sung Lee (UNIST), John Cabeca (US Patent & Trademark Office). ULTRA session was shown much interest among the young generation scientists.

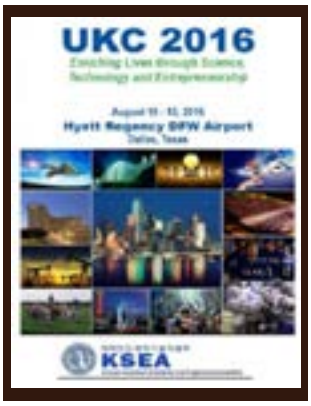
28th - Atlanta, GA in 2015

#28 UKC (2015) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Atlanta, GA

UKC 2015 was held during July 29 – August 1, 2015 at Hyatt Regency Hotel in downtown Atlanta, GA for the first time with a theme "*Pursuing Excellence with a Servant's Heart*". A total of 732 papers were made (525 in oral, and 207 in poster sessions). The conference had 1,100 registrants, many from Korea. A new idea 'project-based sponsorship' was tried for effective fundraising for the future UKC's. The plenary session speakers included Drs. Sang-Mok Lee (SNU), Eileen Pollack (Michigan), Chan-Mo Park (PUST), Sung-Mo Kang (KAIST), Marshall Lyon (Emory). Dr. Yanh Hee Choi, Minister of Science ICT and Future Planning – Korea, and President Boo-Sub Lee of KOFST delivered welcome messages along with members of Korean National Assembly Dr. Sang-kee Suh, Moon Jong Hong, and GA congressman B. J. Pak. The venue, hotel accommodations, evening tour and gala reception dinner were praised by all, making UKC quite lively and entertaining.

#29 UKC (2016) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Dallas, TX

UKC 2016 was held during August 10 – 13, 2016 at Hyatt Regency DFW, Dallas, TX with a theme "*Enriching Lives through Science, Technology and Entrepreneurship*", drawing 1,200 scientists. Financial contributions of $30,000 by



29th - Dallas, TX in 2016

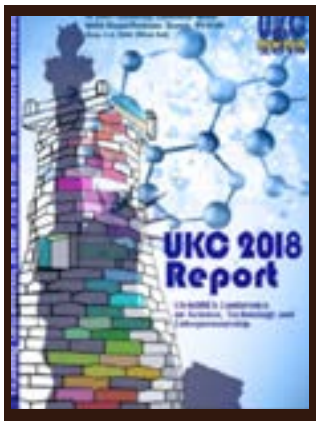
the University of Texas at Arlington and $5,000 from the University of North Texas set a milestone for KSEA's collaboration with U.S. universities, due to the efforts by President Jaehoon Yu.

Mr. Joe Barton, a US Congressman from Texas welcomed the visitors as a member of Science, Space and Technology Committee of U.S. House. Plenary talks were given by Drs. Bruce Beutler (Univ. Texas SW Medical Center), Elizabeth Richter (Am Insy. of Architects), and Sunghoon Kim (SNU). The conference was organized into 16 symposiums and a large poster session where 178 poster papers were presented. People attended the Texas Rangers baseball game were disappointed to witness Mr. Shin-Soo Choo hitting a homerun in repeated appearances.

30th - Washington, DC in 2017

#30 UKC (2017) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Washington, DC

UKC 2017 was held at Hyatt Regency Hotel in Crystal City, VA near Washington DC during August 9 – 12, 2017 organized by Dr. Eun-Suk Seo, the first female president of KSEA. Over 1,000 attendees from the U.S. and Korea were welcomed by VA Governor Terence McAuliffe and State of Virginia House Member Mr. Mark Lee Keam. Congratulatory messages were given by KOFST President Dr. Myung-Ja Kim, Maryland Governor Larry Hogan congressmen Sang Jin Shin and Wonha Choi of Korean National Assembly. Plenary talks were given by Drs. John Mather, a Nobel laureate in Physics, on "Big Bang to the End of the Universe", Cherry Murray (Harvard) on "R&D Challenges in Sustainable Energy Systems" and Hongkeun Park (Harvard) on "A Hitchhiker's Guide to Nanotechnology". A panel discussion on U.S. healthcare industry was led by Drs. Jennifer Lee (US Dept. of Veterans Affairs), Seong K. Moon (OSEHRA) and Mr. Young Bang (Booz Allen). The conference was run in 12 symposiums (3 in Basic Sciences, 6 in Engineering and 3 in Health and Medical) and 22 forums.



31st - St. John's University, Queens, NY in 2018

31st - St. John's University, Queens, NY in 2018

#31 UKC (2018) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – St. John's University, Queens, NY

Unlike recent UKCs, the 2018 conference was held at St. John's University Conference Center in Queens, NY during August 1 – 4, 2018 with an opening day evening BBQ dinner and brown bag lunches with live music performance.

UKC 2018 was more industry-oriented emphasizing the 4th Industrial revolution and 5G communications and fewer academic lectures. As the first attempt, President Stephen Suh initiated a 2-day pre-UKC public lecture session for the New York region and the family members of UKC attendees but the crowd was smaller than anticipated. One other pre-UKC program launched was "*2018 Youth Science and Technology Leadership Camp*" (YSTLC) during July 27 – August 5 which included CSI experiments, tour of IBM-AI center, Harvard, MIT, Columbia, Cooper Union, NYU and CUNY. The workshop improved the youth participation to the annual UKC events.

Dr. Young Min You, Minister, Ministry of Science and ICT (MSIT), welcomed the attendees and delivered a plenary talk on the future of 5G networks in Korea. Dr. Conrado "Bobby" Gempesaw, President, St. John's University and Ron Kim, Member of the New York State Assembly, also delivered congratulatory remarks.

A plenary lecture by Dr. Sangbae Kim (MIT) on "*Robots for Physical Interactions*" entertained the crowd with his current research work. Other plenary talks by Dr. Daniel D. Lee (Cornell Tech), Woo-sung Han (OKF), Han Duk Roh (CJ), Mun Choi (Univ. of Missouri) were well received. The evening Manhattan river cruise was definitely a memorable event for those participated. There were a number of anxious moments in having a UKC in a university campus as the services normally provided by the hotel staff were nonexistent – a lesson to keep in mind for a next venture.

#32 UKC (2019) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Chicago, IL

The UKC 2019 held at Hyatt Regency O'Hare in Chicago during August 17 -17, 2019 provided a new momentum for steering the UKC more toward entrepreneurship and industry development in meeting challenges from the 4th Industrial Revolution fronts. The conference adopted theme "Smart Science, Engineering and Technologies for Livable World" and invited four plenary session speakers – Drs. Lars Peter Hansen (Univ. of Chicago, a Nobel laureate), Dennis Hong (UCLA), Duke Lee (UC Berkeley) and Mr. Arie van Gemeren (Rising Tide VC) and created "*Innovation and Entrepreneurship Symposium*" (IES) for the first time. Congressman Jong-kul Lee of Korean National Assembly delivered welcome remarks. Dr. Hansen's talk on "Uncertainty in Economics – Why Should We Care?" explained the intricate relationships among economic and statistical modeling, forecasting under uncertainty and the decision making. Talks on robotics, healthy life and entrepreneurship by the three other speakers reflected on the current societal changes and challenges. The new workshop YGPE (Young Generation Leadership Workshop) organized jointly by KSEA and KOFST had 17 participants was praised by the participants and advisors, and provided an ample room to expand in the future UKCs. The 2019 YSTLC (Youth Science and Technology Leadership Forum) which began in 2016 for 8th – 12th grade students had a 7-day program (August 11 – 17) perhaps should be regarded as a key function of KSEA to be run concurrently with UKCs in the future. The ambitious program of tours, lectures, and networking should be further explored for expansion. The new efforts by President Jun-Seok Oh to work with Korean Ministry of SME, KISED, KOSME, KDB, Korean Venture Capital Association and Hanyang University in UKC 2019 paved a way for making "Innovation and Entrepreneurship Symposium" (IES) to be a track for the start-up companies and scientists in the future.

32nd - Chicago, IL in 2019

32nd - Chicago, IL in 2019

#33 UKC (2020) – "U.S.-Korea Conference (UKC) on Science Technology and Entrepreneurship" – Virtual and Seoul (Face- to-Face)

For the first time in UKC history, the conference was run in hybrid format, virtually in U.S. due to Covid-19 pandemic and face-to-face in Seoul, Korea during December 12 – 17, 2020. All events were hybrid with the exceptions of the actual VIP reception at Grand Hyatt Seoul and three forums held there - Diplomacy Forum, University Leadership Forum and KOTI Forum. There were over 1,000 participants. There were 8 plenary session speakers – Drs.Barry C. Barish (Nobel laureate, Cal Tech), Simon Perry (UC Irvine), Chuck Sheetz (UCLA), Jeff Burke (UCLA), Sang-Kee Kweon (SungKyun

33rd - Virtual and Seoul (Face-to-Face) in 2020

Kwan Univ.), Dan Theodoresen (Cedars Sinai Cancer), Larry Kwak (City of Hope), and Tae Hee Nam (Storm Ventures). A total of 14 symposiums including IES (Innovation and Entrepreneurship Symposium) were viewed online. While the new experience with a pandemic created many challenges for KSEA, the experience gained from the hybrid conference of combining the virtual and face-to-face presentations presented a new model for drawing a large audience at minimal cost for future UKCs.

3. An "Unlisted UKC" in 1993 – Seoul, Korea
This editor decided to include the following conference held in Korea to be an important meeting to be included in this review for its historical significance.

93 World Korean Joint S&T Symposium (an Unlisted UKC) – Seoul, Korea

Of all meetings KSEA led and participated, the '93 World Korean Scientists and Engineers Joint S&T Conference,' held at Korea University campus during August 9 -14, 1993, must rank very high as there were 181 abstracts submitted by KSEA and its members, more than 50% of 358 total, delivered by 160 members [13]. The 1993 World Expo held in Daejeon was a huge incentive for a Korea visit at the time. Why and how this significant conference was not labeled as a UKC by the KSEA Council needs a debate. As a section editor, I would include this conference as significant as any other conferences held in Korea since 1974 when KSEA began the joint technical conference series with KOFST. This impact of this conference in terms of the number of KSEA members who returned to Korea immediately following the conference will not be written here for brevity. It was the last conference KSEA should treat as a UKC conference before the true "*annual KSEA conferences*" began in 1994.

Prologue and a Vision for Next 10 Years of UKC
What happened during the last 50 years is a history KSEA should cherish and be proud of. If history must evolve to a new chapter, then UKC must also change. The era of technology transfer through conferences is over. The current UKCs still facilitate recruitment of scientists for Korean businesses and universities but that is not a core value of UKCs anymore. This means the authors and contents of the papers presented at a UKC should change dramatically. While the UKC should keep a door open for young scientists and engineers to come and do networking, it may not be a forum for promoting them to prospective employers yet to be identified. Inviting Nobel laureates improves the image of UKC but the topics and contents must meet the specific objectives of the conference. Without it, it only enhances the image of the UKCs. Today's Korea and USA is far more sophisticated than most of the scientific contents of papers presented at the UKCs now.

To where should then the future UKCs evolve and expand?

The answer is to make UKC a forum for A) Exposing and presenting new theories and ideas, B) Proposing and debating new policies, and C) perform a role as the Think Tank of KSEA for the United States and Korea. It will be highly interdisciplinary as the current UKCs are but more highly focused on current global issues. For this, the presentations must be in sync with the objectives set by each UKC in different areas, and the speakers must be selected and invited more than a year ahead for the set goals. The necessary fund for this cannot be raised adequately by the president-elect of KSEA in a given year as being done now. How could then this be accomplished is an issue being debated now in proposing the "*KSEA Sejong Center for Innovation*". Once a new track is well established, it will also outperform all the functions the UKCs have done during the last 50 years. This is an evolutionary process, not based on nature, but by KSEA's unified vision. That is, the UKC in a given year should not be forged by the imagination or emphases set by the president-elect of KSEA in every year. For this the current UKC Committee has to be reimagined and given a much broader responsibility.

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[10] KSEA Letters – Vol. 37, No. 1 (2008)
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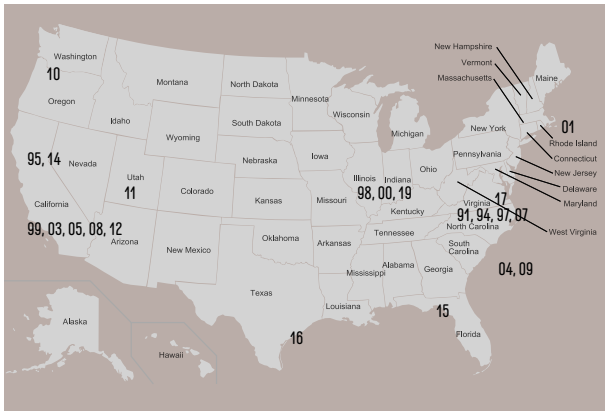
List of the Acronyms

Am Insy. of Architects : American Institute of Architects
AMT : Advanced Materials Technology
AT&T : American Telephone and Telegraph
CUNY : The City University of New York
DOE : Department of Energy
ETRI : Electronics and Telecommunications Research Institute
FST : Food Science & Technology
GE : Global Energy
GSFC : Goddard Space Flight Center
IMF : International Monetary Fund
KAIST : Korea Advanced Institute of Science and Technology
KDB : Korea Development Bank



Locations where each year's UKC happened

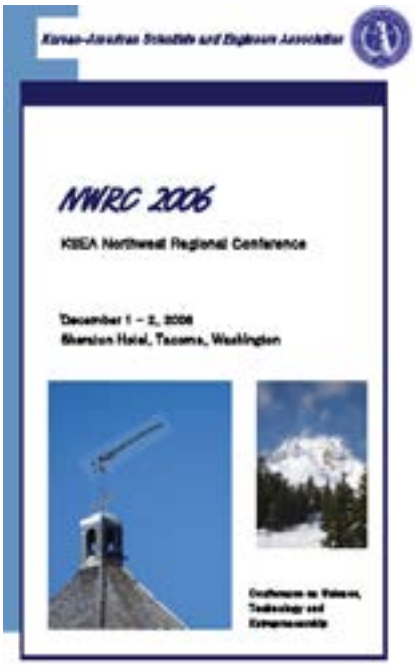
KETEP : Korean Energy Technology Evaluation and Planning Organization
KISED : Korea Institute of Startup & Entrepreneurship Development
KIST : Korea Institute of Science and Technology
KOSME : Korea SMEs and Startups Agency
MST : Microelectronics Science & Technology
NIH : National Institutes of Health
NRF : National Research Foundation of Korea
NSF : National Science Foundation
OSEHRA: Open Source Electronic Health Record Agent
OSTP : Office of Science & Technology Policy
OKF : Overseas Koreans Foundation
PCAST : President's Council of Advisors on Science and Technology
POSTECH : Pohang University of Science and Technology
PUST : Pyongyang University of Science and Technology
Qualcomm : Quality Communications
R&D : Research and Development
RTP : Research Triangle Park
SME : Small and medium-sized enterprises
SNU : Seoul National University
SUNY : The State University of New York
UNIST : Ulsan National Institute of Science and Technology
USDOT : U.S. Department of Transportation number
USPTO : United States Patent and Trademark Office

KSEA Northwest Regional Conference (NWRC)

Jae Hoon Kim
The 39th President

Goals and Missions of NWRC

KSEA Northwest Regional Conference (NWRC) was founded in 2006 by the Seattle Chapter (Formerly, Pacific Northwest Chapter) President Dr. Jae Hoon Kim (Boeing Research & Technology); the first NWRC on Bio-Nano, Communications-Information, Energy-Transportation Technologies was held in Seattle in 2006 with three (3) participating chapters: Seattle Chapter - then Seattle, WA-based Pacific Northwest Chapter (Chapter 15), Portland, OR-based Oregon Chapter (Chapter 62), and Spokane, WA-based Northwest Chapter (Chapter 57). NWRC was quickly extended to five (5) Chapters in the Pacific Northwest region that includes the Sacramento Valley Chapter (Sacramento, CA) in 2007, Silicon Valley Chapter (San Jose, CA) in 2009, then further extended to the Idaho Chapter (Boise, ID) in 2012 and Berkeley Chapter (Berkeley, CA) in 2013.



The goals and missions of KSEA Northwest Regional Conference (NWRC) are as following

1) Contribute to advancement in the emerging technology, science and engineering for US – Korea (미국과 한국의 첨단 과학 및 공학 기술 발전에 기여)

2) Exchange information in science and engineering among US and Korea (미국과 한국의 과학기술 정보교환)

3) Promote networking among Korean-American Scientists and Engineers (한인 과학 기술자들의 네트워킹 활성화)

4) Assist professional career development for young scientists and engineers (차세대 과학 기술자들을 위한 경력 개발 지원)

5) Promote collaboration among KSEA and young generation Korean-American Professional Society (KAPS) organizations including education, health, policy, and entrepreneurship (재미 한인 과학기술자협회와 차세대 한인 전문가협회의 협력 촉진)

1st NWRC (2006) – Seattle Chapter (Seattle, WA)
2nd NWRC (2007) – Oregon Chapter (Portland, OR)
3rd NWRC (2008) – Sacramento Valley Chapter (Sacramento, CA)
4th NWRC (2009) – Seattle Chapter (Seattle, WA)
5th NWRC (2010) – Oregon Chapter (Portland, OR)
6th NWRC (2011) – Silicon Valley Chapter (San Jose, CA)
7th NWRC (2012) – Sacramento Valley Chapter (Sacramento, CA)
8th NWRC (2013) – Seattle Chapter (Seattle, WA)
9th NWRC (2014) – Idaho Chapter (Boise, ID)
10th NWRC (2015) – Oregon Chapter (Portland, OR)
11th NWRC (2016) – Silicon Valley Chapter (San Jose, CA)
12th NWRC (2017) – Sacramento Valley Chapter (Sacramento, CA)
13th NWRC (2018) – N/A; in preparation of the single West Regional Conference (WRC) combined with NWRC and Southwest Regional Conference (SWRC)

1st WRC (2019) – Seattle Chapter (Seattle, WA); NWRC and SWRC merged into WRC
2nd WRC (2020) – N/A; cancelled due to COVID-19 Pandemic

NWRC was a very successful platform to provide an ideal forum for US-Korea Cooperation of Science and Technology while foster networking among scientists and engineers in both US and Korea, leveraging strong Academia, Industry, and Research Institutes in the area of emerging technologies, including bio-nano electronics, informationcommunication system, and energy-transportation technologies in the Pacific Northwest region.

Since the first conference in 2006, we have witnessed that NWRC exemplifies the true spirit of the KSEA organization

and continues to fulfill its goal and flourishing over time. With the enthusiasm and strong support by KSEA HQ and participating Chapters, we know from our experience that a successful regional conference revitalizes chapter activities and inspires members to achieve a higher level of participation.

Birth of West Regional Conference (WRC) with NWRC and SWRC

Beginning 2018, the organizing Chapters Leaders of both NWRC (Northwest regional chapters) and SWRC (Southwest regional chapters including Southern California Chapter, San Diego Chapter) discussed about combining into a single West Regional Conference (WRC). In 2019, the first West Regional Conference (WRC 2019) on Smart Science, Smart Engineering, and Smart Technology + YG Summit was hosted by the Seattle Chapter along with 9 additional KSEA Chapters and Branches on the West Coast (Berkeley, Central Oregon, Idaho, Portland Oregon, Sacramento Valley, San Diego, Silicon Valley, Southern California, and Utah).

Growth and Visions: West Regional Conference (WRC) combined with NWRC and SWRC

The 1st WRC was held on November 1-2, 2019 in Sheraton Bellevue in Bellevue, WA and attended by over 90 participants. Included in the 90 participants were about 10 YG national leaders attending the YG Summit held in parallel. WRC was supported by KSEA, Korea-U.S. Science Cooperation Center (KUSCO) and the Consulate General of Republic of Korea in Seattle.

The theme of WRC 2019 is "*Smart Science, Engineering, and Technology*" addressing challenges in Science, Technology, Engineering, and Math (STEM) to prepare for the era of the 4th Industrial Revolution (Industry 4.0). WRC welcomed new members and encouraged all participants to build professional networks through STREAM (STEM + Arts + Recreation) activities. See 1st WRC Website: https://seattle.ksea.org/nwrc.html

Chapter and Branch: WRC for Young Generation (YG) and Next Generation (NG) Members

WRC provides an opportunity for cooperation among academic, industry, and government R&D communities. Throughout the conference, participants had a great time to exchange research topics, their achievements, and recent technology trends as well as expand their research network. This in turn could help US-based KSEA members find other opportunities in research and collaboration. Overall, with the enthusiasm and strong support by the KSEA HQ and participating Chapters, we know from our experience that a successful regional conference revitalizes chapter activities and inspires members to achieve a higher level of participation.

The KSEA Northeast Regional Conference (NRC)

Kang-Wook Lee*, Kyeong Ho Yang**, and Sae Woong Park*

[1]The 37th President, [2]the 32nd NJ Chapter President and [3]the 41st NY Metro Chapter President

The Beginning

In the 1970s and 1980s when KSEA local chapters were inaugurated and young, their major activities included social meetings and picnics with regular and student members and their families and friends. Then they started organizing invited talks and symposiums. In the late 1980s, KSEA HQ and local leaders promoted a regional conference in which a large number of members in a region could participate and more papers could be presented. The Lehigh Valley, New Jersey (NJ), and Philadelphia (Phila) chapters held the Northeast Regional Conferences (NRCs) in 1988 and 1991 while the New York Metropolitan (NY Metro) chapter organized its own technical and career symposiums in 1989, 1990, and 1991. Each of these conferences made good use of the geodemography of her region, especially in the metropolitan NY region, with a strong relationship with sponsoring Korean companies, and in the other region with emphasis more on the technical aspect. During NRC1991, the leaders on both sides discussed on how to create the best breed of the two regional strengths. Consequently, the four chapters agreed to organize a joint conference from 1992 and the subsequently held NRC1992 was named "*the third Northeast Regional Conference.*" Its Bylaws were amended in 1995, and the abbreviation "NRC" has also been used since 1995.

The first NRC was held in Lehigh University on Nov. 5, 1988 and 33 papers were presented. Many dignitaries including KSEA President Dr. Kwang Kuk Koh and Ambassador Ro Myung Gong of the Consulate General of the Republic of Korea in NY (**Fig. 1a**) attended the banquet ceremony. Its conference chairs were Drs. Yong Wook Kim (Lehigh Valley), Timothy Haahs (Phila), and Kenneth Kun-E Park (NJ) and its program chair was Dr. Inseok S. Hwang (Lehigh Valley). A keynote address was delivered by Prof. Nam Pyo Suh of MIT. Three years later the second NRC was also held in Lehigh University (**Fig. 1b**).

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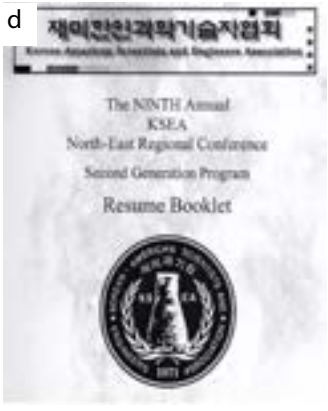

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Fig. 1
(a) Banquet speaker Ambassador Ro Myung Gong of the Consulate General of the Republic of Korea in New York at the first NRC in November 1988, (b) The attendees of the 2nd NRC in 1991, (c) Organizing committee of NRC 1995 which was the largest NRC in terms of the number of papers, attendance, and fund-raising, and (d) The cover of the NRC1998 2nd Generation Program Resume Booklet. Approximately 150 students participated in this YG program.

The NRC blossomed quickly with the joint participation of the four chapters (Lehigh Valley, NJ, NY Metro, and Phila) in 1992. A 6-page article about the 3rd NRC (first four-chapter joint NRC) was featured in the NY Metro Newsletter contributed by Prof. Myung Jong Lee (then program chair), serving not only as a testimonial of the state of the joint conference but also including suggestions for the future. The article reported that (i) the first steering committee, the highest decision-making body, was formed for the 3rd NRC, (ii) various committees were comprised mainly of the four-chapter officers, (iii) emails were used probably for the first time for a KSEA technical conference, and (iv) 8 Korean companies and institutions sponsored the conference. In the same article, Prof. Lee suggested: (a) a 2-day conference to include a banquet and to increase the number of presentations, (b) publication of extended abstracts or papers, (c) setting up sponsor booths to help the sponsors to recruit, and (d) enhanced use of email communications. Accordingly, the publication of conference proceedings started in 1994, and most other suggestions were finally implemented into NRC 1995, a successful conference with several records still unbroken: 91 paper presentations, a huge successful Friday banquet, 14 sponsor booths, and approximately 300 attendees including members, YG students, sponsors, the invited speakers, and the press. The teamwork among the four-chapter officers during the several-month preparation period was excellent (its major organizers are shown in **Fig. 1c**).

KSEA's First Annual Technical Conference That Has Lasted 30 Years

From the 2nd NRC in 1991, it became an annual technical conference which has been held every year till today except one year when it was skipped to focus on preparing the US-Korea Conference (UKC) 2006 which was the first UKC held in the NY Metropolitan area. The conference hosted by the NJ and NY Metro chapters in 2002 was not named an NRC since it was held outside the venue region (Ocean City, MD) defined by the Bylaws, but it was definitely an annual conference with more focus on networking and friendship. The NRC is the KSEA's first annual technical conference with consistently greater than 150 attendees as the HQ annual conference started three years later in the fall of 1994. That may be why this conference was sometimes called "the Annual KSEA NRC". It is believed that the successful NRCs organized by the four chapters in 1992-1995 in terms of attendance (greater than 150), number of papers (50-90), and fund-raising from Korean industries (8-14 companies or institutions) had motivated the HQ to organize its annual technical conference. From 1994 to 1996, more technical papers were presented at NRC than at UKC. KSEA Presidents, President-Elects (PEs), VPs, and/or PE candidates attended the NRCs in the 1990s. But as the HQ's UKC became quite successful and could get larger funding from Korean industries, the size of NRC gradually decreased in the 2000s but still maintained with more than 100 attendees each year.

Fig. 2 Photos from the 25th NRC in 2016: (a) Group photo of the attendees, (b) History session where many senior members and NJ/NY Metro former CPs can be seen, and (c) Welcoming address of Prof. Myung Jong Lee who was the 42nd President of KSEA and a co-chair of the 5th NRC

Various Formats and Characteristics of NRCs

Publication of conference proceedings with papers was intended from the beginning but it took several years to make it a reality. A 436-page proceedings book was first published in 1994 and distributed to the conference attendees. It included 70 papers on 411 pages and 12-page advertisements (12 sponsors, a page per each ad). The first five NRCs were held on Saturdays. As the conference was getting more papers, attendances, and funds, a longer duration became desirable as also previously suggested. From the 6th NRC to the 9th, the format included a Friday banquet where the conference could promote networking and friendship, one of the KSEA purposes, and more talks could be accommodated as it started early Saturday morning.

In late 1998, there was a financial crisis in Korea, the government of which had to borrow a large fund from the IMF. As industries were squeezing their budgets, KSEA HQ and chapters had difficulties in raising funds. Consequently, the NRC organizing committee had to reduce its scale, and the 10th NRC in 1999 became a one-day conference and the number of papers decreased to 33 from 60 in 1998. As Korea started recovering from the IMF period, the NRC came back quickly to the previous two-day format in 2000. The number of the organizing chapters decreased from four to three in 1998 and then to two (NJ and NY Metro) since two other chapters did not have volunteers to take leadership roles.

The 10 NRCs from 2005 to 2015 were organized by the NJ and NY Metro chapters and the Korean American Society in Biotech and Pharmaceuticals (KASBP). The latter was formed in the NJ area in 2004 and its President was Dr. Young-Whan Park when it first became a co-organizer of the NRC. As the KASBP expanded its presence by forming local chapters outside the NRC region, the KASBP decided to organize its own symposiums, separately from the NRC, starting from 2016. Shortly after the KASBP's decision of the separation in 2016, to make the NRC sustainable without KASBP, the NJ and NY Metro chapters invited back the Phila chapter as an organizing chapter and recruited four Korean-American professional organizations in the region to support and participate in the NRC. They are the Korean-American Innovative Technology Engineers and Entrepreneurs (KITEE), the Korean-American Women in Science and Engineering (KWiSE), the NY Korean Biologists (NYKB), and the Philadelphia Korean Scholars Association (PKSA). All these organizations except the PKSA are also KSEA APSs. The NRC attendance has been steady in the range of 100-140 since 2016.

For a total of five years, the annual conferences had been held in resorts: Ocean City, MD in 2002; Swan Lake, NY in 2003; Tamiment Resort, Pocono, PA in 2004; Nevele Grande Resort, Ellenville, NY in 2005 and Woodloch Pines Resort, Hawley, PA in 2007. The format of starting Friday afternoon and ending Saturday was similar to that in 1995-1998 except that more spouses and children attended the resort conferences in which outdoor networking activities were popular. The 3-day 2002 conference in MD was named "*KSEA NEWS 2002*" instead of an NRC since its venue was not in the region defined by the Bylaws. This was the only 3-day annual conference.

Fig. 3 (a) A virtual group photo during the closing session of the 29th NRC 2020 Virtual
(b) YG session during the 26th NRC in 2017 at NJIT. YGs met with experts in various fields to seek advices and discussed career developments
(c) After the first Entrepreneurship Forum hosted by KITEE during NRC 2016
(d) KWiSE members during NRC 2016

As the COVID-19 pandemic was getting obvious to the NRC organizers in Feb 2020 (WHO declared the pandemic in the middle of March), the organizing committee seriously considered canceling the NRC but decided to hold it with an online format (Webinar). Taking advantage of the inherent characteristic of online conferences, the 29th NRC attracted a total of 143 participants from the diverse geographical areas who enjoyed two plenary sessions and four parallel technical sessions (**Fig. 3a**). The virtual NRC was an enormous success and further heightened its reputation in providing a social platform for fostering the professional development and networking of the KSEA members. The 29th NRC was the very first virtual conference hosted by any KSEA community. After the NRC, the committee shared its experience of the online conference with other KSEA groups some of which subsequently hosted their own online conferences and events in April and May including the KSEA Special Forum on COVID-19 and the KSEA Science Concert Series.

In 2019 and 2020, the NRC organizing chapters had strengthened the NRC structures by (1) amending the Bylaws (the last amendment was made in 1995) to reflect the current practices and environment, (2) reforming the NRC Steering Committee (NSC) which is the highest decision-making body, (3) managing the NRC financials and accounting independently from the organizing chapters, and (4) making the NRC management structure clearer and cleaner. It is hoped that this restructuring can make the next 30 NRCs sustainable.

The 30th NRC was held in NJ on April 2-3, 2021 with a hybrid format: virtual sessions and a small in-person meeting.

Young Generation and Young Professional Programs

YG Undergraduate Program in 1996-1998

The first large-scale Young Generation (YG) activity was organized and held during NRC1996 with approximately 60 Korean-American undergraduate students (organizers: Prof. Ken T. Park, Lehigh Univ and Dr. Kang-Wook Lee, IBM). There were three invited speakers including Mrs. Shin Ae Chun, Director of Illinois State Labor Dept.

In 1997, approximately 100 undergraduate students attended the YG conference, 14 technical posters were presented by the students from 7 colleges, and the invited speakers were Prof. Moon Won Suh, North Carolina State Univ & the 23rd President of KSEA; Dr. Yo-Sung Cho, CEO of Integrated Network Corp; Prof. Inyong Ham, Penn State Univ & the 3rd President of KSEA; and Prof. Ilpyong Kim, Univ. of Connecticut. During the KSEA annual technical conference (later named UKC) in February 1997, Dr. Kang-Wook Lee wrote a hand-written proposal to KUSCO upon the arrangement & encouragement of Prof. Kiuck Lee, the 2nd President of KSEA which resulted in KUSCO's support for the NRC1997 YG program with a fund of $5,000. This was the very first support of KUSCO for any YG activity in its history.

In 1998, approximately 150 undergraduate students attended this YG activity. The invited speakers were Dr. Yoon Soo Park, Office of Naval Research; Dr. Wooyoung Lee, Mobil Edison Research; Dr. Young Woo Kang, Vice Chair of World Committee on Disabilities; Prof. Chan Il Chung, RPI; Dr. Jeong Kim, Founder and CEO of Yurie Systems. A resume booklet that included 27 resumes from 6 different college majors was published as shown in **Fig. 1d**.

It is noteworthy that KSEA HQ (President Kyong Chul Chun) with Kang-Wook Lee's help submitted a proposal of YG activity to KUSCO in 1998 which subsequently decided to support only the HQ with a larger fund than that for the regional program. This move made HQ's YG activities possible and later the YG program was eventually developed to the KSEA Young Generation Technical and Leadership Conference (YGTLC, also known as Ygnite) in 2005. The first large-scale YG activity hosted by the HQ in 1999 was called YG Leadership Forum (YGLF) to which many of the 1996-1998 NRC YG speakers were invited.

Young Generation and Young Professional Sessions since 2014

A young professional session was organized at the NRC in 2014. In 2014, the NJ chapter initiated a YG chapter and many YGs (about 20% of the total attendees) participated in the NRC. They also created their own sessions which were led by Dahea Diana You and Sahee Kim, and the YG session continued in the following years. To promote the participation of YG members, the NRC expanded its poster session to the early-stage professionals including graduate students to whom more opportunities of presenting and sharing their achievements were given (**Fig. 3b**). Also, since 2018, the NRC has been awarding scholarships with the generous support of the Andrew Kim Memorial Foundation.

Special Forums

As previously mentioned, in 2016 the NRC organizing committee invited four Korean-American professional organizations (KITEE, KWiSE, NYKB, and PKSA) located in the region to participate and organize special forums in the NRC. As of 2021, there have been three forums as discussed below.

Bio and Pharm Science Forum

The Bio & Pharm Science forum has been co-organized by NYKB and PKSA since 2016. The forum has covered the latest trends of the scientific community in the form of seminars to which more than 20 speakers have been invited for the last five NRCs. The first forum was co-organized by Drs. Hyun Jae Pi and Yune-Sang Lee who were the representatives of NYKB and PKSA, respectively.

Entrepreneurship Forum

The Entrepreneurship forum was held for the first time at NRC2016 to promote the entrepreneurship of Korean-American scientists, engineers, and students studying engineering and science. It has been organized by the KITEE annually since 2016. The first forum's chair was Dr. Kyeong Ho Yang who was the conference chair of the 14th NRC in 2004. The KITEE also hosted the NRC/KITEE Startup Pitch Competition twice in 2018 and 2019 to encourage KSEA members to pursue building a promising startup. The attendees in the first forum can be seen in **Fig. 3c**.

KWiSE Forum

The KWiSE forum has been hosted twice in 2016 and 2020 by the KWiSE NY/NJ Chapter (1) to establish and strengthen the networking among Korean-American women scientists and engineers, (2) to provide an opportunity for collaboration and career development, and (3) to promote an international cooperation between the US and Korea. Their Chapter Presidents were the forum organizers: Drs. Yeon Bai and HeaYeon Lee in 2016 and 2020, respectively. The attendees in the first forum can be seen in **Fig. 3d**.

Fig. 4 Golf used to be the most popular outdoor networking activity in the resort conferences from 2002 to 2007 and in the conferences co-organized with the KASBP from 2008 to 2015. This photo was taken in May 2006 when the outing was separately organized since the NRC was cancelled to focus on the preparation of UKC 2006 in Teaneck, NJ. Drs. Kun-E Park (with sunglasses) and Dong Sung Suk (with green shirts), who can be seen in the middle left, were the 1st and the 3rd NRC chair, respectively. Dr. Jayoung Koo (front row, first left) is a senior member and a former NJ CP

Table 1. NRC Dates, Venues, and Chairs (next page)

#Listed conference chairs first and then steering committee chairs with the same order as in the proceedings or other records.

*In **2002**, the conference was held in Ocean City, MD for 3 days to further promote networking and friendship. Since the venue of NRC was defined as the middle region of the four chapters in the NRC Bylaws and this geographical location did not belong to the defined region, the conference organizers named the 3-day conference "*KSEA Northeast Workshop* & *Special Event (NEWS) 2002*" instead of an NRC. But it was still considered an annual conference. It is noteworthy to mention it in this NRC history.

In early **2006, most NY Metro and NJ chapter officers were involved in the preparation of UKC 2006 which was scheduled to be held in Teaneck, NJ. In the meantime, Lehigh Valley and Philadelphia chapters were inactive. Since it was extremely difficult for the same members to spend lots of their time and efforts in the two conferences in a few months apart, it was decided to skip the NRC so that a more successful UKC 2006 could be organized.

No.	Date	Venue	Organizing chapters or APS	Conference & steering commitee chairs #	Program chairs
1	1988.11.05	Lehigh Univ	Lehigh Valley, Phila, and NJ	Yong Wook Kim, Timothy Haahs, Kenneth Kun-E Park	Inseok S. Hwang
2	1991.05.18	Lehigh Univ	Lehigh Valley, Phila, and NJ		
3	1992.02.29	Stevens Inst Tech	Lehigh Valley, Phila, NJ and NY Metro	Dong Sung Suk, Byung Joon Han	Myung Jong Lee
4	1993.04.17	Stevens Inst Tech	Lehigh Valley, Phila, NJ and NY Metro	Yeon-Tae Jung, Yang Chang	Myung Jong Lee, Keon Moo Lee
5	1994.04.30	Stevens Inst Tech	Lehigh Valley, Phila, NJ and NY Metro	Keon Moo Lee, Myung Jong Lee, Jin-Young Choi, Taeho Kook	Albert Hanyong Yuhan
6	1995.03.10-03.11	Rutgers Univ	Lehigh Valley, Phila, NJ and NY Metro	Daniel Hong, Joong Bin Lee, Kang-Wook Lee	Chee-Hark Harn, Jin-Young Choi
7	1996.03.22-03.23	Rutgers Univ	Lehigh Valley, Phila, NJ and NY Metro	Ki won Lee, Hyun Lee, Chee Hark Harn, Il Yeol Song	Seung Pil Kim, John K Ahn, Hyun Jong Shin
8	1997.03.21-03.22	Rutgers Univ	Lehigh Valley, Phila, NJ and NY Metro	Young Si Kim, John K Ahn, Kenneth Park, Seung Pil Kim	QB Chung, Seong Cheol Kim
9	1998.03.06-03.07	Rutgers Univ	Lehigh Valley, Phila, NJ and NY Metro	Dong-Woo Yu, Seong Cheol Kim, Insup Lee	Jong-Deok Choi, Hong-Yang Chung
10	1994.04.17	Stevens Inst Tech	NJ and NY Metro	Hong-Yang Chung, Jong-Deok Choi	Jae-Soo Kim, Hyun Park
11	2000.04.14-04.15	Hilton Hotel, Fort Lee, NJ	NJ and NY Metro	Steven Kim, Jae Soo Kim	
12	2001.04.13-04.14	Hilton Hotel, Fort Lee, NJ	NJ, NYMetro, New England, Phila and Lehigh	Yong Seok Park, Hyun Park	Jun S. Hong, Younglok Kim
13	2003.05.09-05.10	Swan Lake in NY	NJ and NY Metro	Kangil Choe, Jae Hong Kim	Sunghoon Kim, Kyeong Ho Yang
14	2004.05.21-05.22	Tamiment Resort Hotel, Pocono, Phila	NJ and NY Metro	Kyeong Ho Yang, Sunghoon Kim	Chang H. Kim, Sung Hoon Choi
15	2005.05.20-05.21	Nevele Grande Resort, Ellenville, NY	NJ, NY Metro & KASBP	Chang H. Kim, Young-Whan Park, Sung Hoon Choi	Jeong Seop Shim
16	2007.05.04-05.05	Woodloch Pines Resort, Hawley, Phila	NJ, NY Metro & KASBP	Yong-Seok Yoon, Young-Choon Moon, Sung-Hyuk Cha	Hong-Yong Kim
17	2008.06.13-06.14	Double Tree, Somerset, NJ	NJ, NY Metro & KASBP	Young-Choon Moon, Seongwon Kim, Hong-Yong Kim	Minkyu Lee
18	2009.05.15-05.16	Double Tree, Somerset, NJ	NJ, NY Metro & KASBP	Minkyu Lee, Seung Hyuk Shin, Hak-Myung Lee	Heechang Kim, Seongkon Kim
19	2010.04.30-05.01	Double Tree, Somerset, NJ	NJ, NY Metro & KASBP	Hak-Myung Lee, Young-Choon Moon, Il Park	Heechang Kim, Sungtaek Lim
20	2011.06.24-06.25	Crown Plaza Hotel, Edison, NJ	NJ, NY Metro & KASBP	Heechang Kim, Seogjoo Jang, Sungtaek Lim	Hong-Yong Kim, Yong-Hae Han
21	2012.06.15-06.16	Double Tree Hilton, Fort Lee, NJ	NJ, NY Metro & KASBP	Jaesik Lee, Jun Ho Shin, Yong-Hae Han	JaeYoung Kwak, Nakyen Choy, Bongjun Ko
22	2013.06.07-06.08	Sheraton Hotel, Edison, NJ	NJ, NY Metro & KASBP	Jaesik Lee, Bongjun Ko, Yong-Hae Han	Jaeyoung Kwak, Nakyen Choy
23	2014.06.06-06.07	Sheraton Hotel, Edison, NJ	NJ, NY Metro & KASBP	Yun H. Choe, K. Stephen Suh, Jae-Hun Kim	Youngsun Kim, Chang-Sun Lee, Seungjoon Lee
24	2015.06.12-06.13	Sheraton Hotel, Edison, NJ	NJ, NY Metro & KASBP	Jaeyoung Kwak, K. Stephen Suh, Youngsun Kim	Jae Uk Jeong, Jaewon Kang
25	2016.04.30	Crowne Plaza, Englewood, NJ	NJ, NY Metro & Phila	Youngsun Kim, Sae Woong Park, Moses Noh	Eon Soo Lee, Moses Noh
26	2017.04.29	NJ Institute of Technology, Newark, NJ	NJ, NY Metro & Phila	Eon Soo Lee, Jaewon Kang, Moses Noh	Young-Jin Kim
27	2018.03.24	Montclair State Univ, Montclair, NJ	NJ, NY Metro & Phila	Young-Jin Kim, Min Suk Kang, Moses Noh	Nakjung Choi, Ohbong Kwon
28	2019.03.23	Montclair State Univ, Montclair, NJ	NJ, NY Metro & Phila	Ohbong Kwon, Nakjung Choi, Albert Kim	Ju-Hyun Lee, Young Jin Kim
29	2020.03.28	Online (Zoom)	NJ, NY Metro & Phila	Kooksang Moon, Ju-Hyun Lee, Albert Kim, Myung Jong Lee (NSC)	Yeonkyung Bai, Eon Soo Lee
30	2021.04.02-04.03	Online + Gayeon, Fort Lee, NJ	NJ, NY Metro & Phila	Albert Kim, Eunju Im, Kyeong Ho Yang (NSC)	Kooksang Moon

KSEA's Roles for Korea as an Equal Partner to the U.S.

Jaehoon Yu
The 45th President

Throughout the past half century, KSEA has been playing foundational and essential roles to the rapid development and solid establishment of Korean science and engineering. Korea now has firmly taken its leadership position in the world stage and starts playing its role as a benefactor rather than a beneficiary in the world, as an equal partner to the U.S. and other countries. In addition, the KSEA demographics has also been changing dramatically, from 1st generation dominant to 1.5th, 2nd and 3rd generation Korean-American dominant. These changes necessarily require drastically different approaches for KSEA to be more effective in working with Korean entities, effectively bridging the U.S. and Korea and serving our members for their benefits.

In this regard, KSEA's role for Korea must also change to be more effective and helpful for strengthening the statures of Korea and its science and engineering. For this, two major efforts have been initiated and continued since mid 2010s, the Science Diplomacy Forum and the US-Korea Congressional Forum.

Science Diplomacy Forum

The Science Diplomacy Forum (SDF) was incorporated as part of the UKC program in 2015 in partnership with KOFAC (Korea Foundation for Advancement of Science and Creativity) and the then director, professor Seunghwan Kim, professor of physics at Pohang Institute for Science and Technology. The original main goals of the forum were to use various science topics to promote borderless diplomacy, closely working with AAAS (American Association for the Advancement of Science) and to use these collaborations for opening and working with scientists from North Korea in preparation for an eventual unification and lasting peace in the Korean Peninsula. Chancellor professor Chan-Mo Park, the 13th president of KSEA has been playing essential roles in the North Korea related matters.

Since its inception forum in 2015, SDF has continued every year as an integral part of the UKC, organized by professor Seunghwan Kim and the 45th KSEA president professor Jaehoon Yu. While further progress toward inviting NK scientists was made every year at a glacial speed, in February 2019, upon the then U.S. president's friendly gesture toward NK, the 13th president Chan-Mo Park, then KSEA president Jun-Seok Oh, the 45th president Jaehoon Yu and Professor Seunghwan Kim met with a former U.S. State Department official on NK matter at the National AAAS general meeting in Washington D.C. and discussed the strategy to finally accomplish the goal of inviting a handful of NK scientists to UKC 2019. Unfortunately, this effort had to be abandoned shortly after the due to the 180 degree turn of the U.S. policy toward NK and the subsequent prohibition of U.S. citizens' travel to NK.

The painful experience with pursuing the original goals with NK scientists and the COVID-19 pandemic provided a new opportunity for SDF to refocus its efforts and transform itself to play a role in bringing U.S. and Korean scientists and science policy makers together for the good of the world, expanding its scope. The UKC 2020 SDF was on zoom but had successfully recruited heavy weight panel members, including Dr. Eric Goosby of U.C. San Francisco medical school, who later became a member of Biden COVID-19 advisory board member, professor Youngmee Jee, the Special Advisor to Korean Prime Minister in Health and a Special Representative for health Diplomacy of Korea Foundation Dr. Jerome Kim, the director general of International Vaccine Institute, professor Michael Reid of UCSF, director Keeyong

Chung of MOFA, Korea and director Hee Kwon Jung of MSIT, Korea. An important change to the forum was implemented in the SDF to ensure the outcome of the discussions at the panel session was properly followed up with governmental policies that can be beneficial for U.S. and Korea to collaborate closely together in final defeat of COVID-19 and the preparation of the next pandemic. This successful forum was promised to be followed up at the SDF in UKC 2021.

U.S.-Korea Congressional Science Policy Forum

One of the most important and beneficial roles KSEA and its members can play is to ensure the close collaboration in science and engineering between the two countries. In addition, the philosophy of the 45th president professor Jaehoon Yu who initiated the U.S.-Korea Congressional Science Polity Forum is that scientists must play prominent roles in determining the science polity by deeply engaged in the policy making. The starting point of such engagement is to actively interact with the relevant elected representatives locally and at the federal level. Finally, providing an opportunity to U.S. Congress and Senate members to interact with Korean counterparts would promote close relationship between the policy makers from the two countries and learn from each other in preparation for future.

Fig. 1 A photograph taken at the visit to U.S. Representative Joe Barton's office in Washington DC. From left, VP1 Dr. K. Stephen Suh, Administrative Manager Ms. Euna Yun, congressional assistant to Mr. Barton, Ms. Stephanie Thompson, the Honorable Representative Mr. Barton, 45th president Dr. Jaehoon Yu, 45th PE and 46th president Dr. Eunsuk Seo and then headquarter operations manager Dr. Steven An

To accomplish this goal, FP Yu proposed and organized U.S.-Korea Congressional Science Polity Forum, leveraging his services to the community as a member of Citizens' Advisory Committee member to U.S. Representative Joe Barton. Following the first in KSEA congratulatory speech by the U.S. Representative Barton, FP Yu has visited Barton's office in Washington DC, see photo taken at the visit in **Fig. 1**, and obtained promise of cooperation from Barton's office. The inaugural US-Korea Congressional panel was held August 9, 2017, during UKC 2017, moderated by FP Yu. The panel was the forum for the US-Korea National Policy on 4th Industrial Revolution.

The panel consisted of five members – Dr. Rush Holt, an eight term U.S. Congressman, who was the elected president of American Association for the Advancement of Science, Tim Hwang the Founder and CEO of FiscalNote, Mr. Mark Keam a 4 term member of Virginia House of Delegates, Dr. Won-ho Choi, the director general of International Cooperation Bureau, Ministry of Science, ICT and Future Planning, Dr. Saeyoung Ahn advisor to KSEA 4IR Committee and the 25th president of KSEA and honorable Dr. Sang Jin Shin, the Chairman of the Korean National Assembly Oversight Committee on Mistry of Science, IT and Technology. Despite the tremendous efforts to invite then current U.S. Congressional members, contacting over 25 representatives and senators, given the timing of UKC 2017 held in August, their availabilities were limited.

The primary topic discussed in this forum were the U.S.-Korea National Policies to promote and support the 4th industrial revolution. The panel discussion will include the very definition of an "*Industrial Revolution*", the potential areas of technology that can trigger the 4th Industrial Revolution, the direction of national policies in the U.S. and Korea to promote and support such a revolution, and the national policies to train human resources in a timely fashion in preparation for such a revolution. The perceived ideal outcome of this panel would be to learn from each country's congressional members their thoughts and to work together in a strong partnership ushering in and shaping the 4th Industrial Revolution.

One of the most important conclusions from the session was to prepare science policy to ensure the meaningful contributions of the members of society via training them to catch up with the rapidly evolving technological advances. This became apparent and floated to the surface quickly, due to the rapid and accelerated integration of technologies into everyday lives due to COVID-19 in 2020 through 2021. The 4th Industrial Revolution had reigned upon us much earlier than anticipated. KSEA mush take this opportunity and play an essential role not only to bridge the U.S. and Korea but also to help U.S. society itself in training the members of the society.

Fig. 2 A photograph taken after the 1st US-Korea Congressional Panel Discussion. From left, Dr. Seunghwan Kim, Dr. Chan-Mo Park, Dr. Jaehoon Yu – Moderator, Hon. Kyung Jin Kim – Korean National Assembly, Dr. Sae Young Ahn, Del. Mark Keam – VA State House, Mr. Tim Hwang, Dr. Rush Holt – the CEO of AAAS and Hon. Dr. Won-Ho Choi of Korean Ministry of Science and ICT

Expanding Funding Sources and Direct Collaborations to U.S. Entities

To overcome the immediate financial difficulties the 45th administration faced due to self-inflicted wound and to prepare for future stability of the funds, the administration worked on expanding financial supports to U.S. entities. The 45th administration showed some successes in raising funds from U.S. entities. Good examples are the $30,000 cash contribution from University of Texas at Arlington and $5,000 cash contribution from the University of North Texas to UKC 2016. These were the first ever from U.S. Universities for making such large cash contributions and demonstration of the potential for diversification of supports to U.S. entities.

In addition, a memorandum of understanding for cooperation was signed between KSEA and the University of Texas at Arlington in order to broaden opportunities for KSEA to be integrated into the fabric of U.S. society and for diversified funding sources into the U.S. the recognition of KSEA beyond Korean community. Another MOU initiated at the 45th administration was with National Association of STEM Teachers (NAST) to expand KSEA's scope not only to the ensure excellence in each member's research leadership but also to education of the young generation within the U.S. KSEA must continue expanding and diversifying our working relationships with many more entities both in the U.S. and in Korea. In this regard, it must also work closely with other Korean-American entities, including the Korean Societies in various regions. It is a mission of KSEA's to bring science and technology closer to the general public, and these Korean Societies, churches and Korean schools must be at the frontline, in addition to diving directly into the U.S. general public.

In conclusion, the three initiatives discussed in this section are good examples for expanding KSEA's scope to transform its role to prepare itself properly for the member demographic changes and the change of Korean Science and Engineering. These must not only be kept up but also to continue to expand for KSEA to be an organization of excellence in science and engineering, that is sought after.

Chapter 5

Contributions in Academics

- Working Together by Korean-American Scientists and Engineers Association (KSEA) and Korean-American University Professors Association (KAUPA)
- Distinguished Korean-American Scientists and Engineers who Support KSEA and KAUPA Activities
- What did KSEA do to physics? What did physics do to KSEA?
- KSEA's Contribution to Korean Professional Societies - Computer Science and Engineering Area
- KSEA Contribution to Computer Science and Engineering
- Data Science at the US-Korea Conference
- KSEA Members' Contribution to Polymer Science & Engineering Field
- My Experience with KSEA and Its Positive Impact on Research Program
- My Global Research Journey and KSEA: Telecommunications Service Management
- Enriching Faculty Academic Career by and for KSEA

Working Together by Korean-American Scientists and Engineers Association (KSEA) and Korean-American University Professors Association (KAUPA)

Kang-Won Wayne Lee

The 36th President

When founders of Korean-American University Professors Association (KAUPA) gathered at James Madison University in Virginia on October 12, 1985 (Chairman: Prof. Seoung Hyong Lee of Appalachian State University and Vice Chairs: Prof. Indal Choi and Prof. Euihang Shin) and later agreed to incorporate KAUPA at the University of South Carolina on May 16, 1986, one can only wonder if they dreamed of the significance and long-lasting impact their actions would have. Since then, KAUPA has grown to more than 5,000 members over 34 years, and has engaged in various opportunities to encourage and facilitate academic research and scholarly cooperation among members; to facilitate academic and social exchanges of scholars between North America and Korea; to sponsor programs for its members and Korean-Americans (K-As); and to promote the application of academic realm for the general welfare of society with other organizations, especially Korean-American Scientists and Engineers Association (KSEA). KAUPA have published its directories every 3 to 4 years and signed a significant number of Memoranda of Understanding (MOU) with various educational agencies. It is my pleasure and honor to summarize how KSEA and KAUPA has been working together to pursue their visions to celebrate KSEA's 50th anniversary below.

1st Administration (1986-88)
(President: Prof. Seong Hyong Lee of Appalachian State University)

The KAUPA Bylaws were adopted on May 16, 1986 and members of Executive Committee (EC) including VP Tae-Whan Kwak and Yun Kim were elected. Eight chapters and nine professional groups were established. KAUPA and the Far East Institute of Kyungnam University organized the 1st Academic Conference at Atlanta Agimon Motor Inn with the theme of "*Korean-Americans in North America*" on October 2-4, 1987. The 2nd Academic Conference was held at Los Angeles Rotex Plaza Hotel with the theme of "Re-lighting of 40 years' Relationship between Korea and the US", on December 2–4, 1988 with the sponsorship of Ministry of Foreign Affairs, US Branch of Hankook Ilbo, and US Branch of Hyundae Automobile, etc. Profs. Seong Hyong Lee and Tae-Hwan Kwak co-edited a publication, "*Koreans in North America: New Perspectives*" through Kyungnam University Press, in Seoul, in 1988.

2nd Administration (1989-90)
(President: Prof. Tae-Hwan Kwak of Eastern Kentucky University)

Eight chapters (Canada, East, Central Atlantic, Southeast, Southwest, Midwest, Rocky Mountain, and West) and nine professional groups were continued. KAUPA and the US Branch of Hankook Ilbo organized the 3rd Academic Conference at Los Angeles Rotex Plaza Hotel with the theme of "*Present and Future of Korean Communities in the US*" on November 3-5, 1989. The 4th Academic Conference was held at Honolulu East-West Center with the theme of "*Social, Economic, and Cultural Influences of Unification*," on November 17 to December 1, 1990 with the sponsorship of US Branch of Hankook Ilbo, etc. Profs. Tae-Hwan Kwak and Seong Hyong Lee co-edited another publication, "*Forty Years of Korea-U.S. Relations 1948-1988: a Reappraisal*", both in English and Korean through Kyunghee University Press in Seoul in 1990.

3rd Administration (1991-92)
(President: Prof. Yun Kim of Utah State University)

Eight new chapters and nine professional groups (Humanities, Social Science, Education, Economy and Commerce, Fine Arts & Literature, Science & Technologies, Law & Ethics, International Affairs and Journalism & Publication) were established. Profs.Tae-Hwan Kwak and Seong Hyong Lee co-edited "*The Korean-American Community: Present and Future*", through Kyungnam University Press in Seoul in 1991.

4th Administration (1993-94)
(President: Prof. Eui Hang Shin of University of South Carolina)

Eight chapters and nine professional groups were continued in the 4th administration. The 5th Academic Conference was held at Atlanta Marriot with the theme of "*Korea and World – New Strategies for Globalization, National Integration and Prosperity*", on October 21-23, 1994 with the sponsorship of Jiro Group, Daewoo Group and International Exchange Foundation, etc.

5th Administration (1995-96)
(President: Prof. Ki-Hyon Kim of North Carolina Central University)

Prof. Hae Soo Oh of University of North Carolina - Charlotte served as Executive Director. KAUPA and Kookmin University organized the 6th Academic Conference at Seoul Tower Hotel with the theme of "*Korea and World Society – Past, Present and Future*", on November 1-4, 1995. Profs. Yun Kim and Eui Hang Shin co-edited, "*Toward a Unified Korea: Social, Economic, Political, and Cultural Impacts of the Reunification of North and South Korea*", through Center for Asian Studies, The Richard A. Walker Institute of International Studies, University of South Carolina, Columbia, South Carolina in 1995. Profs. Eui Hang Shin and Yun Kim co-edited, "*Korea and The World: Strategies for Globalization*," though The Richard L. Walker Institute of International Studies, University of South Carolina, Columbia, SC in 1995. The first directory of Korean-American University Professors was published in 1996.

6th Administration (1997-98)
(President: Prof. Youn-Suk Kim of New Jersey Kean University)

Prof. Hae Soo Oh of University of North Carolina - Charlotte continued serving as Executive Director. The 7th Academic Conference was held at Hilton Hotel, Arrington, VA with the theme of "*The 21st Century Vision of Korea and the US: Cooperation and Transfer of Science and Technologies*," on September 26-27, 1997 with the sponsorship of International Exchange Foundation, Daewoo Group, Korean Federation of Science & Technology Societies (KOFST), Korea Science and Technology Foundation, Korea Institute of Strategies, and Suncheon National Univ., etc. KAUPA/GIST Academic Conference was also held at Gwangju Institute of Science and Technology (GIST) with the theme of "*Industrial Completeness for Globalization,*" on November 27-28, 1998 with sponsorship of Korea Electric Power Corporation (KEPCO), International Exchange Foundation, Hyundai Automobile, Keumho Tire, Samsung Electronics, and Lucky Group.

7th Administration (1999-2000)
(President: Prof. Hang Yul Rhee of West Virginia Shepherd University)

Prof. Jungho Kim of University of Maryland served as Financial Director, Prof. Hae Soo Oh of University of North Carolina-Charlotte continued serving as Publication Director, and Prof. Ki-Hyon Kim of North Carolina Central University served as Conference Director. The 8th Academic Conference was held at Sheraton National Hotel, Arlington, VA with the theme of "*Challenges for Korean-American Scholars*", on October 15–17, 1999 with the sponsorship of US Branch of Hankook Ilbo, etc. KAUPA Forum, Vol. IX, No. 1 was published in January 1999.

8th Administration (2001-02)
(President: Prof. H. Thomas Han of University of California at Los Angeles or UCLA)

Prof. Bongtae Han of University of Maryland served as Executive Director, Prof. Jungho Kim of University of Maryland continued serving as Financial Director, Prof. Hae Soo Oh of University of North Carolina - Charlotte continued serving as Publication Director, and Prof. Ki-Hyon Kim of North Carolina Central University continued serving as Conference Director.

9th Administration (2003-04)
(President: Prof. Yoon-Shik Park of George Washington University)

Prof. Bongtaek Han of University of Maryland continued serving as Executive Director, Prof. Jungho Kim of University of Maryland continued serving as Financial Director, Prof. Kyungbae Lee of University of Oklahoma served as Publication Director, and Prof. Ki-Hyon Kim of North Carolina Central University continued serving as Conference Director.

10th Administration (2005-06)
(President: Prof. Nakho Sung of Tufts University)

Prof. Jungho Kim of University of Maryland continued serving as Financial Director, Prof. Hae Soo Oh of University of North

Carolina - Charlotte served as Publication Director, and Prof. Ki- Hyon Kim of North Carolina Central University continued serving as Conference Director. A 2-day Conference with a theme of "*The U.S.- KOREA Relations in the 21st Century: Challenges and Prospects*" was held jointly with International Council on Korean Studies (ICKS) at George Washington University on October 6-8, 2006. Professors Yoon-Shik Park and Dr. Soon Paik were program Co-Chairs.

11th Administration (2007-13)
(President: Sunwoong Kim of University of Wisconsin at Milwaukee)

Prof. Wooseob Jeong of University of Wisconsin at Milwaukee served as Executive Director, Prof. Jungho Kim of University of Maryland and Prof. Woonsup Choi of University of Wisconsin at Milwaukee served as Financial Director and Prof. Kihyun Kim of North Carolina Central University continued serving as Conference Director. Another joint conference of ICKS-KAUPA was held with the theme of "*Impending Changes on the Korean Peninsula and The Future of US-Korean Relations*" at East-West Center, Honolulu, Hawaii on June 28-29, 2007. The 9th President Yoon-Shik Park presented a remarkable paper, entitled as "*A Nuclear North Korea and Prospects for the Korean Economy: An International Business Perspective*."

KAUPA Directory was published in 2010 and 2012. The International Conference – Prospective on the Sovereignty Issue over Dokdo was held at University of Wisconsin at Milwaukee on December 8, 2012 as can be seen from the picture.

12th Administration (20014-17)
(President: Kang-Won Wayne Lee of University of Rhode Island)

Through the strong leadership of past presidents and officers, and more importantly, the passion of its dedicated members, the KAUPA has become one of the most versatile professional organizations. By encouraging and facilitating academic research and scholarly cooperation among its members, especially in the area of Korean-American (K-A) studies and Korea-North America relations, KAUPA has promoted and facilitated academic exchanges of scholars and scholarly works between North America and Korea with such sponsored programs benefitting both its members and Korean-Americans alike trough Newsletters. To make KAUPA more encompassing and at the same time, discipline specific to our respective members and colleagues (while remaining relevant to the Korean communities in North America), venues were expanded to cover both topical and inter-disciplinary conferences, symposia, and workshops. Thus, it promoted participation of myriad of K-A professors in various fields of accomplishment. For example, 17 KAUPA and 3 family members made to the Dokdo Opinion Leaders trip to be familiar with real issues through the invitation of Dokdo Foundation on July 22-25, 2014 as can be seen in the picture.

In order to strengthen connections with existing K-A professional societies, KAUPA promoted an open environment that reflects a professional association exuding quality reputation. This was accomplished by the type of events and conferences, distinguished guests, speakers, performers and artists. Such quality was also reflected in new relationships that KAUPA forged with professional societies elsewhere, e.g., KSEA and recognition that KAUPA garnered from accomplishments. Eventually, this effort translated into more outstanding professors joining as members. Further these changes also created more incentive for existing members to actively participate in activities. ROK Ministry of Foreign Affairs (MOFA) invited Dokdo Island and East Sea experts to form a network and to uplift the understanding of Dokdo Island and East Sea issues through working with KAUPA and respectful experts. Delegates included 6 KAUPA members and 6 non-Korean Heritage scholars who have expertise in International Law (Maritime or Ocean Law),

History, International Politics and Geography. Ten delegates met with Korean experts including members of Korean Society of International Law, made presentation for and discussion with them about the Dokdo and East Sea issues in depth in Seoul on December 7-13, 2014 as can be seen in the picture at the Northeast Asian History Foundation (NAHF). They wrote papers for Proceedings, and some of them wrote journal papers.

KAUPA and KSEA jointly carried out a database project for KOFST in May 2015. To expand membership, KAUPA was more proactive in reaching out to K-As whose primary or sole mode of communication is English, i.e., 1.5 and 2nd generations. KAUPA expanded current programs for such inclusion which should ensure healthy continuum.

On June 6, 2015, KAUPA successfully held an International Conference on Dokdo at Omni hotel in Providence, Rhode Island as can be seen in two pictures. Titled "*Sovereignty over Dokdo from the Historical, Political and Cultural Prospective*", this conference covered myriad of issues on Territorial and Maritime concerns. The conference was jointly organized by KAUPA and Northeast Asian History Foundation (NAHF) and supported by The University of Rhode Island (URI). The conference started with the introductory remarks by NAHF Ambassador for Geographic Naming Euy-Sang Yoo. More than 60 scholars attended the conference to share their ideas in two sessions and a roundtable discussion. KAUPA was particularly pleased to have significant number of representatives from U.S. Naval War College and Roger Williams University Law School. The keynote speaker was Prof. James Kraska from the Stockton Center for the Study of International Law at U.S. Naval War College. His speech was titled as "*The International Law of Territorial and Maritime Disputes in East Asia*". The event also included special music program by four distinguished KAUPA members: Profs. In Dal Choi, Youngsuk Kim, Woonjung Kim and Ryu-Kyung Kim. Following the event, Honorable Consul General of Republic of Korea in Boston Song Jun Ohm hosted the banquet. The above tasks were accomplished because KAUPA had talented members who have both knowledge and skills to pull off the challenges. The common interest to promote the betterment of our society through KAUPA would build a formidable coalition consisting of both the K-A and Korean-Canadian (K-C) Professors.

Co-Host Adj. Prof. Harlan M. Doliner, Roger Williams University Law School

Keynote Speaker, Prof. James Kraska (U.S. Naval War College), Presenters and Discussants at the International Conference on Dokdo in Providence, RI

KAUPA also found avenues to continue strengthening our financial stability. One of the initiatives was a named KAUPA Scholarship. KAUPA looked for an individual (or member) and/or agency who would donate $30,000 for this wonderful cause. To celebrate the 30th Anniversary in 2016, the scholarship committee (SC) chaired by Prof. Kee Bum Kang of Naval Postgraduate School selected two graduate students who want to pursue an academic career at universities in the United States or Canada. Consequently, the 12th Executive Committee (EC) awarded scholarships to two outstanding graduate students: Mr. Daejin Kim of Georgia Institute of Technology and Ms. Jieun Park of Western Michigan University Law School. These scholarships were awarded with a check of $1,500 each on May 5. 2017. The General Assembly was held at the KSEA HQ on August 13, 2017, and Prof. Jae Kwang Park of University of Wisconsin - Madison was elected as the 13th President. Some key members who attended the General Assembly had an opportunity to take a memorable picture as can be seen below.

The 12th Executive Committee aggressively worked to increase our KAUPA membership. Fortunately, second Vice President for IT, Prof. Wooseob Jeong (Dean of Library and Information Management at Emporia State University) worked as a web master. His participation undoubtedly disseminated and exposed our existence exponentially beyond existing circles. KAUPA has been maintaining the online directory which information has been collected mainly through online search of published material. To have an accurate and up-to-dated information, Prof. Yong B. Choi of Regent University continuously updated Directory and created a Facebook account. Prof. Jae Kwang Park continuously updated membership database with support from Oversea Koreans Foundations (OKF) and Korean Institute of Science and Technology Information (KISTI). In addition, KAUPA provided financial support to K-A professional organization, e.g., Korea-America Association for Geospatial and Environmental Sciences (KAGES). KAUPA also reached out to K-As whose primary means of communication is English, e.g., President Mun Y. Choi of the University of Missouri System and Prof. Tom Oh of Rochester Institute of Technology, Prof. Philip Kim of Harvard University and Prof. Eugene Y. Park of University of Pennsylvania et al. One of the activities was forming an environment for better scholastic and career development for excellence, e.g., Nobel Prize winning level. KAUPA members and students helped the committee to invite Honorable Former UN Secretary General Ki-Moon Ban to the Ogden Lecture Series at Brown University, Providence, RI at 4pm on Monday, February 26, 2018.

13th Administration (2018-19) (President: Prof. Jae Kwang (Jim) Park of University of Wisconsin -Madison)

In 2018, the 13th Administration upgraded the KAUPA website (http://kaupa.club/) to Web 2.0 that refers to user-generated content, ease of use, participatory culture, etc. The membership payment and scholarship donation were also possible through the website. The Administration spent many months to identify potential KAUPA members searching through the Internet and reaching out to many universities. As a result, KAUPA now has a web-based member-only accessible directory containing over 5,300 potential members. Another endeavor was to identify endowed scholarship donors. KAUPA now has three donors who pledged to donate a yearly scholarship up to $25,000 in their lifetime: **Dr. Yongbok Chae, Prof. K. Wayne Lee and Prof. Jae Kwang Park**. In 2019, KAUPA awarded eight scholarships, including three endowed scholarships to Korean-descendent undergraduate and graduate students pursuing an academic career.

The leadership members include two vice presidents, Profs. Young B. Choi of Regent University and Prof. Youngsuk Kim; finance director, Prof. Yanghee Kim; Membership Director, Prof. Munsup Seoh; Planning Director, Prof. Seong Nam Hwang; regional leaders, Profs. Jaeyoon Kim, Seong Nam Hwang, and Jung-Lim Lee; and specialty leaders, Profs. Jung-Lim Lee, Emily Taehee Kim, Helen Cho, and Angie Y. Chung.

14th Administration (2020-21) (President: Prof. Young Bae Choi of Regent University, Vice President 1: Prof. Youngsuck Kim of Mansfield University of Pennsylvania)

The 14th Administration started the term on January 1, 2020 and planned to focus on the following three objectives during two-year term:

1. Academic exchange with Korean universities: KAUPA-Korea Program

- KAUPA will recruit the members who want to join a pilot '*KAUPA-Korea Program*' which can be implemented during summer vacation or through sabbatical opportunities as an invited or a visiting scholar.
- KAUPA will do the best to establish mutual relationships with Korean universities' international offices interested in joining to the KAUPA-Korea Program.

2. Membership Drive & Scholarship

- Based on the recently created membership database, recruiting of new members will be continued. One senior (or dedicated) faculty member of each university will be appointed as a '*KAUPA ambassador*' as a representative of that university.
- The effort to increase the KAUPA Scholarship fund will be continued.

3. Professional Publication of KAUPA Newsletter

- The effort to make the KAUPA Newsletter more professional will be made. As of August 8, 2020, the 14th Administration completed the following events:
- KAUPA Cyber Concert Hope & Peace-A cyber concert of heartfelt gratitude, dedicated to the victims of COVID-19, people working hard on the front line, and suffering families throughout the world in difficult situations with the help of 10 KAUPA musicians on May 16, 2020.
- The KAUPA's Inaugural Webinar on Tenure & Promotion (T & P) - Over 18 professors who may need to go through the T&P process sooner or later and tenured faculty for advice were attentive to Dr. Tae (Tom) Oh's (Professor of Information Technology at Rochester Institute of Technology, RIT) presentation in Zoom on Thursday, June 25, 2020, 8 p.m. (CDT).
- Launching of a new journal KAUPA Letters based on the seven years' experience of publishing KAUPA Newsletter on August 1, 2020. Also, the pdf format publication was enhanced to an e-book style publication, Six KAUPA Columnists were invited and journal Editorial Board was formed to raise the quality of the journal.

During the years 2020-2021, a total of six academic events were held in KAUPA. The events include

1) Success on the road to tenure and promotion by Prof. Tae (Tom) Oh. June 20, 2020;
2) Best Teaching Practices during a Pandemic: Online, Hybrid, and Offline Pedagogy by Prof. Jungwoo Ryoo and prof. Mira Yang. September 3, 2020;
3) Research on COVID-19: Multi- and Interdisciplinary Collaborations by Prof. Heejung An and Prof. Paul Hong. October 22, 2020;
4) Success on the Path to Tenure and Promotion: Advice from Multiple Disciplines by Prof. Angie Y. Chung , Prof. Seong Nam Hwang, and Prof. Tae (Tom) Oh. March 25, 2021;
5) Facing Anti-Asian Racism: Present and Future Directions by Prof. Helen Kim, Prof. Ryu-Kyung Kim, Prof. Lisa K. Son, Prof. Tae (Tom) Ph, and Prof. Eung-Jun Min. May 27, 2021; and
6) The 2021 KAUPA Day. August 3, 2021.

Through these academic events, KAUPA builds scholarly cooperation, learning, networking, collaboration, participation, and bonding. KAUPA members' participation also contribute to interdisciplinary scholarships and expanding the organization's partnership to cultural sectors as well as research.

KAUPA also publishes a flagship journal, KAUPA Letters bimonthly. It started as a newsletter and recently it was converted to an interdisciplinary academic journal.

The URL of archives of KAUPA Letters is https://kaupa.org/newsletters/.

It may be noted that members and organizations in bold are KSEA members and STEM organizations. These may indicate that KAUPA have been working with KSEA together for the betterment of our Great societies. Since KAUPA typically has been working on some activities which KSEA does not do it, there is strong potential to expand the K-A powers when both organizations will work together as can be found from the figure below. It has been my privilege to summarize the relationship between two organizations to celebrate the 50th KSEA Anniversary. Thank you.

Distinguished K-A Scientists and Engineers who support KSEA and KAUPA Activities

Chueng-Ryong Ji*, Kang-Won Wayne Lee**

**The 38th President, **The 36th President*

Hogil Kim *(Korean: 김호길; October 15, 1933 – April 30, 1994)* Dr. Kim was the founding president of the Pohang University of Science and Technology (POSTECH), a past president of the Korean Scientists and Engineers Association of America (KSEA), and the former vice president of the Korean Physical Society. Dr. Kim earned a bachelor's degree in physics from Seoul National University in 1956, and his doctorate from the University of Birmingham, England, in 1964. He was an accelerator researcher at Lawrence Berkeley Laboratory, Berkeley, USA, from 1964-1966. He left Berkeley to become a Professor at the University of Maryland, where he stayed from 1966 until 1978.

At Maryland, he was technical director of the cyclotron laboratory, and became a full Professor in 1975. Dr. Kim returned to Lawrence Berkeley Laboratory in 1978 as a Senior Scientist, where he stayed until 1983. In 1983 Dr. Kim returned to Korea, where he founded a new school, the Yonam Junior College of Engineering. In 1985, Dr. Kim moved to Pohang, where, at the behest of the Pohang Iron and Steel Company, he founded the Pohang Institute of Science and Technology. Dr. Kim set for himself the task of creating a school unique in Korea. Dr. Kim aggressively gathered top caliber Korean scientists from around the world to form POSTECH's faculty. He also was determined to find the best students, and to maintain a very low student faculty ratio, so as to provide the best research and teaching environment possible.

Benjamin Whisoh Lee *(Korean:* 이휘소; *January 1, 1935 – June 16, 1977) or Ben Lee*

Korean-born American theoretical physicist. His work in theoretical particle physics exerted great influence on the development of the standard model in the late 20th century, especially on the renormalization of the electro-weak model and gauge theory. He predicted the mass of the Charm quark and contributed to its search. Since his inception as a physicist, he has published 110 papers for about 20 years, of which 77 papers have been published in the journal. There are 69 papers cited more than 10 times and eight papers cited more than 500 times. As of October 2013, all of his papers are cited more than 13,400 times.[1] As a major disciple, Kang Joo-sang, professor emeritus at the Department of Physics at Korea University, is also the motif of the fictional character Lee Yong-hu in Kim Jin-myung's novel, "*The Rose of Sharon Blooms Again*".

Chan-Mo Park *(Korean:* 박찬모; *April 3, 1935)* Dr. Park has played a leading role in the academic and research development of Science and Technology on the Korean Peninsula and has helped forge collaborative scientific ties with North Korea. He is co-chair of the founding committee of South Korean-managed Pyongyang University of Science and Technology (PUST), which trains North Korean students in various fields such as information, communication technology, international finance and management, agriculture, food and life science and medical sciences. This is the first foreign-run institution in North Korea, and it marks the beginning of innovative cross-border collaboration. Before Park assumed the position of Chancellor at PUST he served as the 4th president of Pohang University of Science and Technology (POSTECH), where he was also a chair of computer science and engineering department, the dean of the Graduate School for Information Technology as well as the dean of the Graduate School. Prof. Park is also a fellow of the Korean Academy of Science and Technology (KAST). He is a recipient of the South Korean government's

Blue Stripes Order of Service Merit. He was also appointed as the special advisor to the president of the Republic of Korea for Science and Technology in July 2008. He holds a B.S. in chemical engineering from Seoul National University, and an M.S. and Ph.D. from the University of Maryland College Park.

Nam-pyo Suh *(born April 22, 1936)*
The thirteenth president of KAIST from 2006 until 2013, succeeding Robert B. Laughlin and succeeded by Sung-Mo Kang. Suh was born in Korea on 22 April 1936. He emigrated to the U.S. in 1954 to join his father who was teaching at Harvard University. He completed his high school education at Browne & Nichols School before entering MIT as a freshman in 1955. He was naturalized in 1963 in Pittsburgh, Pennsylvania.[2] He married Young Suh, and had four daughters. He is now the grandfather of seven children, named Kristian, Nick, Madeleine, Henry, Connor, Jacob, and Maeve.

Sung-Mo "Steve" Kang *(born 1945)* an electrical engineering scientist, professor, author, inventor, entrepreneur, and 15th president of KAIST. Kang was appointed as the second chancellor of the University of California, Merced in 2007. He was the first department head of foreign origin at the electrical and computer engineering department at the University of Illinois at Urbana-Champaign. Dr. Kang teaches and has written extensively in the field of computer-aided design for electronic circuits and systems; he is recognized and respected worldwide for his outstanding research contributions. Dr. Kang has led the development of the world's first 32-bit microprocessor chips as a technical supervisor at AT&T Bell Laboratories and designed satellite-based private communication networks as a member of technical staff. Dr. Kang holds 15 U.S. patents and has won numerous awards for his groundbreaking achievements in the field of electrical engineering.

He was president of the IEEE Circuits and Systems Society, founding editor-in-chief of the IEEE Transactions on VLSI Systems, and an IEEE distinguished lecturer. He was also president of the Silicon Valley Engineering Council and continues to serve on advisory committees for projects in the U.S. and internationally. Also, as an entrepreneur, he co-founded a fabless mobile memory chip design company named ZTI, originally in Sunnyvale, now in San Jose.

Jim Yong Kim *(Korean: 짐용김; born December 8, 1959), also known as Kim Yong* (김용/金墉) Korean-American physician and anthropologist who served as the 12th President of the World Bank from 2012 to 2019. A global health leader, he was formerly the chair of the Department of Global Health and Social Medicine at Harvard Medical School, and a co-founder and executive director of Partners In Health before serving as the President of Dartmouth College from 2009 to 2012, becoming the first Asian American president of an Ivy League institution. Kim was named the world's 50th most powerful person by Forbes Magazine's List of The World's Most Powerful People in 2013.

Mun Y. Choi *(born March 19, 1964)*
BS, University of Illinois, Urbana-Champaign, 1987 / MA, Princeton University, Mechanical and Aerospace Engineering, 1989
PhD, Princeton University, 1992

Mun Y. Choi is serving as the 24th president in the history of the University of Missouri System from March 2017. As president, Dr. Choi serves as the chief executive and academic officer of the UM System, a land-grant institution that provides centralized administration for four universities, a health care system, and extension program, and ten research and technology parks. Dr. Choi oversees all academic, public, business, financial and related affairs of the UM System under the policies and general supervision of the University of Missouri Board of Curators. In March 2020, President Choi was also appointed interim chancellor of the University of Missouri-Columbia.

Before serving as the UM System president, Dr. Choi's 25-year career in higher education included serving as assistant and associate professor at the University of Illinois at Chicago (1994-2000), department head of mechanical engineering and mechanics at Drexel University (2000-2008), then dean of engineering at the University of Connecticut (UConn) (2008-2012). Later, he took on the role of provost and executive vice president at UConn (2012-2017) .

What did KSEA do to physics? What did physics do to KSEA?

Jaehoon Yu*, Eun-Suk Seo** and Chueng-Ryong Ji***

**The 45th President, ** The 46th President and ***The 38th President*

Physics is the area of study to understand the fundamental principles of the inner workings of the universe and predict how the nature behaves for the sake of the whole humanity. To accomplish this grandeur goal, physicists carefully plan experiments to reproduce observations under a controlled environment. These help establishing theories that can predict phenomena in a more generalized circumstances to be verified in subsequent experiments and, ultimately, to be used in everyday lives. This circle of improvements continues until the limit for precision reaches. Some outcomes of this process are the unification of electricity and magnetism in the 19th century, which still provides the means of source of energy, and the development of quantum mechanics in early 20th century which provides the bedrock foundation to virtually all technologies human beings enjoy today in everyday lives.

Korean-American physicists both who stayed in the U.S. and returned to Korea have been the driving force in the remarkable technological development of South Korea. They also have been playing leadership roles in their respective fields of study and at various levels of public services in the U.S. and been interacting with South Korean counterparts to compete and collaborate. The influx of Korean physicists started after the Korean War, continues to this day, and will continue through the foreseeable future. These physicists of Korean heritage not only contribute to the two mother countries in their profession by being leaders in their own respective fields of study and deeply involved in solidly establishing the bases for the success of the next generation. These contributions are not only in research activities in the two countries but also in establishing foundational and transformational science education programs in Korea in early years. They enabled the rise of Korea from the ashes of the Japanese occupation and the Korean war and become an undisputable leader in the world.

Table 1. List of KSEA presidents who are physicists

Name	Field of Expertise in Physics	KSEA Presidential Term	Latest Academic Affiliation
Kiuck Lee	Nuclear Theory	2nd (1973)	Marquette University
Youngbae Kim	Condensed Matter Theory	4th (1975)	University of Southern California
Sang-Il Choi	Condensed Matter Experiment	7th (1978)	POSTECH, Korea
Kyungsik Kang	Particle Theory	11th (1982 – 1983)	Brown University
Jae Young Park	Nuclear Theory	12th (1983 – 1984)	North Carolina State University
Ki-Hyon Kim	Nuclear Experiment	15th (1986 – 1987)	North Carolina Central University
Moo Young Han	Particle Theory	20th (1991 – 1992)	Duke University
Saeyoung Ahn	Condensed Matter Theory	25th (1996 – 1997)	U.S. Naval Research Laboratory
Chueng-Ryong Ji	Nuclear Theory	38th (2009 – 2010)	North Carolina State University
Jaehoon Yu	Particle Experiment	45th (2016 – 2017)	University of Texas, Arlington
Eun-Suk Seo	Particle Experiment	46th (2017 – 2018)	University of Maryland
Young-Kee Kim	Particle Experiment	51st President Elect (2022 – 2023)	University of Chicago

Therefore, it is a daunting, if not an impossible task to describe the incredible amounts of accomplishments by Korean physicists. This section, however, highlights some of the contributions of early physicists who played key roles in both Korea and U.S. as a physicist and as a KSEA member and served as a President of KSEA, in their honor and memory. Most notably, of the KSEA Presidents in its half century history, twelve were physicists, including the 51st president elect, as listed in **Table 1**, many in early years as the founding members of the organization. The section wraps up with the present and the prospective younger generation of KSEA member physicists who are the pioneering force of current and future direction of physics for the betterment of the whole humanity. They will undoubtedly continue the great tradition of serving for the next generations in KSEA.

In Honor and Memory of KSEA Member Physicists

Professor Kiuck Lee, *KSEA 2nd President (1973), Marquette University*

Late professor Kiuck Lee was a member of the first graduating class of Seoul National University, College of Arts and Sciences, where he received his bachelor's degree and master's degree in physics. He was one of the first three recipients of a Ph.D. in physics at Florida State University under the mentorship of Dr. Alex Greene. As the first Ph.D. of modern physics in Korea, he spent his young professional career representing Korea at various international meetings, including President Eisenhower's Atoms For Peace. His early students went on to become physics professors who have trained all subsequent physicists in Korea, as well as physicists and scientists in Europe and the United States.

Since the 1970s, he led a massive movement to educate Korean scientists, ultimately resulting in the scientific and economic advancement enjoyed by Korea and the rest of the international community. His efforts directly resulted in the establishment or the improvement of premier institutions and organizations such as Seoul National University, Korea Advanced Institute of Science and Technology, Korean Scientists and Engineers in America, Association of Korean Physicists in America, Korean Physical Society, and American Physical Society. In partial recognition for this work, he was named an honorary citizen of the city of Seoul, Korea in 1995. In addition, in recognition of his humanitarian contributions and scientific achievements, he was awarded of a Korean Order of Civil Merit Dong-Baek Jang (국민훈장 동백장) from the Korean government.

Up until his death, he was active at the regional, national, and international level in multiple organizations for Korean-American scientists and engineers. He continued to present scientific papers at international meetings, providing inspiration for younger scientists.

Professor Youngbae Kim, *KSEA 4th President (1975), University of Southern California*

Late professor Yongbae Kim was one of the few first generation Korean-Americans who have received a Ph.D. in Physics at an Ivy league institution, Princeton during the fifties, served as a faculty member at major institutions of higher education, the University of Washington-Seattle and University of Southern California, and as an officer at Federal Government Agencies, including the post as the chief scientist at the U.S. Embassy in Japan.

Professor Kim also contributed to an early part of Korean Advanced Institute for Science and Technology (KAIST) as a visiting professor in '73 -74 and served the directorship at the Tokyo Office of U.S. Naval Research in '80-82. His academic achievements in the early low temperature physics had been revived lately as a tool for the theory of high temperature superconductivity under the modified Kim-Anderson Theory.

Under his leadership as the 4th president of KSEA in 1975, the organization grew to 14 chapters and 7 branches with the membership growing over 1000 from 69 just four years prior to his presidency. He had a foresight to computerize the membership directory. He organized experts' group seminars by KSEA members held in Korea in essential areas of discipline such as petrochemical engineering, electronics, computer science and mathematics at the time of his presidency. These science & technology advisory roles had been a significant part in KSEA for then Korea, making significant contributions to the "*Miracle of Han River*". These drew Korean Ministers such as Dr. Hyung Sup Choi who led the ministry of science and technology 1971-1978 as an important guest in professor Kim's residence.

Professor Sang-il Choi, *KSEA 7th President (1978), POSTECH*

Late professor Sang-il Choi was regarded as one of the pioneers of Korean physics and devoted educator, contributing to establish the physics program at the Pohang University of Science and Technology (POSTECH) in its inception. Professor Choi was fortunate to have good teachers and friends who helped him through the college during the difficult times of Korean War and proceeded to graduate studies at Brown University. During a year and half of his post doctorate studies at University of Chicago, he published a number of theoretical papers on organic crystals in physics journals; this helped him find a position of assistant professorship in physics at the University of North Carolina although all his degrees were in chemistry. He served UNC for 28.5 years before joining the Physics Department of Pohang University of Science and Technology. At POSTECH he noticed the rote memory style of studies of the students, and decided to lead them to understanding-based studies of academic subjects.

He introduced new ways of teaching physics and also established the Center for Teaching and Learning. POSTECH General Alumni Association, on its 10th anniversary, presented him a Best Teacher Award. As a part of understanding-based teaching he wrote many science essays and a book resulted from these. The book brought him the honor of the Best Science Book Author A ward from the Korea Publishers Association; the book has been translated and published in Taiwan and is in the process of translation for publication in China. Late professor Sang-il Choi served UNC-CH for 28.5 years before joining the Physics Department of POSTECH.

Professor Kyung Sik Kang, *KSEA 11th President (1982 – 1983), Brown University*

Late professor Kyung Sik Kang was a professor of physics at Brown University for 41 years, retiring in 2005. He graduated from Seoul National University in the class of 1959 where he received the SNU President's Award (Gold Medal) and received his PhD from Indiana University in 1964 and joined the faculty of Brown University immediately thereafter. Professor Kang was a renowned theoretical physicist who was a leader in Grand Unification Theory (GUT) which was garnering great interests within the community in early 1980s, together with colleagues like Maurice Goldhaber who served as a director of Brookhaven National Laboratory. One of the most impactful work of professor Kang's was his publication in 1976 of the "*Glashow-Weinberg*" theorem about Flavor-Changing Neutral Current which preceded the publication of actual G-W theorem paper itself.

Professor Kang was a fellow of the American Physical Society, the Korea Academy of Science and Technology, the Korean Association for the Advancement of Sciences, and the Korean Physical Society. He had served as president of the National Association of Korean Schools. He served on the board of directors for the R.I. Korean American Association, the Korea-U.S. Science Cooperation Center and was a council member of the Advisory Council for Democratic and Peaceful Re-Unification of Korea. Professor Kang was awarded the Camelia Medal (Legion of Honor) from the Government of Korea, an Official Citation from the State of Rhode Island, and the Honorary Citizenship Award (as an Exceptional Overseas Korean) from the Metropolitan Government of Seoul, Korea. He wrote science essays and the book receiving the Best Science Book Author Award from the Korean Publishers Association. The book has been translated and published in Taiwan and China. He led the KSEA 25th year book publication. His good memory impressed people around him.

Professor Jae Young Park, *KSEA 12th President (1983 – 1984), North Carolina State University*

Late Professor Jae Young Park received his PhD from University of North Carolina, Chapel Hill, in 1962 with the research expertise in theoretical nuclear physics. His research advisor, the Late Professor Eugen Merzbacher, was well known as the author of Quantum Mechanics textbook and as the President of American Physical Society in 1990. Prof. Park joined the faculty of North Carolina State University in 1962, immediately after he received his PhD in Chapel Hill. He was a visiting professor at Pohang University of Science & Technology, Kyoto University, and at the University of Giessen in Germany. An overview of his work appears in the book Nuclear Molecules (World Scientific Publishing Company, 1995), which he co-authored with his German colleagues, Walter Greiner and Werner Scheid. Until his retirement in 1999, he worked in various professional

societies, including KSEA and AKPA (Association of Korean Physicists in America), an affiliated professional society of KSEA.

***Professor Moo Young Han**, KSEA 20th President (1991 – 1992), Duke University*

Late professor Moo Young Han made seminal contribution to the particle physics known as Han Nambu model and wrote several popular particle physics books. Dr. Han is best known for his ground breaking discovery of the hidden symmetry of quarks, the basic building blocks of protons and neutrons that make up atomic nuclei. In 1965, he discovered a new underlying symmetry of quarks found to make up protons and neutrons, that later became known as the color charges of quarks. Universally recognized as the fundamental basis of all nuclear force inside atomic nuclei, the discovery was made together with Dr. Yoichiro Nambu, then of the University of Chicago, and published as the Han Nambu Quark Theory. This new hidden symmetry is the basis for the Quantum Choromo-Dynamics (QCD) which is now the standard theory for the strong nuclear force sector of the Standard Model. Nambu shared 2008 Nobel Prize in Physics for a related work on applying the mechanism of spontaneously broken symmetry, enabling the electroweak sector of the Standard Model.

Professor Han served on many national organizations as president and gave frequent public lectures on a wide range of topics related to the universe and quantum theory. He authored eight books on quantum field theory of elementary particles and was a guest presenter at the Seoul National University and the Korea Advanced Institute of Science and Technology. He founded the Society of Korean American Scholars serving as the chairman and Editor in Chief, publishing online newsletters. From 1993 to 1995, He served as the inaugurating Chair of the Outstanding Young Researcher Award (OYRA) Committee of AKPA, whose recipients have gone onto become leaders in the field of physics, as described in a handful of examples in the next section.

Contributions of KSEA Member Physicists, present and future

The tradition firmly established by the pioneering senior member physicists with Korean heritage has been kept up beyond the marks left by the patriarchs. The KSEA affiliated society, AKPA has been the source of producing many impactful member physicists to KSEA, since its establishment in 1979, shortly after KSEA. One of the influential practices of identifying leaders in the field, the Outstanding Young Researcher Award for which late professor Mooyoung Han served as the inaugurating committee chair continues to cultivate younger generation leaders. The close ties between KSEA and AKPA promotes prominent physicists to be deeply involved in the work of KSEA and to support younger generation Korean-American scientists and engineers. There are countless examples of KSEA member physicists leading the field both in the U.S. and Korea, universally recognized and approaching close to the ultimate recognition of the Nobel prize.

To name a few, Dr. Hongkun Park, Mark Hyman Jr. Professor of Chemistry and Professor of Physics, Harvard University is the 2021 KSEA Scientist of the Year awardee for his seminal contribution in quantum optoelectronics, nano-bio interfacing, and quantum sensing/control. He is also the recipient of the 2003 Ho-Am prize in Science. Dr. Taekjip Ha, Bloomberg Distinguished Professor, Johns Hopkins Biophysics & Biophysical Chemistry, Biophysics & Biomedical Engineering is the 2012 KSEA Scientist of the Year awardee and the winner of the 2011 Ho-Am prize in Science. He is a member of the U.S. National Academy of Science, inducted in 2015. Dr. Philip Kim, Professor of Physics and Applied Physics, Harvard University is the 2011 KSEA Scientist of the Year awardee and the winner of the 2008 Ho-Am prize in Science. He is a leading condensed matter physicists involved in the low dimensional carbon nanostructures, including graphene. Drs. Taekjip Ha and Philip Kim are AKPA OYRA awardees of 2001 and 2002, respectively.

We are living in a rapidly changing world under the period dubbed as the 4th Industrial Revolution. Digital interconnectivity across virtual, physical, and biological borders and across various sectors of society are challenging our conventional practices. A fusion of technologies is blurring traditional boundaries. This challenging world offers new opportunities. A timely new science and technology oriented professional development requires an interdisciplinary integration and innovation. In July 2021, the United Nations Conference on Trade and Development (UNCTAD) officially moved Korea's status from a developing economy to a developed one, reclassifying the nation from Group A of Asian and African countries to Group

B of developed economies. Korea is the first country that UNCTAD has moved to the group of developed economies since its establishment in 1964. The origin of Korea's ability to quickly develop a competitive advantage in technology exports can be traced back to the early 1970s when KSEA was established. The technology gap between Korea and U.S. is no longer as large as old days, actually in some cases it is reversed, so the role of KSEA is changing. Nevertheless, the greatest asset of the science and engineering central to the next quantum leap is its incredibly talented population, not only in Korea but also in the U.S. Needless to say, the role of Korean physicists in the U.S. is critical to form a meaningful scientific and technological alliance between Korea and the U.S. to prepare for the Second Miracle on the Han River.

In Closing

Physicists of Korean heritage have been an essential driving force behind the advancement of the field of physics and thus the improvements of the quality of life for the whole humanity. The KSEA member physicists, in particular, have been deeply involved in every stage of the organization, starting from the creation itself half century ago to the next generation leadership for establishing the solid foundation for another half century of its tradition. They have been an elemental, dynamic and prominent keystone force behind the success of Korea's rise to the economic and technological power and that of the sustained scientific leadership of the U.S. This tradition will perpetually thrive into the foreseeable future, together with KSEA.

KSEA's Contribution to Korean Professional Societies in Computer Science and Engineering Area

Chan-Mo Park

The 13th President

One of the objectives of establishment of KSEA in 1971 was to help development of science and technology in the motherland i.e., South Korea. In particular Computer Science and Engineering (CSE) area was in very early stage in Korea compared to USA such as shortage of CSE professors in academics and professionals in industry. The first issue of Directory of the Korean American Scientists and Engineers in America published by the first administration of KSEA in 1972 was very useful to recruit CSE professors and professionals in Korea. Later administrations have published updated versions that served as the source of recruiting faculty members and consultants.

Several KSEA members who returned to Korea were instrumental to establish professional societies such as Korea Information Science Society (KISS) in March, 1973 (later changed to Korean Institute of Information Scientists and Engineers (KIISE)), The Korea Society for Simulation (KSS) in June, 1992 and The Korea Computer Graphics Society (KCGS) in November, 1993 to name a few. KSEA members also established the Korean Computer Scientists and Engineers Association in America (KOCSEA) in 1983 in USA which became one of the Affiliated Professional Societies (APS) of KSEA. Most of KOCSEA members are KSEA members so that contributions to Korea in the area of CSE have been through KOCSEA rather than KSEA itself. For example the 1st KISS-KOCSEA Workshop was held in Seoul in November, 1991 and the 3rd KISS-KOCSEA Workshop was held in May, 1991 (**Fig. 1**). The InfoScience '93, an International Conference on Information Science chaired by a former president of KSEA was held at Swiss Grand Hotel in Seoul and attracted so many distinguished scholars from the world including USA and EU. A large number of KSEA members who are top-notch CSE professionals also attended the conference to make it very successful (**Fig. 2**)

Another contribution was to help Korean government such as Ministry of Science and Technology (MOST) and Ministry of Information and Communication (MIC), now combined to become Ministry of Science and ICT (MSIT) for their policy formulation and research development. For example KSEA members were carrying pivotal functions in long-term development in Software Technology (SW) in 1995 and Virtual Reality (VR) in 1996 for MOST. A team consisting of CSE specialists from KSEA, a CSE professor of a Korean university, a senior researcher in a Korean SW research institute and a high ranking person from ICT industry in Korea visited well known universities, research organizations and industries in respective area in USA, EU and Japan to gather pertinent information on up-to-date technology and valuable suggestions for future trends. These findings were very useful for MOST in developing and implementing policies on SW and VR. Minister of MIC also invited KSEA members as advisors for establishing long-term development of ICT industry in Korea.

It is well known that one of the leading science and technology universities in Korea is Pohang University of Science Technology (POSTECH) that was selected as the top university among the S & T universities in the world younger than 50 years by Times Higher Education (THE) Magazine in England for several years. One of the reasons why POSTECH has been so successful is probably due to KSEA members who joined the university that was established in 1986. The first

president, Dr. Ho Gil Kim was the 6th president of KSEA who recruited many KSEA members as vice-president, deans and faculty members. Seven former presidents of KSEA served as full-time faculty members or visiting professors.

Finally several former presidents of KSEA also contributed to a joint project between South and North Korea by participating in International PUST Conference on Science and Technology as well as teaching courses at Pyongyang University of Science & Technology (PUST) that is a unique Christian-based private and global university in North Korea established in 2009 by South and North Korea jointly. All the subject courses; Agriculture and Life Science (ALS), Electrical and Computer Engineering (ECE), International Finance and Management (IFM), Dental and Medical Sciences are taught in English by foreign professors, about half of them are US citizens.

Fig.1 KISS-KOCSEA Workshop

Fig.2 InfoScience '93

KSEA Contribution to Computer Science and Engineering

Tae (Tom) Oh

A participant of 1st Korean American Young Generation Leadership Conference in Science and Technology 1999 (Later changed to YGTLC)

KSEA members in computer science and engineering had many contributions to their professions in the US and Korea through the Computer Sciences and Information Technology (CIT) symposium and other related activities. The CIT symposium includes diverse areas in research and development in Computer Science/Information Technologies (CS/IT) fields as well as arts and social sciences. For example, data analytics and machine learning have been applied and explored in many other areas, including medical research, e-commerce, music/audio, image detection, and many more. Also, cyber security has a significant impact on most of the applications and devices that we use today. Recently during past US-Korea Conference (UKC) events, the symposium provided a variety of exciting research in entertainment, connected vehicles, smart city, and bio-medical. Those technologies provided collaboration from both academia and industry in the US and Korea. The popular topics were artificial intelligence, machine learning, data science, connected vehicles, augmented reality/virtual reality, art technology, software engineering, human-computer interaction, big data and data analytics, Internet of Things (IoT), cybersecurity, robotics, and computer educations. The symposium mainly consists of technical sessions, poster sessions, and networking dinner.

UKC 2020 CIT symposium was challenging to manage, but there were enough talks and submissions for two technical sessions. The organizers learned that more interdisciplinary research is needed using artificial intelligence, machine learning, and security from the sessions. The fields for those areas have been increasing to other aspects of the disciplines. Another positive impact was organizing a data science workshop. The organizers felt that data and analytics are critical for making business decisions, pushing research, and automating human tasks. Also, several surveys indicate that data science is one of the best-paying jobs in America. Therefore, the workshop was developed to provide hands-on experience in data science, machine learning, and deep learning for those who don't have experience. The content includes basic data cleaning, exploratory data analysis, machine learning models, convolutional neural networks, and data visualization. One of the highlights of the workshop was a panelist discussion of various data science applications. The survey results of the workshop were overwhelmingly positive to offer again next year, and the past year was the third time offering the workshop.

Also, an affiliate KSEA organization, The Korean Computer Scientists and Engineers Association in America (KOCSEA), was founded in 1983. The purpose of KOCSEA is to promote communication, information exchange, and cooperation among its members and provide opportunities for them to contribute to computer science and related fields in Korea and the US. Currently, KOCSEA has over 320 members and has organized annual conference every year throughout US in various areas of information technologies, software engineering, multimedia technology, end-user computing, and network technology.

Because of KOCSEA events, many members could participate in various collaborations between the US and Korea. For example, several members served on the project proposal review panels of Koreas Science and Engineering Foundation (KOSEF) and contributed research trend reports which were

sponsored by KOSEF and KSEA in the area of computer, communications, data analytics, and security.

Also, KOCSEA has received sponsors from Coupang, Samsung Research, KAKAO AI, LG Electronics, NAVER, SK C&C, KSEA, KUSCO, Hyundai Motors, Samsung Card, Consulate General of the Republic of Korea, and many more. The impact of CIT symposium and KOCSEA created positive image for KSEA and this was one the reasons of increasing sponsorships. During the 21st century, computer science and engineering will play more pivotal roles as the industry and research models focus on climate change, safety, efficiency and cost reduction, intelligence, scalable and convenience using automation, cloud, and data analytics. Also, Therefore, KSEA will continually adapt to the fast-changing technologies and ever-changing world to provide better opportunities and benefits to the members.

Fig. 1 KOCSEA Tech Symposium 2019 group photo

Data Science at the US-Korea Conference

Benjamin C. Lee
Data Science Workshop Chair at UKC

Big Data and Machine Learning at UKC

The decade of the 2010s saw the advent of Big Data, extremely large or complex data unable to be processed using traditional methods. In 2011 IBM's Watson had won the Jeopardy! game show and in the following year the deep learning algorithm AlexNet had made a breakthrough in image classification by beating the next best algorithm by 10 percentage points. Achievements in artificial intelligence (AI) such as these were made possible with increased computing speed using graphical processing units (GPUs) and large amounts of training data. Data and analytics have become key to business decision making, driving research, and automating human tasks, and career-wise many surveys rank Data Scientist as one of the best jobs in America and one of the highest-paid, indicating a bright outlook for this field.

Within KSEA, many members on the forefront of big data and machine learning research have shared their work at the US-Korea Conference (UKC). A literature search of past UKC Program Brochures starting from UKC 2006 has shown evidence of this. Only a handful of AI-related topics such as intelligent robotics, computer vision object tracking, and SPAM email filtering using classical AI methods were presented in the Information Science & Technology (IT) Symposiums from UKC 2006 to UKC 2009.

First Machine Learning: At the 2010 UKC in Seattle, the Information, Communication, and Networking (ICN) Symposium's call for papers first mentioned "*machine learning*" (ML) in the context of the fast growth of mobile internet computing and the Civil, Environment, Transportation (CNT) Symposium presented the first "*neural network*" paper. Another neural network paper was presented at UKC 2011 in Park City while the first "*machine learning*" paper was presented at UKC 2012 in LA. [See **Table 1**]

First Big Data: UKC 2013 in NY/NJ saw the first "*big data*" paper and "*data science*" career talk. The Computer Science and Information Science (CSI) Symposium's call for papers mentioned the Big Data problem for the first time which was a result of unlimited cloud computing, growth of mobile devices, social networks, and internet of things devices. UKC 2014 in San Francisco had the first "*Machine Learning*"

Table 1. Data Science Related Presentations at UKC by Search Term

UKC Year	Artificial Intelligence	Big Data	Data Science	Natural Lang. Proc.	Neural Networks	Machine Learning	Deep Learning	Total
2010 Seattle					1			1
2011 Park City					1			1
2012 LA						1		1
2013 NY		3	1		1	1		6
2014 SF		2			1			3
2015 Atlanta	1	3		1	1	2		8
2016 Dallas		12			1	3	2	18
2017 DC	2	5	2	1		2	1	13
2018 NY	3	3		1		7	5	19
2019 Chicago	4	1	3		4	8	9	29
2020 Virtual	2	5	3			5	7	22
Total	12	34	9	3	10	29	24	121

named session in the Computer and Information Technology (CIT) Symposium, with ML papers each presented in a biology symposium and climate forum. Then at UKC 2015 in Atlanta, the updated Computer Sciences and Information Technologies (CIT) Symposium held the first "Big Data" session with presentations on data mining in food science, big data in neuroscience and connectomics, and individualized learning in education. It was also the first time a talk on natural language processing (NLP) and text mining were presented at UKC. The Civil, Environmental, Architecture (CEA) Symposium presented its first machine learning paper in transportation engineering for pavement crack detection.

First Deep Learning: The CIT Symposium at UKC 2016 in Dallas continued to hold a "*Big Data*" session with the addition of 2 new "*Data Science*" sessions. The first "*deep learning*" papers were presented here, where deep learning is a technique that uses neural networks with many hidden layers and typically trained on unstructured raw data. There was also an explosion of 12 big data papers up from 3 the year before and a total of 18 data science-related papers at UKC 2016, which was more than double than the previous year. This included the first Chemical Engineering (CHE) Symposium paper using machine learning to predict biological methane production from coal substrates, and the first Math/Applied Math/Statistics (MAS) Symposium paper to use deep learning with image processing.

First Theme: The first mainstream recognition of big data came from UKC 2017 in DC, where the UKC Chair Eun-Suk Seo explained the conference theme "*Convergence and Innovation through Cooperation*" focused on "*UKC's special multi-disciplinary nature and that various aspects of AI, big data, and smart things will be discussed broadly at this conference.*" Additionally, the "*Leaders in Healthcare*" plenary session acknowledged that "*dramatic advances in AI means that big data and so-called 'deep learning' offer the potential of unprecedented insight and market power for those who figure out how to harness these tools.*" In the Symposiums, CIT continued to hold a "*Machine Learning and Data Science*" session, while MAS held a "*Statistics in Data Science*" session. This year even the Sponsor Forums held data science sessions with the Korea Institute of Science and Technology Information (KISTI) forum on "*Developing Big Data Analytics Framework for U.S. Industry Intelligence*" and Seoul City Forum on "*Proactive Route Guidance System harnessed by Big Data Analytics.*"

First Plenary Talk: The UKC 2018 in NY Chair K. Stephen Suh of embraced the 4th industrial revolution theme in which the Program Chair Tae (Tom) Oh clarified its "*three categorical pillars, which are Digital Tech/AI, Robotics/Autonomous Systems, and Biomedicine.*" Cornell Tech Professor Daniel D. Lee addressed the AI in the first ever plenary talk on machine learning at UKC called "*Machine Learning in Autonomous Systems: Theory and Practice.*" The CIT Symposium on the other hand, held an unprecedented 4 sessions on data science: "*Artificial Intelligence, Machine Learning, and BlockChain,*" "*Data Science and its application in Real World,*" "*Healthcare: Machine Learning, Electronic Health Records and Genomics,*" and "*Healthcare II: Machine Learning and Deep Learning for Electronic Health Records, Genomics, Metabolomics, and Drug Development.*" The Physics (PHY) Symposium also held a "*Networks and Data Science*" session. For the first time data science papers were presented in the Biomedical Engineering (BME) Symposium, in the Materials Science and Engineering (MSE) Symposium, and in the Mechanical, Aerospace, and Naval Engineering (MAN) Symposium. The first Data Science Workshop (DSW) was also held as a new initiative for hands-on training on the basics of data science and machine learning, in contrast to the academic research lectures of the Symposiums. Lastly, sponsor forums continued to discuss data science such as the Korea Health Industry Development Institute (KHIDI) Forum on "*Artificial Intelligence in Medicine & Health Care,*" and the LG Electronics Forum on "*Artificial Intelligence and Its Applications and Future.*"

Most Papers: The UKC 2019 in Chicago broke a new record for the greatest number of data science related papers presented at 29. Many of these were presented in the CIT Symposium under the similarly named "*Machine Learning and AI*" session and in the Civil, Environmental, Architecture (CEA) Symposium's first ever big data session called "*Mobility Big Data & Transport Policy.*" The second Data Science Hackathon and Workshop (DSHW) was held with expanded session topics. And lastly, like the previous year, sponsors forums continued to discuss AI in healthcare with a paper using deep learning on electronic health records from Google Brain, and another forum on AI for robotics and autonomous vehicles.

First Startups: During UKC 2020 Virtual, Chair Soolyeon Cho, in his welcoming remarks directly stated that the conference theme addresses "*the importance of 'humanity' in the era of Artificial Intelligence and Machine Learning*" setting a clear focus for the program. Once again, the CIT Symposium continued to hold the "*Machine Learning and Artificial Intelligence*" session, while the CEA Symposium presented 7 data science papers, the BME Symposium presented 4, and the Industrial Engineering and Management Science (IMS) Symposium for the first time presented 2 machine/deep learning papers on brain computer interfaces and data augmentation for neuro-ergonomics. In addressing the pandemic, the MAS Symposium presented a machine

learning paper for scoring COVID-19 CT medical images. Additionally, the Innovation and Entrepreneur (IES) Symposium which started at UKC 2019, this year, presented 2 AI talks and 7 of the Startup Pitch Competition finalists and semifinalists were AI-based companies. Lastly, the Data Science Workshop was held for a third year but with a record number of remote attendees, covering new advanced special topics. Tracing back, the next section will detail the beginnings of the DSW planning.

CIT Session on Data Science Education and Industry at UKC 2016

Workshop Inspiration and Early Planning

The inspiration for a data science workshop came from the 3 data science themed sessions in the Computer Sciences and Information Technologies (CIT) Symposium, led by Symposium Chair Yoohwan, at UKC 2016 in Dallas. The talks in these sessions "*Data Science Research in Academia*," "*Data Science Education and Industry*," and "*Big Data Industry*" led by Session Chairs Joonwook Woo and Jeho Park, recommended many useful data science tools. In particular, the Big Data Industry session included talks from industry representatives such as "*Data & Analytics Challenges in Industry*" by John Lee of KPMG, "*Big Data Architectural Patterns and Best Practices on AWS*" by Brad Dispensa from Amazon, "*Machine Learning with Spark*" by Paul Hargis from Hortonworks, and "*Identifying Valuable Hadoop Use Cases*" by Dan Kernaghan from Datameer. Some of these speakers, albeit speaking about their own companies' services or products, provided practical instruction and example uses of their software platforms for big data applications. Industry representation was novel and led to the success to this session.

Inspired by the symposium sessions, the addition of hands-on interaction in the form of a workshop was proposed. A few options to realize this were to pay for instructional workshops for a company's software, to ask those companies for sponsorship with an in-kind donation of their workshop, or to develop an in-house KSEA organized workshop. Upon accepting the role of one of UKC 2018 Program Co-Chairs, Benjamin Lee (this author), proposed the Data Science Workshop in line with one of the "*3 Pillars of the UKC 2018*" program: "*Digital Technologies/Artificial Intelligence/ Blockchain.*" Benjamin Lee recruited the first Data Science Workshop Chair Ahreum Amy Han and Co-Chair DK Kim while attending the 2017 Midwest Regional Conference (MRC) on "*Careers for Frontier Science and the 4th Generation Industrial Revolution Technology*" in Chicago on November 18, 2017, organized by MRC Chair Hosin "David" Lee and MRC Secretary Jun-Seok Oh. Ahreum Amy Han had already taught data science and along with DK Kim, both had data science industry experience.

The planning for the brand-new program area of training workshops began soon after and lasted until next August at UKC 2018. The key objectives were to teach basics of data science and established advance topics in an active learning environment such as hands-on programming exercises in front of a computer and establish a community of data science professional through peer networking. One of the other initial goals was to recruit more industry professionals to UKC to attend and pay for a workshop, who otherwise is not able to attend by presenting research. Academic faculty also showed great interest in the workshop to begin the process of incorporating data science and machine learning to their research.

Benjamin Lee, Chair & Instructor | Ahreum Amy Han, Chair & Instructor | DK Kim, Co-Chair & Instructor | Jeho Park, Advisor & Instructor

Data Science Workshop Logo Banner

First Data Science Workshop at UKC 2018 in New York, NY

The first Data Science Workshop was held in the morning sessions from 8am-12pm over 2 days during UKC 2018 in NYC, from Friday to Saturday, August 3-4, 2018. The workshop was led by chair Ahreum Amy Han, co-chair DK Kim, advisor Benjamin Lee, and co-advisor Stella Chun. This workshop was aimed to provide the hands-on crash-course to the world of data science, analysis and modeling using popular open-source tools, Python or R. The workshop was held in two computer labs on St. John's University Queens campus with software and code preinstalled for the attendees, using Anaconda and Jupyter notebooks for Python and R Studio for R. [See **Table 2**]

Program: Each 1-hr and 50-min session had two parallel sessions in either Python or R programming. The first pair

of sessions were called "*Introductory/Basic Data Science in Python*" instructed by Parth Vadera and Karl Kwon or "*Introductory/Basic Data Science in R*" instructed by Jeho Park, Albert Lee, and Stephen Park. Basic data analysis topics to cover included programming syntax, exploratory data analysis (EDA), data cleaning, data storage / import & export, and linear regression. Based on available time, some machine learning models and applications topics were covered such as multivariate analysis and random forest in following the "*Intermediate/Advanced Data Science in Python*" or "in R" sessions. Session topics on Friday and Saturday were repeated but with different instructors for a total of 8 sessions. The workshop also included a separate networking session to during UKC BBQ dinner to which a handful of participants met each other and the workshop organizers.

Results: The workshop was included in the UKC registration without an additional fee as a pilot program. Participants reserved their seats due to the limitation of 12 participants per session, to balance the instructor and assistant to student ratio. The total number of unique workshop attendees was 41, with 33 attending the 1st day's 4 sessions and 37 attending the 2nd day's 4 sessions. The attendee demographics were 44% students and post-docs, 34% industry professionals, and 22% professors. In the end, electronic certificates of completion were provided to attendees. [See **Table 3**]

Feedback from attendees and instructors included that the pace was quick, and instructors ran out of time since it was difficult to gauge time needed for an interactive session with many questions from the participants, even with the aid of an assistant or two. Other comments were generally positive. *"It was more well-fitted to me who does not know anything about R. Unlike other introductory courses, this workshop was really designed for complete beginner and make me a first move. Instructors were excellent and kind enough to babysit on me,"* noted Assistant Professor Donghoon Yoon from Univ. of Arkansas for Med. Sciences in the feedback survey.

Data Science in R Session at the Data Science Workshop at UKC 2018

Second Data Science Workshop at UKC 2019 in Chicago, IL

Based on the prior year's feedback, the second data science workshop focused on getting directly into data science topics and dispensing with the programming syntax exercises in Python and R and in fact only used Python that year. To cater to different skill levels, the sessions were split in 2 parallel tracks of beginner and varied intermediate topics. Each session time was increased to 2-hrs and 15-min. For the advanced attendees, a new data science mini 4-hour hackathon was created. Additionally, to avoid schedule overlap with the UKC morning plenary sessions, the DSW was scheduled at the end of UKC on Saturday afternoon. The newly named "*Data Science Hackathon & Workshop*" (DSHW) aimed to provide deeper hands-on experience with modular workshops and a hackathon for those with prior experience, while maintaining the crash-course on data science and machine learning for those with no prior experience.

Specifically, the Data Science Hackathon & Workshop was held on the afternoon of Saturday, August 17, 2019 from 1pm-6pm at UKC 2019 in Chicago. There were 3 sets of parallel sessions of introductory level, intermediate level, and an instructional team hackathon competition, from which participants were able to choose to attend any session or participate in the hackathon.

Beginners Track: The first parallel no-experience beginner track began with "*Introduction to Data Science*" instructed by Ahreum Amy Han, presenting an overview of the data science process and the basics of exploratory data analysis, data cleaning, data storage, data import and export, linear regression, and correlation analysis in an interactive session. This was followed by "*Introduction to Machine Learning*" instructed by DK Kim, who covered an overview the various machine learning models such as multivariate analysis, random forest, support vector machines, text mining, and neural networks, including both supervised and unsupervised methods, along with their applications.

Experienced Tracks: The second parallel intermediary track had "Data Visualization and Tableau" instructed by Jeho Park and assisted by Karl Kwon, that covered data visualization to communicate information clearly and efficiently, using statistical graphics, plots, information graphics and other tools. Participants would learn to use Tableau, a popular interactive data visualization software, in a hands-on interactive session. Then the next session planned was "*Image Classification using Convolutional Neural Networks*" instructed by Benjamin Lee. Both intermediary sessions required prior Python programming experience.

The third planned track was the "*Data Science Hackathon*," led by instructor Albert Lee, as an all-afternoon instructional team competition of participants with prior programming, data analysis, visualization, or problem-solving experience. The hackathon schedule included instructions and data release, exploratory data analysis and machine learning model coding, and slides presentations.

All participants were required to bring their own Windows or Mac laptops with Anaconda and Jupyter Notebook for Python software pre-installed after given instructions ahead of time. Office hours were held in the morning of the workshop to help participants with installation in-person. The programming exercise code was downloaded from the instructors' GitHub accounts during the workshop. WiFi access was made available during workshop. Electronics certificates were provided to those who completed the workshop and received a satisfying score on a final quiz assessing the participants understanding of the topic.

Results: This year based on the prior year's success and comparable workshop fees, the organizers decided on a flat add-on registration fee of $75 for regular members and $50 for students that included any 2 workshop sessions or enroll in the hackathon. Seating again was limited to 12 people per session due to limited meeting space and instructor to student ratio. A total of 23 participants attended and 18 initial registrations. The participant demographics included 60% faculty, 30% graduate students, and 10% industry. As nearly all participants were beginners with very limited prior Python programming experience, the advanced Image Classification session and the team Hackathon were unfortunately cancelled due to zero and low (<4 required to make teams) enrollment respectively. Despite this, the attendees in the introductory were engaged and asked many questions about the basic of data science and machine learning.

The organizers' feedback for this workshop in the future was to cater all sessions to beginners and hold off very advanced sessions for a different setting. Several participants also expressed interest in learning about the intermediate session topics but did not qualify to have Python programming experience. Lack of time was again an issue due to difficulty of gauging pace with many participant questions, and technical difficulties of downloading and version issues with libraries.

Third Data Science Workshop at UKC 2020 Virtual

Despite planning for the third data science workshop being put on hold due to the COVID-19 pandemic, organizing resume in the Fall of 2020 for a virtual UKC which had a silver lining. Use of the Zoom online videoconference service lifted the constraint on classroom size and allowed participants

Introductory Lecture on Machine Learning during DSW at UKC 2019

Workshop Attendees and Instructors after DSW at UKC 2019

questions to be simultaneously answered in parallel by many assistants freeing the lead instructor continue the lesson without interruption. Other changes to the workshop based on the prior year's feedback was to assume all attendees were beginners without any prior programming nor data science experience, and to have one track of serial sessions where participants can learn about all topics offered without having to miss out.

The Data Science Workshop at UKC 2020 was held virtually through Zoom in the afternoon of Thursday, December 17, 2020, from 1–5pm EST. It was led by chair Benjamin Lee, co-chair Ahreum Amy Han, and co-chair DK Kim. This year's workshop had 74 initial registrants and 89 total attendees during the workshop composed of 62 registrants who would get certificates and 27 guest attendees who were auditing the workshop. At any time during the workshop there were about 70 active participants. The add-on registration fee was $25 for the entire workshop which was refunded after verified attendance due to the virtual format.

Speakers and Lectures: The program began with opening remarks by Jeho Park, PhD, Director of the Murty Sunak Quantitative and Computing Lab at Claremont McKenna College, who shared that many surveys rank a data scientist as one of the best jobs in the US and one of the highest-paid. He also explained what skill sets are needed which include

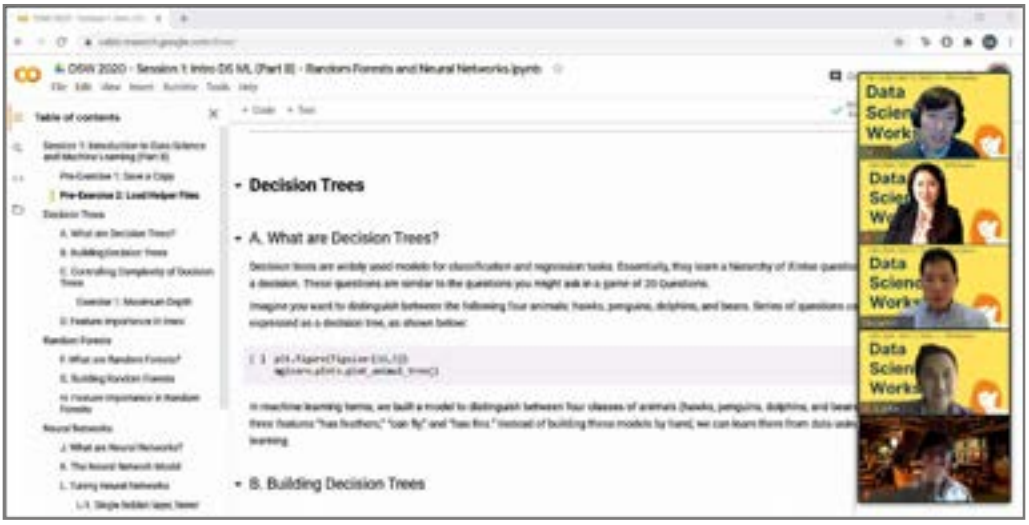
not only technical but soft skills such as teamwork and communicating with clients. One of the following program sessions was a speaker panel on data science applications, which included brief explanations of the kinds of real-world data science projects each panelist works on at their jobs. The panelists consisted of the above lecturers and two additional instructors, Jongmu Joshua Oh (Analytical Consulting Manager) and Eunice Ok (Associate Director of Data Analytics).

Then the lecture presentation included introductory topics on: (1) data science such as the roles of a data scientist, industry examples, and programming tools, presented by Ahreum Amy Han (Senior Modeler/Data Scientist); (2) machine learning such as supervised vs. unsupervised learning, and accuracy vs. precision vs. interpretability of machine learning algorithms, presented by DK Kim (Senior Data Scientist); and (3) special topic overview on convolutional neural networks (CNN) used for image recognition with applications in facial recognition, autonomous driving, and protein folding, presented by Benjamin Lee, PhD (Senior Research Associate).

Hands-On Coding: The second half of the workshop consisted of hands-on Python programming demonstrations and exercises using Google's free Colab online web browser programming environment like Jupyter notebook. This was an improvement from prior years since no direct software installation was needed, but only to copy the programming exercise code to the participants' own online Google drive. The first session called "Introduction to Data Science and Machine Learning" began with basic data processing and exploratory analysis using housing prices data and concluded with using random forests and neural network machine learning algorithms for breast cancer diagnosis. The second session called "Special Topic Overview: Convolutional Neural Networks" had participants build an image classifier using the Keras/Tensorflow framework and a 60,000-image database of natural image objects such as frogs, dogs, cars, and boats. Intermittently, the instructors gauged understanding with Zoom's polling surveys and paused to go into parallel Zoom breakout rooms where participants' codes were debugged as needed by teaching assistants who included the above panelists and June Park (Operations Data Analyst). The teaching assistants also answered questions in the chat in real-time leaving the instructor to maintain the pace of instruction.

The workshop concluded with an optional open networking session among instructors and participants who asked several questions about applying data science and machine learning to their own research or work. The feedback from participants were overwhelmingly positive with a balance of noting the instruction was fast paced and the breadth of topics were appreciated, while others requested slower instruction and more depth of topics.

Feedback: Some comments from participants included professionals such as Isaiah Kim, Technical Rotational Associate from USC, "*What I liked about this workshop was that it appealed to those who either have a beginner or intermediate skill level with these topics. The important parts were explained thoroughly, and the instructors were clear in their direction. I have never worked with Convolutional Neural Networks, but after a brief 45-minute tutorial and walkthrough, it set the stage for learning more in the future*," faculty like Yong-Rak Kim, Professor at Texas A&M University, "*The workshop is very good for someone who is starting data science-related research. Thanks a lot for this to the organizers!*" and students alike such as Julian Camacho from UCLA, "*This workshop was fun, informative, and relevant. I learned new things about machine learning and data processing, and I can see myself using these things for future projects.*"



Zoom Lecture Session Explaining Supervised Machine Learning during DSW at UKC 2020

Overall, the latest Data Science Workshop was a success in both the record number of participants and technical feat of participants interactively programming online. The plan is for the workshop to continue hands-on practical skills in new special topic areas. Data science in its various forms of big data, data engineering, narrow AI, machine learning, and deep learning, is increasingly making its impact onto more and more disciplines. It will be increasingly important for KSEA members and event organizers to continue sharing their cutting-edge research and knowledge on data science to other members and the greater community.

Programming Session with Python Code for Random Forests during DSW at UKC 2020

Table 3. Attendees Numbers for the Data Science Workshop at UKC

DSW Year	# Paid Registrants	# Total Attendees	Course Names
UKC 2018, NYC	0 (free)	41	Introductory/Basic Data Science in Python (2 sessions)
			Introductory/Basic Data Science in R (2 sessions)
			Intermediate/Advanced Data Science in Python (2 sessions)
			Intermediate/Advanced Data Science in R (2 sessions)
UKC 2019, Chicago	18	23	Introduction to Data Science
			Introduction to Machine Learning
			Data Visualization and Tableau
UKC 2020, Virtual	65	89	Introduction to Data Science and Machine Learning
			Special Topic Overview: Convolutional Neural Networks

Zoom Group Photo of Participants during DSW at UKC 2020

Table 2. Organizers and Instructors of the Data Science Workshop

DSW Year	Name	Position(s)
UKC 2018, NYC	Ahreum Amy Han	Chair
	DK Kim	Co-Chair
	Benjamin Lee	Advisor
	Stella Chun	Co-Advisor
	Jeho Park	Instructor
	Albert Lee	Instructor
	Karl Kwon	Instructor
	Parth Vadera	Instructor
	Stephen Park	Instructor
UKC 2019, Chicago	Ahreum Amy Han	Chair, Instructor
	DK Kim	Co-Chair, Instructor
	Jeho Park	Instructor
	Albert Lee	Instructor
	Karl Kwon	Instructor
	Benjamin Lee	Organizer
	Stella Chun	Organizer
UKC 2020, Virtual	Benjamin Lee	Chair, Instructor
	Ahreum Amy Han	Co-Chair, Instructor
	DK Kim	Co-Chair, Instructor
	June Park	Organizer
	Jongmu Josh Oh	Organizer
	Eunice Ok	Teaching Assistant
	Jeho Park	Advisor, Speaker

KSEA Members' Contribution to Polymer Science & Engineering Field

Nak-Ho Sung
The 30th President

Metals, Ceramics, Polymers, and Composites represent separate domains of Materials Science and Engineering, and Polymer represents the most diverse field among them. Disciplines in Polymer research may be classified into "*Polymer Science*" and "*Polymer Engineering*," but this distinction is very diffusive in solving most of the real-world problems.

"*Polymer Science*" area includes "*polymer chemistry*" dealing with synthesis and properties of polymers, "*polymer physics*", concerned with physical properties of polymer materials and engineering applications, and "*polymer characterization*", focused on chemical structure, morphology, and structure-property relationship. "*Polymer Engineering*" focuses on design and manufacture of polymeric materials through *polymer rheology, thermo-mechanical*, and *thermo-chemical processing.* In polymeric composite area, "*Interface and Adhesion*" becomes integral part of polymer research.

Polymer based industries span a wide range from polymer production to plastic industry, textile industry, rubber industry, pharmaceutical, electronics, transportation vehicle, aerospace, food packaging and bio-medical industry and beyond.

Typical platforms where polymer R&D are presented include *American Chemical Society* (ACS) -Polymer Chem. Div. -Rubber Div. -Polymeric Materials: Sci. & Eng. Div., *American Physics Society* (APS) -Polymer Physics Div., *American Institute of Chemical Engineers* (AICHE) -Materials Eng. & Sci. Div, *Soc. Of Plastics Engineers* (SPE), *Soc. For the Advancement of Materials and Process Engineering* (SAMPE), *Soc. Of Plastics Industries* (SPI), *American Society for Composites* (ASC), *Soc. of Rheology, Adhesion Society* (AS), *Gordon Conference, International Union of Pure & Applied Chemistry* (IUPAC). In Korea, we also have *The Polymer Society of Korea.*
Since 1960's, many KSEA members and Korean Americans have made significant contributions to polymer science and engineering. Following is a list of individuals in random order, with their affiliation and area of research.

Ryong-Joon Roe: Univ. of Cincinnati-Polymer Physics and Characterization of Polymers, One of the earliest scientist in polymer research starting in 1962.

Hyuk Yu: Univ. of Wisconsin-Madison-Polymer structure-Property Relationship, Chain Dynamics, Interfacial Phenomena. Started career in 1967 and maintained active industrial consultation.

Nam Pyo Suh: M.I.T., KAIST, NSF-Polymer and Composite Processing, Tribology, Founding Director of "*MIT Laboratory for Manufacturing and Productivity*" and "*MIT-Industry Polymer Processing Program*".

Chang Dae Hahn: Univ. Akron-Polymer Rheology, Polymer Processing, Computational polymer fluid dynamics. Published four books in rheology.

Sung-Hou Kim: Univ. of Cal. Berkley-Structural research of biopolymers and proteins

Sung Wan Kim: Univ. of Utah-Polymer application in drug delivery. Pioneer in drug delivery research in hydrogels and biodegradable polymers.

Kun Sup Hyun: Dow Chem., Polymer Processing Institute, NJIT-Polymer Processing engineering, expert in Extrusion.

Chan Il Chung: Rensslaer Polytechnic Institute-Polymer Processing, expert in Extrusion.

Nak-Ho Sung: Tufts Univ.-Polymers and Composite processing, Surface & Interface, Diffusion in polymers, Founding Director of "*Laboratory for Materials & Interface*".

H. Thomas Hahn: UCLA, Penn State, Washington Univ.-Composite Technology involving design, analysis, processing and manufacturing.

Chong Sook P. Sung: Univ. of Connecticut-Polymer Physical Chemistry, expert in Spectroscopy of polymer characterization. Program Director, Polymer Program, Institute of Materials Science (IMS).

Oh-Kil Kim: Naval Research Lab.-Polymer synthesis

Byung Hoon Kim: Univ. of Massachusetts—Manufacturing of polymeric materials, Flow simulation.

Chung Poo Park: Dow Chemical-Polymer processing, Foamed plastics

Hyunmin Yi: Tufts Univ.-Application of biological materials, Bio-nanomaterials.

Kang-Wook Lee: IBM TJ Watson Rec. Center-Microelectronic packaging, Surface and interface, adhesion.

Kyu Yong Choi: Univ. of Maryland-Polymer reaction engineering

Jung O. Park: Georgia Institute of Technology-Polymer rheology, Textiles

Note: The author acknowledges that the above list is by no means a complete one, and apologizes in advance to anyone who may be left out.

My Experience with KSEA and Its Positive Impact on Research Program

Gyeong S. Hwang

Materials Science and Engineering TG councilor (2015-18)

The first KSEA activity that I was involved is a Southern California Regional Conference in 1999 when I was finishing up my PhD dissertation at Caltech. Since then, I have participated in various KSEA activities including technical meetings and social events. And I am personally glad to have been of service to KSEA as workshop organizer, TG councilor, and committee member. Among others, I felt very privileged to organize SEED 2019; this workshop has been offered by KSEA and KOFST to provide mentorship to, and help develop the careers of, junior Korean-American scientists and engineers. Moreover, I am really grateful to have great mentors through KSEA, Prof. Hong Taik (Thomas) Hahn (28th president), Prof. Nak Ho Sung (30th president) and a few others who have been instrumental in guiding and encouraging me on my career path. Furthermore, KSEA has provided excellent opportunities to network and share thoughts and ideas among people from different fields, which significantly enriched my academic career. Especially such interactions within KSEA greatly helped establish an interdisciplinary and productive research program. Herein, I would like to briefly introduce my current research and also share my experience as a SEED organizer.

At lunch with KOFST president Boo-Sup Lee during UKC 2015

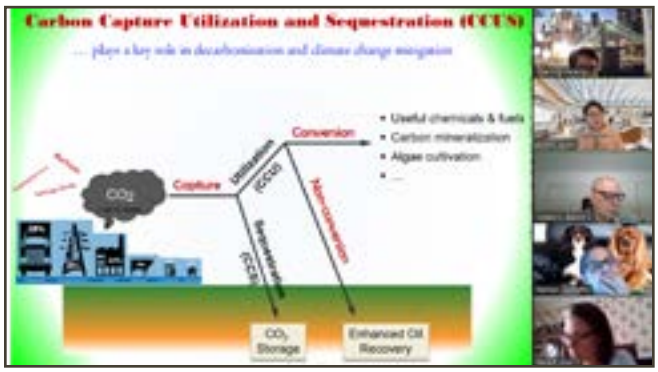
Interdisciplinary Research in Computational Materials and Chemical Sciences

Since joining UT-Austin as an Assistant Professor in 2001, I have developed my research program in computational materials and chemical sciences with the overarching goal of accelerating materials development and process optimization via high performance computing. The discovery and design of new materials has long played a key role in enabling technological advances across a wide range of industries. Especially for low-cost clean energy technologies to be economically competitive with fossil fuels, we need to develop new energy conversion and storage materials that are cheaper, more efficient, more abundant, and safer than those currently used. We should also make the materials discovery, development, and deployment faster, less expensive, and more predictable. Experiment can provide many clues to the behavior of candidate materials, but the interpretation is often controversial due largely to the difficulty of direct characterization. Under such circumstances, a first-principles computational approach has emerged as a powerful alternative for the understanding and optimization of complex materials and processes. My current research mainly focuses on materials chemistry for next-gen batteries, atomic layer deposition and etching (ALD/ALE) for future semiconductor devices, and cost-effective solvent design for carbon capture. Besides creating new scientific knowledge, my research program has exerted substantial impact on industrial R&D as described in the following.

Lithium ion batteries (LIBs) are ubiquitous in our everyday lives. However, in order to extend their effective use as large-scale energy storage systems for next-generation electric vehicles and renewable energy, there is an imminent need to further increase the energy density, power density, and cycle life while retaining safety and cost at an affordable range. In addition, all-solid-state lithium-metal batteries (ASSLMBs) have recently garnered considerable attention due to their advantages in terms of energy storage capacity and safety over LIBs. However, the large interfacial impedance originating from poor physical contact and/or parasitic reactions at the electrode/electrolyte interface hinders the development of ASSLMs. The challenge involves developing a firm understanding of electrode and electrolyte materials as well as the structure and chemistry at their interfaces, which has been greatly assisted by systematic computational investigations. With financial support from **SK innovation (SKI)**, we have recently identified mechanisms and methods for synthesis of inorganic layers that exhibit unique and exceptional properties for use as an interfacial protective layer, contributing greatly to the development of ASSLMBs as well as advanced LIBs.

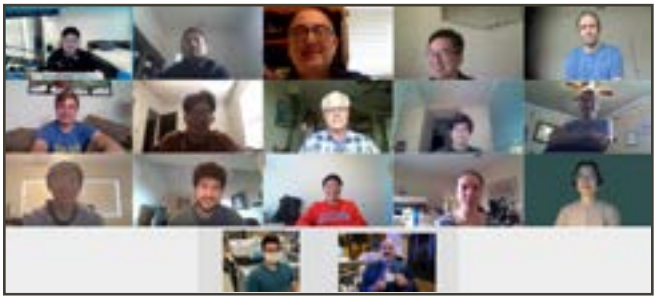
SKI Visit to Goodenough (2019 Nobel Laureate in Chemistry)

Global warming that has enormous negative societal impacts is primarily due to the greenhouse gases generated from the burning of fossil fuels. There have been ongoing efforts to reduce carbon dioxide (CO2, primary greenhouse gas) emissions. Aqueous amine-based chemical scrubbing is currently considered the most promising near-term solution for CO2 capture from flue gas. However, its widespread implementation is hindered by the high cost associated with the parasitic energy consumption during solvent regeneration, along with degradation and corrosion problems. Computer simulations play an increasingly significant role in exploring the function and properties of candidate solvents as well as the complex physicochemical phenomena underlying CO2 capture and solvent degradation, especially when direct experimental characterization at the atomic level may be difficult. Funded by **ExxonMobil** and KCRC, we have revealed underlying mechanisms responsible for anomalous reaction behaviors associated with CO2 capture and solvent degradation; the enhanced understanding provides more complete explanations for experimental observations and also valuable hints on how to optimize existing solvents and design more cost-efficient ones.



UTA-Exxon Monthly Meeting

The semiconductor industry faces new challenges in the sub-5 nm era. Three dimensional device construction involving new materials and deep sub resolution patterning cannot rely on traditional continuous processes to deliver atomic scale fidelity. The lack of self-limiting behavior in continuous processes directly implies that careful control of time and dose are required in etch/deposition processes. This control is difficult and results in very constricted process windows. In principle, understanding the chemistry occurring at surfaces in semiconductor device fabrication is critical to engineering new or improved processes for more complex devices. Systematic computational studies provide invaluable guidance for controlled growth/etching of thin layers by ALD/ALE based on basic chemical principles, through a deeper understanding of the underlying reaction mechanism and correlation between process parameters and ALD/ALE outcomes. Funded by **Samsung** and **Tokyo Electron (TEL)**, we have newly identified molecular mechanisms for controlled growth/removal of silicon nitride and high-k dielectric films by ALD/ALE, essential for future generations of semiconductor devices.



UTA-TEL Quarterly Project Review Meeting

A rigorous computational approach that combines insights from multiple length and time-scales, starting from an understanding of the electronic structure of materials, opens a challenging research direction with the potential to create a new paradigm for the computer-aided design and optimization of complex materials and processes. It should also be emphasized that computer simulations support and complement experimental studies, and vice versa. They can provide explanations for experimental observations and guidelines for synthesizing and characterizing new materials and developing improved materials systems, while experimental data are used for validating calculation results and testing theoretical predictions. The synergistic collaboration between theory and experiment, also **between academia and industry**, will greatly aid the accelerated development of novel materials and their integration to industry.

My Rewarding Experience as SEED Director

I was requested by Dr. Jun-Seok Oh (48th president) to help organize the SEED 2019 workshop. It was both a privilege and great fun to organize this important meeting with three other wonderful committee members including Dr. SungWoo Nam (formerly UIUC and now with UCI), Dr. Hee Jeung Oh (Penn State), and Dr. Soyoon Kum (formerly UCR and now with ASU).

Under the theme of "*Advanced Materials for Environment, Energy and Life*", this program intended to provide opportunities to discuss career planning and development, explore emerging research topics, and cultivate mentoring relationships among participants. The SEED 2019, held at the Hilton Washington Dulles Airport Hotel, comprised three plenary sessions, two panel discussions, informal subgroup meetings, and a lightening talk session. Each plenary session had 10-20 minutes of Q&A at the end. In panel discussions, after the panelists briefly shared their stories, the audience was strongly encouraged to engage in further discussion. The subgroup meetings, scheduled after dinner, were designed to foster informal, direct conversations between mentees and mentors. The Lightening Talk session aimed to explore collaboration opportunities among the participants.

We were pleased to have about sixty (60) selected participants including senior PhD students, postdoctoral fellows, and early-career professionals in nearly an even ratio. Unlike past programs, we also invited five (5) mid-career professionals who served as mentors, in addition to seven (7) esteemed invited speakers, to provide a better networking opportunity. The early to mid-career participants were actively engaged in all activities as both mentor and mentee, facilitating very dynamic interactions among attendees. Our invited speakers were the leaders, including Dr. Sangtae Kim (Purdue U.), Dr. Philip Kim (Harvard U.), Dr. Youngsoo 'Richard' Kim (NCSU & 45th KSEA president), Dr. Jaehong Kim (Yale U.), Dr. Jennifer Cha (CU Boulder), Dr. Young-Shin Jun (WUSTL), Dr. Sun Hyuk Bae (SK innovation), and mid-career mentors were rising stars in their fields with outstanding careers. I was also personally very thankful that Dr. Seongjun Lee, the Head of SK innovation (SKI) Institute of Technology Innovation, graciously agreed to be a sponsor of the Saturday dinner and also shared with us the status and strategy of SKI R&D.

The day-long workshop was apparently too short to explore all the topics that we wanted to discuss, but it helped build the networks that would allow us to continuously exchange views and help each other. I believe that the information shared and the opportunity provided for networking during the workshop have helped participants further their career. Some comments from participants include;

"It was a very pleasing and productive workshop. The plenary sessions were so inspiring that I can now dream bigger and aim higher. The panel discussion on the second day was also very useful, especially to postdocs and students who look for jobs. The food was good, and the breakout session was fun,"

"It was a very effective and impactful meeting for junior faculty and promising early-career candidates. Sharing personal experience and difficulty from outstanding senior mentors and colleagues were the most valuable to release the stress and loneliness,"

"It was more than I expected. It was my first time participating in KESA event. I thought about what can be done just in one day. However, it actually happened. I really enjoyed the presentations, talking with others, and meeting new persons. I sincerely thank you for this opportunity,"

"*KSEA 행사는 local chapter 행사를 제외하고는 전국단위 행사는 처음 참석하였습니다. 그래서 인지 간편한 마음으로 참석하였는데, 참석하신 분들이 모두 프로페셔널 해서 놀랐고, 덕분에 많은 자극, 좋은 영향과 기운도 받고, 다양성이 큰 만큼 다양한 분야의 사람들과 함께 여러 방면으로 많은 공부가 되었던 시간이었습니다. 저도 연구소 내 KSEA를 통해 많은 한국인 과학자들과 교류해 왔지만, 더 넓은 곳에 계신 다양한 연구를 하고 있는 과학자 분들을 만나 교류할 수 있었던 좋은 기회였다고 생각합니다. 그래서인지 집으로 돌아오는 길에, 내년 UKC가 기대가 되기 시작했습니다. 내년에도 많은 분들을 만날 수 있었으면 좋겠습니다.*"

My Global Research Journey and KSEA: Telecommunications Service Management

Young B. Choi

The 34th, 35th, 36th, and 41st KSEA Publication Director

In 1988, I started my research in America by an invitation of renowned scholar in language syntax and semantics, Dr. Jonathan C. Oh of the University of Missouri-Kansas City. In Korea, I studied Computer Science and Statistics, and focused on an interface between Natural Language Processing and Expert Systems in Artificial Intelligence (AI). Naturally, I was thinking of designing and implementing an enhanced Natural Language Processing software as an interfacing media to an expert system like Apple's Siri as we are using these days.

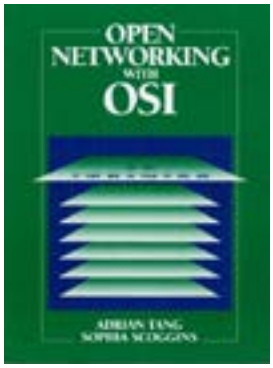


Fig. 1 Open Networking with OSI [1]

But, after studying AI for three years or so I was hesitant to continue my research in that direction because the possibility of realizing AI technologies in real life was too far away and expecting substantial research results were not that easy.

One day, I expressed my research direction change intention to my academic advisor and Dr. Adrian Tang suggested me to work with him as a Research Assistant in writing his pioneering book 'Open Networking with OSI' during summer vacation. (See **Fig. 1**) I gladly accepted his proposal and contributed one chapter regarding 'Remote Database Access' as one of the chapters of his book. That chapter became a substantial content of my second M.S. thesis later in 1991. I also did a proofreading work of his book. I became a member of his lab, OSE Lab (Open Systems Environment Lab) and was involved in educating and training federal employees and contractors by the financial support of US Department of Energy through many workshops [2].

The OSE Lab was selected as the best university lab of the year in Fall 1992 by receiving the INTEROP '92 Networking Achievement Award in Education Category in San Francisco, California.

The next big question for me was what a very exciting and challenging research topic will be. In the year of 1995, I got a golden chance to attend a meeting held in London with my academic advisor and lab members. It was hosted by NMF (Network Management Forum). NMF is a biggest global international telecommunications industry consortium and I had a chance of presenting my technical contribution. The theme was on seamless Service Order Handling (SOH) in telecommunications service delivery.

The issue was how we can make the 'heterogeneous' service order handling electronic interfaces around the world to work together seamlessly. For example, if one Korean telecommunication service subscriber is trying to order a very interesting service recently released service by a foreign Telecommunication Service Provider (TSP) such as Verizon Wireless in America without any technical problems [6], is it possible to achieve it? (See **Fig. 2**) That time it was a very challenging issue in an international telecommunication industry.

The following shows an abstract of my interdisciplinary Ph.D. dissertation in Computer Networking and Telecommunications on 'Service Order Handling'[4]:

Current service order handling systems in telecommunications industry have problems such as user-friendliness, long service waiting time, uneasy customization of services, limited capacity of in-house services, and inefficient human resources allocation. Consequently, the current solutions for the ordering process cannot be used to meet the business needs of service providers. To solve this problem, a generic service order handling model is suggested. Based on the TINA-C information modeling and computation modeling concepts, service order handling information object types and interfaces were defined.

The three ordering interfaces studied in this model are: service negotiation, service ordering and tracking for the main service provider and subcontracted service provider.

To support the transfer of ordering information, the Store-and-Forward Paradigm is proposed. This Store-and-Forward paradigm is based on the use of e-mail (e.g., X.400) to transport non-real-time information.

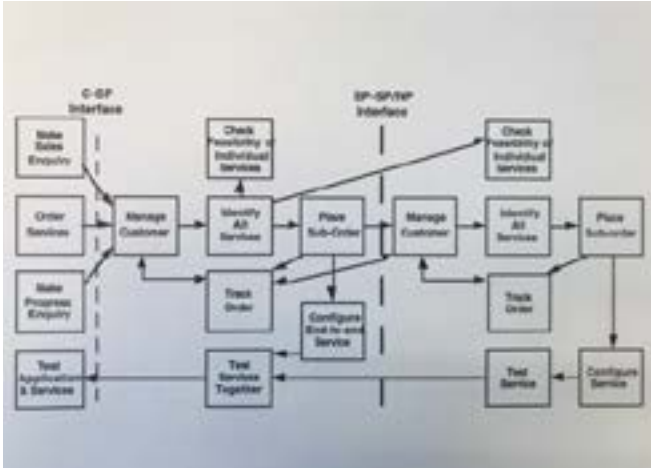


Fig. 2 NMF Generic Ordering Process Model [3]

Fig. 3 At the NOMS '96 with the Award Committee Chair Dr. Doug Zuckermann – Peraton Labs, USA, the reference [5]

My research focus was on the telecommunications SP-SP (Service Provider to Service Provider) Interface shown in the **Fig. 2**. My Ph.D. dissertation research work was presented later at an international conference as the following:

"A Generic Model for the Service Ordering Interface in the Customer-Service Provider Environment" with Adrian Tang, Deokjai Choi, Oh-Young Kang, and Hai Feng Weng. Presented at the IEEE Network Operations and Management Symposium (NOMS '96), Kyoto, Japan, April 15-19, 1996 [5].

I was lucky to receive the Best Paper Award of the NOMS (Network Operations and Management Symposium) '96 in Kyoto, Japan (See **Fig. 3**). It was a big surprise for me as a junior researcher just finished a graduate study. That time, I was working at ETRI (Electronics Telecommunications Research Institute) PEC (Protocol Engineering Center) in Korea as 'the first American Ph.D. degree holder' Korean postdoc after completing my interdisciplinary Ph. D. degree in Computer Networking and Telecommunications in December in 1995 in America.

I continued my research at ETRI as a Network Security Team Leader and a member of international TM Forum (a successor of NMF) World Service Ordering Team. The following shows the technical specifications I contributed significantly during my tenure at ETRI.

-SMART SP-to-SP Order Handling Information Modeling and Interface, Technical Specification, Version 1.0 (currently 3.0), presented at the NMF SMART Meeting in Colorado Springs for the SMART Ordering Team, Colorado, USA, January 15-19, 1996. (Coworkers: Adrian Tang and Deokjai Choi)

-SMART Ordering Analysis and Design Specification, Issue 1.00, March 1997. (Coworkers:Network Management Forum (NMF) SMART Ordering Team)

-SMART Ordering SP to SP Interface Business Agreement -NMF 504, Issue 1.00, September 1997. (Officially published by NMF, Coworkers: Network

Finally, I was recognized as the first recipient of the Outstanding Contribution Award of the TeleManagement Forum (TMF) in Dallas, Texas during October 1998. It was awarded by the President and Chief Executive Officer of the TMF in recognition of outstanding contribution, for dedication of time and energy, and for helping the team succeed within the year of 1998. (See **Fig. 4**)

I was the TeleManagement Forum World Ordering Team Technical Member (1995-2000) and University Liaison Program (ULP) Representative of James Madison University (2004-2009) and is of Regent University in Virginia Beach, USA since 2010.

TeleManagement Forum recognized my contribution to establish the first universal telecommunications World Ordering Model by doing a research through my Interdisciplinary Ph.D. dissertation "Service Order Handling" (1995) at the University of Missouri-Kansas City with my academic advisor Dr. Adrian Tang.

The TeleManagement Forum finally published the following technical specification and the major Telecommunications Service Providers around the world stated to implement the Service Order Handling interfaces accordingly because the model I contributed significantly was approved as a 'truly' global TSP interface model:

World Ordering Information Agreement (Formerly SP to SP Ordering) – TMF 603, Version 1.0, May 1999. (Officially published by TMF, Co-authors: TeleManagement Forum (TMF) World Ordering Team) [7]

Fig. 4 TMForum Outstanding Contributors Introduction Page

I have worked for a Singaporean multinational company Creative Technology Ltd., an Indian software consulting firm Birlasoft, Inc., and Compaq Computer Corporation (currently, Hewlett-Packard) in Silicon Valley, California, as a development manager. I have also taught at James Madison University, the University of Missouri-Kansas City, and Bloomsburg University of Pennsylvania, I joined as a founding member of University Liaison Program (ULP), a team of major international universities teaching and researching telecommunication network and service management technologies.

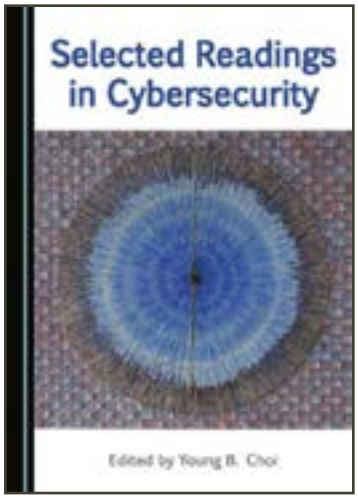


Fig. 5 Selected Readings in Cybersecurity the reference [8]

Since 2010, I am focusing on one of the five major Functional Areas, Security of FCAPS (Fault, Configuration, Accounting, Performance, and Security). I have been doing my research regarding Cybersecurity intensively and the results were published as a book "*Selected Readings in Cybersecurity*" by a British publisher Cambridge Scholars Publishing in 2018 [8]. (See **Fig. 5**)

AS a tenured professor, I took a leading role in designing and implementing Cybersecurity Programs (B.S. and M.S degrees) consecutively at Regent University. Regent University was named as a National Center of Academic Excellence in Cyber Defense Education (CAE-CDE) by the National Security Agency (NSA) and the Department of Homeland Security (DHS). According to the latest data published by NICE (National Initiative for Cybersecurity Education, 2018), Regent is among only four percent of universities in the United States to receive this merit.

I feel quite accomplished with the fact that I contributed in laying a foundation for the seamless global service delivery which is the key technology in today's flourishing network and telecommunication services including Social Network Services (SNS) through my global research journey.

Through my diverse global research and teaching experiences, I want to express my sincere thanks to KSEA and all the dedicated members who helped me to make them possible. I celebrate the 50th anniversary of KSEA from my deep heart with love.

KSEA is forever!

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3. SMART Ordering White Paper, NM Forum, Version 1.0, October 1995
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7. World Ordering Information Agreement (Formerly SP to SP Ordering) – TMF 603, Version 1.0, May 1999. (Officially published by TMF, Co-authors: TeleManagement Forum (TMF) World Ordering Team)
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Enriching Faculty Academic Career by and for KSEA

Yongho Sohn

The 1st Central Florida Founding President

Like any other academic faculty in the US, I teach so that I inspire students, research so that I contribute to knowledge, and serve so that I am engaged with professional and at-large communities. It is within this normalcy in duties for a university faculty that I came to learn about KSEA, and my engagement with KSEA has brought a significant enrichment to my career in all three aspects of teaching, research and service. Like many members, KSEA has a very special place my heart and my career, and I would like to document why, by beginning with a little bit of my personal background.

I am a Korean-American who is characterized as 1.5 generation. I grew up and was educated outside of Korea since 13 years old, circa 1983, and my formal education in Korea ends with 성신 초등학교. My father's profession took me everywhere for my middle and high school education that included Fort Lee Middle School (NJ), Riverdell High School (NJ), and Hong Kong International School (HK). Surely I spoke a few languages, but was hard pressed to find "동창" or any other person who could connect me back to Korea, especially within my field of expertise. My professional career as an assistant professor at University of Central Florida (UCF, Orlando, FL) started with a Ph.D. in Materials Science and Engineering from Purdue University (IN).

After some success as a faculty that included NSF Career Award, I received a curious email from Dr. Sooho Kim (General Motors) – an invitation to present my research at UKC 2006 (NJ). At this point, I had no idea what KSEA stood for and what UKC was. So much so, my ignorance even forbad me from getting the travel reimbursement because I failed to submit the request form in a timely manner (i.e., blame junk mail folder). Slowly but surely, my interaction with KSEA grew with the establishment of Central Florida chapter in 2009, which I served as the founding Local Chapter President. Then like a lightening, I was invited to serve as an Executive Director of 40th Administration lead by 40th President Hosin David Lee. And I have been interacting with KSEA for the past 10+ years. While serving the KSEA has been a fresh breeze of activities full of dynamically-moving, logistics-challenging and time-consuming effort on my part, service to ***KSEA has awakened the special pride of being a faculty in a university in the US with Korean-heritage.*** Moreover, ***activities and interactions within KSEA has brought substantial support for my academic career in terms of research funding and personnel.***

Despite the lack of education and professional connections to Korea, through my interaction with and various channels of KSEA, I was recognized by Korean peers in academia and industry for the research I was conducting. Although I had to present technical content in English (mostly), I was frequently invited to give talks in various universities and industrial R&D laboratories in Korea. Facility and capability of these places I have visited have deeply impressed me with strong pride as a scientist and an engineer, who left Korea as a barely teenager. Moreover, these interactions lead to hosting of visiting scholars, sponsored research projects and hosing of exchange research students, all of which significantly enriched my faculty academic career.

Visiting scholars and Post-Doctoral Research Scientist

After a visit to a university or industry R&D laboratory in Korea, it was not uncommon to find a faculty or researcher, including post-docs, who wanted to visit and work in my laboratory for a week or a year or even two years. They were from Hanyang University, Korea University (2), POSCO (2), Korea Atomic Energy Research Institute, Doosan Heavy Industries and Construction, Inha University, Korea Electric Power Corporation (KEPCO), Seoul National University of Technology (2), Andong National University (2), Korea Polytechnic University, Pusan National University, Kyungbuk National University, Pukyung National University (2), and Kongju National University.

Sponsored Research Projects

Interactions with visiting scholars at my institution, during my visit to Korea, and especially at international conference venues have yielded topical discussions and fruitful sponsored research projects. For example, several research projects were carried out with sponsorship from Doosan Heavy Industries and Construction (DHIC) in understanding, testing and characterizing protective coatings (i.e., thermal barrier coatings) for gas turbine engine hot section components. This was a very powerfully rewarding experience for me as Doosan started from a blank paper to a final product that only a very few countries in the world can claim capable to produce. Overall research trends in gas turbine hot section materials and coatings were assessed through sponsorship from Korea Electric Power Corporation (KEPCO). Fundamental research in welding metallurgy and additive manufacturing (3D printing) of metallic alloys was carried out with sponsorship from POSCO. These projects have produced a number of publications with foci on the fundamental scientific aspects, and have not only enhanced my academic career, but I am also proud to have contributed to the establishment of scientific and technical credentials for the industrial R&D in Korea.

Exchange Students

Another fruitful outcome of my interaction through KSEA was the hosting of long-term graduate research scholars from Korea in my laboratory at UCF. In particular, from INHA University through Prof. Keeahn Lee (Department of Materials Science and Engineering), I was able to host several visiting graduate research scholars who contributed significantly to the research operation in my laboratory, and "motivated" my own graduate students with their work-ethics, while making substantial progress in their own research through capability offered through my research laboratory.

Of course, one of the biggest surprise of my KSEA interaction was running into my adolescent friends from 성신 초등학교, Dr. Kyungjae Myung (formerly NIH and now with UNIST/IBS) and Dr. Minseo Park (Auburn University). Although our fields of expertise are different, the fact that UKC brings scientists and engineers of all disciplines around the world has gifted me with additional encountering of old friends as well. As listed above, my service to and interactions with KSEA has produced many professionally beneficial outcomes in my academic career, along with a few personal surprises, because of "connections" that KSEA was able to provide for its members.

Catching up with old friends from 초등학교 during UKC

After a seminar at Seoul National University, 2018

Chapter 6

Contributions in US-Korea Industry and Entrepreneurship

- History and Vision of Entrepreneurship in KSEA
- STEM Partnership Program
- The Spirit of KSEA Small and Medium Enterprise Committee (SMEC)
- Help Provided to Korean Small and Medium Enterprises by Bushitol Corporation Founded by KSEA Members
- My Experience of the R&D Capability Improvement Effort in the Korean Heavy Industries Corporation
- Entrepreneurial Journey - Measured Risk Taking and Continuous Learning for Value Creation
- The Sustainability of the Business

History and Vision of Entrepreneurship in KSEA

Myung Jong Lee
The 42nd President

Tilling the ground

One of the missions that has continued in the history of KSEA for the last 50 years since its inception in 1972 was the collaboration between the United States and Korea through science and technology. Considering the level of science and technology in Korea in the 1970s and 80s, many KSEA members with unsparing patriotic hearts made significant contributions for Korea in various ways, which helped achieved the miracle of the Han River.

When speaking about the cooperation between US and Korea through science and technology, the Korea side partners of KSEA were mainly government research institutes and large companies. Many KSEA members returned to Korea for positions in academia and industry, spent sabbatical leave in Korea, offered seminars and consulting. If all the contributions of KSEA members were detailed here, even whole book would lack the space. Thus, this article will focus on the organized entrepreneurial activities KSEA has undertaken for startups, small and medium businesses in US and Korea.

Early days KSEA members actively contributed to the development of the economy in our motherland through a variety of activities. In the remarks of the first KSEA president Shoon Kyung Kim's[1] we get a glimpse of what the mindset of early members and the activities were like: collect science and technology-related books and magazines and send them to Korean research institutes; donation of scientific experimental equipment; responding to the collaboration requests from Korea by individual members, chapter and committee levels; status and needs of research and technology institutions in Korea to be published via KSEA Letters. One noteworthy event was that in 1972, the Delaware Valley Chapter (DVC) (Chapter president, Young-il Mok) formed a technical advisory group to help Korea to ease the technological dependency from the United States and Japan and strived to contribute to the economic self-sufficiency of Korea. Several joint research projects were conducted with the Korea Institute of Science and Technology (KIST). The group continued to help Korea by holding science and technology symposiums.

In 1975, 3rd President Young-bae Kim made a proposal[2] that is applicable even today. For example, he proposed to establish an information center in Korea so that the information of KSEA members could be shared more efficiently with institutions in Korea; to establish a research center mainly for the members of the KSEA to directly sign research contracts with Korea institutions. The proposal also included forming a special committee for a field that is important in Korea.

While the efforts to help development of science and technology in Korea continued, a proposal addressing "entrepreneurship" came out for the first time in 1977[3]. President Chong Hwa Pyun emphasized that KSEA should help small and medium-sized businesses in Korea especially because those small businesses in Korea were not able to carry out technical development on their own. Unfortunately, however, no follow-up activities ensued.

In 1986, an announcement in a KSEA Letter[4] (President Dong Han Kim) showed the status of technological development of small businesses in Korea, which featured 26 technological categories and requested KSEA members to participate in urgently needed technical advices for small businesses in Korea. Some of these technical categories are plastic bottle, ceramic core, electronic scale, continuous casting of pipe, magnetic chucks textile machinery, automotive components, capacitors, etc. Seeing these technical needs, one may gauge the technical situation of small and medium-sized enterprise (SMEs) in Korea at that time.

Seeding

1988 was the year Korea hosted the Olympic Games, and it was a proud event for Koreans living at home and abroad alike. Korea took a giant step toward the world stage. Following this proud historical milestone, 1989 is a year that an important seed was sown for KSEA in the perspective of entrepreneurship. Apart from a few, early period KSEA presidents were predominantly from academia. Then, in 1989, President Kwang Kuk Koh (then CEO of Chrysan Ind., Inc) initiated an organized entrepreneurship project for the first time in the history of KSEA. Perhaps, the project was stemming from his own experience and interest that he had started and successfully grew a small business.

1 KSEA Letters Vol. 1, No. 1, January 1972
2 KSEA Letters Vol.4, No. 2, May 1975
3 KSEA Letters Vol. 5, No. 15, June 1977
4 KSEA Letters Vol. 14, No. 1, August 1985

On April 7, 1989, KSEA hosted the very First Symposium for Korean-American Technology Entrepreneurs[5] for three days at the Rockville Maryland Crown Plaza Hotel. Approximately 40 people from small technology businesses and KSEA headquarter staff members met together to share each other's experience. Participants attended lectures on all matters necessary to develop and grow businesses and discussed how to pursue mutual collaboration and information exchange not only among members within United States but also with entrepreneurs in Korea.

For the Symposium, Mr. Sung-Jwa Hong, Chairman of the Small and Medium Business Corporation of Korea attended and gave a lecture on the subject of "*Technology Transfer to Home Country and Joint Venture*". Through this lecture, Mr. Hong made several suggestions on the potential collaboration between the KSEA and SMEs in Korea. First, technical consulting for SMEs in Korea. Second, arrangement for on-site training of SME people from Korea , and lastly, technology transfer and joint venture for Korea SMEs.

As determined during the symposium, KSEA formed a group of entrepreneurs and KSEA leaders to visit Korea from June 30 to July 7 of the same year. This visit was sponsored by the Korea Ministry of Science and Technology and the Korea Small and Medium Business Corporation. The visiting group was led by group chair Kwang Kuk Koh and group vice chairs Bo Han Hwang, and Young Hwan Sohn and included members like Yong Nak Lee, Hee Min Lee, and Jeong Yeon Tae Jeong, etc. They visited Samsung Central Research Center, GeumsungSa (today's LG) Central Research Center, Daedeok Research Complex, small and medium-sized enterprises in Korea and exchanged mutual interests and discussed future collaboration and projects.

제 1회 재미 한인 기술기업인 Symposium, 1988년 4월 7-9일

제 17대 고광국 회장

This first symposium clearly set an important model for all following UKC's Entrepreneurship symposia, which will be discussed in the next section.

Incubating

During the Seeding Phase, there were occasional events related to entrepreneurship, but most were limited and one-off events. Since 1998, entrepreneurship event has been held continuously as a part of the annual technical conference. The first of such entrepreneurship symposium was established at the Korea-US Technical Conference on Strategic Technologies in 1998[6] (President Ki-dong Lee), which is regarded as the first US-Korea Conference (UKC). During the first UKC in 1998, an Entrepreneurship Session was organized by Jay H. Chung, CEO of Tyco Engineering Inc.

In the following year 1999, the title of UKC was changed to Science, Technology, Entrepreneurship, and Leadership, and the term "Entrepreneurship" placed in the UKC title. Since then, KSEA has enhanced efforts to improve both quantitatively and qualitatively the entrepreneurship activities. President H. Thomas Hahn shared his vision on entrepreneurship for KSEA[7]. "*I propose we pull our expertise together in the spirit of entrepreneurship. We should open a dialogue between researchers and practitioners. We should explore together investment and business opportunities collectively. I challenge each chapter to develop entrepreneurship opportunity for its members. I am pleased to report that two chapters have already held successfully venture business forums: New England Chapter and Southern California Chapter. The fruits of these forums are yet to be seen. However, we are sowing the seeds. The headquarter is working on a plan to find consulting opportunities for our members. Opportunities for leadership and entrepreneurship development should be what distinguish the KSEA from other professional organizations. I invite every chapter to join in our effort to expand these opportunities for all our members. I salute chapter presidents for their leadership and dedication*".

In UKC 1999, the Entrepreneurship symposium and the Technology Based Venture Forum were held together. The Entrepreneurship symposium was held for two days and organized by Chong Do Lee (Leedco) and Peter McDermott (LG America) as Co-chairs. Most of 12 speakers were founders of small business in the United States, sharing their experiences of starting a business. The symposium also became a platform to explore future collaboration among the participants. Meanwhile, the Technology-Based Venture Enterprises Forum (TVEF) was organized by Anthony Kim (Inno-Tech Associates) and Sora Cho (Hughes Communication) as co-chairs. Divided into two sessions, the forum presented and discussed challenges to entrepreneurs and investees.

Anthony Kim pointed out the explosive venture activities taking place in the United States at that time and indicated the existence of substantial interest in becoming a technology entrepreneur among many KSEA members. While pointing out that most of the speakers who attended this TVEF were non-KSEA member invitees, Anthony proposed, that KSEA made a multi-prong effort for members interested in entrepreneurship, making successful matching between

5 KSEA Letters Vol. 17, No. 5., 1989 (Note) Early KSEA letters were published in Korean. The original title of the symposium in Korean: 제1차 재미한인 기술기업인 Symposium

6 KSEA Letters Vol. 27, No. 2, December 1988

7 KSEA Letters Vol. 28, No. 3, March 2000

promising entrepreneurs and the understanding capitalists across the US and Korea. Although TVEF forum was overlapped with other programs of UKC 1999, it was the most attended forum with about 30 people. Many attendees suggested that entrepreneurship forum should be held at a place in the heart of potential audiences such as Korean community center for easy access and parking as well as other considerations such as food and beverages. He further suggested KSEA to start to capitalize members' vast expertise in technologies and skills and to hold a nationwide or international (mostly US-Korea) forum. He concluded that equal amount of efforts should be exerted to convince potential capitalists to participate in such an event.

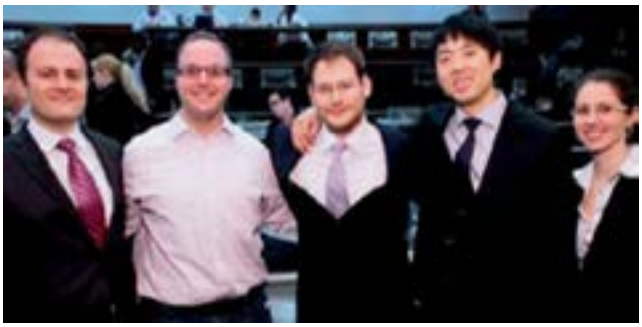
The UKC 2000[8] (President Howard Ho Chung) continued entrepreneurship event with the same title, the US-Korea Conference on Science and Technology, Entrepreneurship and Leadership. Starting-up High-tech Venture Business workshop was organized by mostly the leaders who served in the UKC 1999- Peter Cho, Yong Nak Lee, Anthony Kim, and Daniel Park. The event was short of implementing the various good proposals brought forth by Anthony Kim in the previous year.

In the year 2001[9], president Nak Ho Sung left the term "Leadership" out from the UKC title and made it to US-Korea Conference on Science, Technology and Entrepreneurship, which is still in use today. The Entrepreneurship and Venture Business Forum were organized by Peter C. Cho and Hikyu Lee. As in the previous year, participants shared venture experiences, financing, government funding sources, followed by Q&A and panel discussion. The former KAIST president Prof. Nam Pyo Suh was noticed in the participation list.

After UKC 2002 held in Korea, Entrepreneurship and Venture workshop resumed in 2003 (President Quiesup Kim). Again Peter C. Cho served the chair along with Chong Do Lee. Due to different emphases for UKCs in the next few years, entrepreneurship program was left dormant, while the title was maintained.

UKC 2009[10] (President Chueng-Ryong Ji) revived the entrepreneurship forum featuring several talks and a panel discussion organized by Yung Bog Chae (Gyeonggi Bio-Center), Julius Rim, Prof. Jong Kyu Kim, and Jin Soo Kim to inspire entrepreneurship to young KSEA members.

In the following year, Jae Hoon Kim as the 39th president explored opportunities of technical consulting services for small/medium businesses in Korea; subsequently, several funding proposals have been submitted to several Korea agencies such as KOFST and KIAT.



Winner of Business Venture Challenge during YGTLC 2012: From the left: Cem Murat Deniz, Daniel Bain, Leeor Alon, Gene Cho, Iliyana Atanasova

In UKC 2012 (President Hosin Lee), US-Korea Industry forum was organized by Professors, Jongwook Woo and Jongdae Lee. The forum invited 9 institutes from US including several small businesses in the hopes to connect these companies with large corporations and research institutions from Korea and US. Worth noting is the entrepreneurial event, Business Venture Challenge held at YGTLC (Young Generation Technical and Leadership Conference). The winner of $10,000 prize was RF Test Labs co-founded by three Ph.D. candidates and a post-doctoral fellow at the NYU's Center for Biomedical imaging[11].

In June 2013 (President Hyung Min Chung), Technology Entrepreneurship Seminar (TES) was launched as a two-day event at Silicon Valley. More than 120 engineers and entrepreneurs attended the event from US and some from Europe and Canada. The participants were ranging from graduate students and young professionals who just started their career to seniors who were considering retirement. The seminar topics of TES covered strategy of technology commercialization, business models, corporate funding and investment, government grants for small business, intellectual property, and business success stories.

In UKC 2013 (President Myung Jong Lee), the entrepreneurship track was introduced to help many Korea industries in their search for young talents, along with the project evaluation and collaboration, which was organized by Jung Joo Hwang and Jong Dae Lee. In seeking entrepreneurial collaboration with Korea, KSEA entered into MOU with KOVA (Korea Venture Association). To promote startup activities, Business Venture Challenge event was held within entrepreneurship track and offered $10,000 award for the winning team. During the year 2013, a HQ level Industry and Entrepreneurship director position was created for the first time, and Bo Ryu was appointed for the position. Later in 2014, Bo Ryu founded the TeKOne as a KSEA Affiliated Professional Societies with the strong support of KSEA HQ.

8 KSEA Letters Vol. 29, No. 1, December 2000
9 KSEA Letters Vol. 30, No. 1, December 2001
10 KSEA Letters Vol. 38, No. 1, December 2009
11 KSEA Letters Vol. 40, No. 4, June 2012

In 2014 (President Youngsoo Richard Kim), Korea Innovation Center, Washington DC (KIC-DC) was created by Korea Ministry of Science, ICT and Future Planning as a global post for Korea's creative economy policies. The center aimed to help Korean technology startups engage with rich innovation ecosystem of the US, and offered the KIC start I-Corps, introducing NSF-driven innovation curriculum to Korean S&T universities and national laboratories. However, lack of full collaboration with KSEA, the impact of this center was very limited.

Winners of Business Venture Challenge, UKC2013

Taking-Off

Not only in the US but all countries on the planet, entrepreneurship became the norm. Indeed, most universities have dedicated offices like "technology transfer office", "commercialization office" to help students and faculty with entrepreneurial minds cultivate their ideas into startups. A variety of events such as team building, seminar, pitch competition, incubating center, legal help, etc. are taking place throughout the year. Aware of this environmental trend of the world, KSEA began emphasizing entrepreneurship and the industries for the healthy growth of KSEA membership and to ultimately benefit her members. In particular, KSEA with her vast expertise's in all engineering and science disciplines, is best poised to be the foundation of cultivating technology-based entrepreneurship.

After tilling, seeding and incubating period, the entrepreneurship in KSEA began to take-off around the year 2015 by a concerted efforts of former presidents and enthusiastic members with entrepreneurial minds. Introduced below are three aspects of current thrust: standing committee (SMEC), APS (KITEE and TekOne), and KSEA startup task force, and Local Activities.

A standing committee on entrepreneurship: SMEC

As a separate article on the SMEC committee, entitled "*The Spirit of KSEA Small and Medium Enterprise Committee*", is contributed by Yong Nak Lee and H. Thomas Hahn, detailing SMEC; thus, only a brief introduction is presented here.

During the year 2015, an important milestone was set with respect to entrepreneurship in KSEA. At the request of Jaehoon Yu (45th President), an ad hoc Small and Medium Business (SMB) committee is formed by a group of members led by Yong Nak Lee (10th President), H. Thomas Hahn (28th President) and Nak Ho Sung (30th President), the objective of which was to examine the roles that KSEA could and should play with its collective scientific and technological assets to further the economic development of both the US and Korea. The ad hoc committee held SMB workshops during UKC 2016 and UKC 2017. The committee members also visited Korea in 2017 to seek collaboration with Korean SMBA (Small and Medium Business Administration).

In 2018, a resolution was ratified at the 46th Mid-term council to establish the standing committee Small/Medium Enterprise Committee (SMEC) and H. Thomas Hahn was elected to the first chair. The primary focus of the committee has been to help small companies with technical and other business needs. Since September 2020, Myung Jong Lee (42nd President) has been serving the SMEC chair and planned to expand the role of SMEC to include startup activities and promote Entrepreneurship among KSEA members through a seminar series on essential element of startups and small businesses. Also, strategic partnership is sought with KSEA APSs relevant for the mission of SMEC.

SMEC activities are well summarized in the committee's website (https://ksea-smec.org). One of the most important activities of SMEC is UKC IES (Innovation and Entrepreneurship Symposium). H. Thomas Hahn assumed the Chair of both in UKC 2019 and UKC 2020 in collaboration with many capable and dedicated leadership in KSEA/SMEC and APS KITEE (Korean-American Innovative Technology Engineers and Entrepreneurs) and invited entrepreneurs.

UKC Innovation and Entrepreneurship Symposium (UKC IES)

A major milestone event, Innovation and Entrepreneurship Symposium (IES) was planned and successfully carried out during UKC 2019[12] (President Jun Seok Oh). As summarized earlier, entrepreneurship workshops and forums had been featured in the past UKCs; however, this event was a remarkable event compared to the similar ones in the past. The IES at UKC 2019 expanded KSEA's boundary to truthful entrepreneurship and built a new network with many entrepreneurs and venture capitalists. Booming interests in startups must have added to the success of this IES. This IES was organized and run mostly by entrepreneurs, which made the event comparable to any other mainstream entrepreneurship event. It showed the largest number of attendees for two full-day programs, topping 150. It successfully provided a cooperative environment for current and future aspiring entrepreneurs in the US and Korea to network with high-profile entrepreneurs and investors and to explore growing cross-border business opportunities in

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the US and Korea. In addition to introducing best practices of startups and offering networking opportunities with potential investors, the Startup Pitching Competition (SPC) in IES selected 22 startups as semifinalists and 11 startups as finalists and offered a pitching opportunity to finalists. Many venture capitalists from US and Korea participated as panel of judges. The first prize went to Telofarm, the second to ARIS Technology and Jun Innovations, and third to CoriTech and Chromanose.

The organizers of the first UKC 2019 IES is noted here with deep appreciation: H. Thomas Hahn (SMEC chair), Deok-Ho Kim (Johns Hopkins), Kyeong Ho Yang (KITEE founder), Tae Heum Jeong (KSV Global), and advisor Jun Suk Oh (48th KSEA President).

Winners of the first SPC in UKC IES 2019

Due to the Covid-19 pandemic, the UKC 2020[13] (President Soolyeon Cho) was conducted online, so was the IES 2020, following the same format as in 2019. It consisted of four sessions over four days: Entrepreneurs in Biotech and Healthcare, Entrepreneurs in IT and Data Science, IES Sponsor Forum, and Investment and IPO Strategy, and the Startup Pitch Competition. The IES committee invited outstanding speakers from their networks and introduced from their networks who delivered inspiring stories to audiences of which many are startup founders. Well known venture capitalist, Mr. Tae Hea Nahm (Co-founder, Managing Director of Storm Ventures) was invited to give a plenary speech at the closing session with the title, "*Becoming an American Business leader: Unlearning Confucius*". In the Startup Pitch Competition, 1st Prize (KSEA/SMEC Award) went to LISTLY (Changmin Choi), 2nd Prize (INNOPOLIS Award) to MEDIHERE (Kihwan Kim) and Excorenal Inc. (Jake K. Lee), and 3rd Prize (Bluepoint Partners Award) to BLF Inc. (Bomi Park), Zenerate (Bongjai Shin), and Tetra Signum (Mike Dowding). SMEC committee provided $10,000 for the 1st Prize winner.

In addition to the top prize awardees, all semifinalists and finalists are given benefits of one-on-on meeting with a matched venture capitalist and scale-up opportunities through partnership with KSEA and its affiliated societies. Indeed, some of these companies acquired funding from investors who participated SPC event.

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The organizing Committee of UKC 2020 IES was led by H. Thomas Hahn, (Chair, UCLA) and Kyeong Ho Yang (Co-Chair, KITEE President) with an advisory support by Jun Seok Oh (Advisor, 48th President, Entrepreneurship TF). The committee formed two dedicated groups, Program committee with Deok-Ho Kim (Johns Hopkins), Il Minn (Johns Hopkins), Yongkwan Lee (Bluepoint Partners), and Competition Committee with Tae Heum Jeong (KSV Global Innovation), Nayoung Lee Louie (Neuraly, Inc), and David R. Kim (The Yozma Group).

STEP-UP (Science and Technology Entrepreneurship Partners' Upscale Program)

STEP-UP program[14] is indeed a meaningful follow-up program after UKC IES. The main objectives of the event were to 1) boost possibility of success of innovative ventures of KSEA scholars, researchers, and young generations in biotech and advanced engineering, 2) establish a platform for sharing strategies and ideas to accelerate the growth with risk mitigation for small and medium-sized venture companies, 3) build a new ecosystem of Korean-American ventures in biotech and advanced engineering, and 4) provide Korean startups and SMEs in biotech and advanced engineering with the opportunity to set up a partnership with Korean-American scholars, scientists, engineers, professional managers, investors, lawyers, and marketers in the fields.

The inaugural STEP-UP 2020 was held September 21-24, 2020, as an online/in-person (Baltimore, MD) hybrid event. It attracted pleasantly surprised number of registrations at 230, out of which 174 through KSEA registration, while the rest 56 were from Korea through INNOPOLIS. The breakdown of attendees is shown below.

Figure 2: Breakdown of Career Status, (a) from the US and (b) from Korea.

The program covered almost all areas required for startup in depth. The keynote speech was offered by Professor Kwang-Soo Kim at Harvard University, followed by several sessions addressing academic entrepreneurship, US market, FDA regulatory strategy, IP and legal, fund raising, and pitch competition.

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Kyeong Ho Yang

The organizing committee was led by Kyeong Ho Yang (Chair, KITEE president) with co-chairs Deok-Ho Kim, Tae Heum Jeong, IL Minn, Nayoung Lee Louie, Luke Oh, advisor Jun-Seok Oh, together with five KSEA leadership (Changmo Kim, Jeong Kuen Song, Claire Hur, Eunyoung Kim, Seung-Eon Roh).

The overall feedback for the event was very encouraging. The analysis of participants showed that many KSEA members in the biotech and healthcare field are very interested in starting their own ventures and/or working with startups as strategic partners. To encourage and support them to develop their innovative ideas to next level, the STEP-UP committee provided them with the opportunity to network with high-profile entrepreneurs and innovators, to listen to the stories of those who have successfully exited their companies, and to learn about best practices of startups, from protecting intellectual property to secure funding from venture capitalists and government agencies.

The STEP-UP 2021 was held on June 13-16, 2021, with the theme, "*Starting & Scaling up Data, Network, and AI (D.N.A) Ventures*". It was held again as a hybrid event - in-person in Los Angeles and virtual. While it addressed the similar contents as STEP-UP2020, this 2nd STEP-UP focused on ventures in the fields of Data, Network, and AI and their applications while the 1st one focused on ventures in the fields of biotech and healthcare.

Again, Kyeong Ho Yang assumed the chair, together with with co-chairs IL Minn, Jeho Park, Kevin Kim, Tae Heum Jeong, advisor Jun-Seok Oh, and directors of various functions (Hyojin Kim, Jayoung Kim, Chris Lee, Albert Kim, Stella Kim, Jun Woo Jeon, Dong Yeob Kim).

It is noteworthy that leadership for KSEA's main entrepreneurship activities, the UKC-IES 2020 & 2021 and STEP-UP 2020 & 2021, largely remains unchanged, which is very desirable as the entrepreneurship activities require reliability and consistency at much higher level than other events. Also, the leadership composition, e.g., venture capitalist, startup CEO, academic entrepreneurs, clearly shows the departure from traditional academic leadership. Surely, KSEA is being called out to the entrepreneurship field.

KSEA's Profit Subsidiary - SciTech Startup Partners, Inc.

In 2020, 49th president Soolyeon Cho formed an ad-hoc committee to support startup activities and appointed Jun-Seok Oh as its chair and Kyeong Ho Yang as co-chair (KITEE president), and Il Minn (HQ Entrepreneurship Director) and Tae Heum Jeong (KSV Global) as members. The committee started working with the KISED[15] (한국창업진흥원) to pursue the Mini-TIPS program for startups in US and Korea adopting the model the KISED's TIPS program[16]. The Mini-TIPS program is a small-scale version of TIPS, in which KSEA is to invest $10,000 for each selected startup and 90 million Korean Won supported by KISED to incubate the selected startup for 7 months in Korea. In the first year 2021, four startups were to be selected. The idea of investment to startups had no place in KSEA, ensuing serious discussion at the midterm council held February 2021, and the idea was favored by the majority of council members. Following the opinion of KSEA entrepreneurship lawyer Mr. Byung Jo Kang, the KSEA Executive Committee approved the creation of a profit driven subsidiary named, SciTech Startup Partners, Inc, and incorporated into the state of Virginia, April 2021. Initial board members of the SciTech are Myung Jong Lee (Chair), Kyeong Ho Yang (CEO), and Jun-Seok Oh. Kelly Han serves as Secretary.

For the first year, KISED and SciTech jointly selected four promising startups, and SciTech provided total of $40,000 as investment and KISED provided 360 million won as grant. The selected companies are Partridge Systems, Dough. Zone, Neuran, Inc., HuMed Lifesciences Corp. SciTech CEO Kyeong Ho Yang is already in communication with KISED for next year's program. Here, Kyeong Ho Yang's enormous dedication for entrepreneurship is appreciated.

KSEA Affiliated Professional Societies (APS) for Entrepreneurship

Two APSs for entrepreneurship were created back-to-back, one in the west coast and the other in the east coast.

KITEE (Korean-American Innovative Technology and Entrepreneurs)

A KSEA APS for entrepreneurship was established in 2015 by Kyeong-Ho Yang (founder, president from 2020), Myung Jong Lee (first president, 2015-2020) and Dong Sung Suk (first chairman of the board). KITEE aimed at becoming the center of the startup ecosystem for Korean Americans in the greater NY metropolitan area and the east coast. The NY-NJ hub has been the fastest-growing technology startup ecosystem in the US only after the Silicon Valley over the last 10 years. The KITEE's business ecosystem featured essential entrepreneurial components to startups: human capital in innovative IT, BT, FT and other technologies, finance, business service, education/consulting, startup incubation and collaboration with Korea. The core mission is to help technologists transform themselves to technology entrepreneurs by offering professional services in technical, marketing, business development, legal, and financial areas. Current KITEE members are comprised of engineers and researchers in various technical areas, entrepreneurs, developers, designers, investors, financial and legal service experts, and students. KITEE is meeting monthly with the supports from LG, Samsung, SK, KOSME, and HRCap

15 Korea Institute of Startup and Entrepreneurship Development

16 Tech Incubator Program for Startup in Korea

carrying out the series of initiatives toward creating startups with the following thrusts:

- Provide opportunities to meet and exchange ideas and supports for transformation of ideas of business,
- Develop business opportunities in various technical disciplines and their convergence,
- Promote collaboration of US-Korea Small and Medium-sized Businesses (SMB), and
- Connect young entrepreneurs and seasoned innovators and business mentors.

For US-Korea collaboration, teaming up with Korea Small & medium Business Corporation (SBC), KITEE has provided technical and marketing mentoring services to selected Korean startups. Owing to the great success of its first program launched in November 2016, SBC decided to run the program twice a year. The second programs were completed in May 2017 and November 2017, respectively. The feedback from both KITEE mentors and the mentees was very encouraging. KITEE is very proud of its experienced, responsible and well-prepared mentors who made the program a great success. The mentoring program continued in a variety of formats in the collaboration with KOSME (Korea SMEs and Startups Agency, formerly SBC)

KITEE Mentoring Service

In 2017, under the theme of "*Igniting Entrepreneurship*", KITEE continued to provide professional services and quality seminars by inviting outstanding entrepreneurs, engineers, and investors. To further promote entrepreneurship of KITEE members and to help members build promising startups, KITEE held its first Idea Pitch Competition on May 31, 2017, where nine groups of KITEE members presented their ideas to win the competition and the continuous support from KITEE. Idea Pitch Competition continued annually, and its 4th event was held October 5, 2020. 1st Prize is offered by KOSEN (Overseas Korean Scientists and Engineers Network). The Idea Pitch Competition demonstrated the fruits of members' collaborative activities. It is encouraging to see that some of the awardees in KITEE's IPC have participated in the UKC Startup Pitch Competition and made into finalists.

KITEE Leadership

Kyeong Ho Yang
2nd President, founder

Myung Jong Lee
1st President

Dong Sung Suk
Board Chair

KITEE is open to anyone in the US and Korea who is interested in the entrepreneurship. Contact info@kitee.org.

TekOne

Inaugural meeting

Demoday 2016 panel

In 2014, the first APS, TeKOne was founded by Bo Ryu (HQ Entrepreneurship Director during 42nd administration). The objective of TekOne was to promote technology startup activities for Korean American scientists, engineers, and entrepreneurs in partnership with KSEA. The first annual event was held in May 2014 in LA and attended by 116 people. The event consisted of invited CEO talks, Investor panels, and start-up pitch competition. TekOne held the second annual event in Boston and the third one in LA (TeKOne West Demoday 2016). In the Demoday 2016, a total of fifteen Startups from Korea and US were there, along with investors, IP experts, and global entrepreneurship supporters to further expand the reach and strength of Korean and Korean American technology startup community. It was encouraging news that some of TekOne members got their seed funding from a Korean VC after attending TekOne event. A panel composed of investors and entrepreneurs strongly called for more frequent meetings to draw more attention from Korean Americans and build better startup eco-system for next generation. TekOne is open to any who are interested in entrepreneurship. Contact president@episci.com.

Burgeoning Entrepreneurship Activities

Along with the emphasis on entrepreneurship by the KSEA leadership, unprecedented entrepreneurship activities have been carried out at HQ level as well as local chapter level and continuing. Some of them are introduced here to display the fact that the entrepreneurship in KSEA is indeed taking off from the ground.

• 2017 Industry Professional and Entrepreneurship Conference (iPEC)

This iPEC Conference (chair, Jong Y. Park, Moffitt center, Univ. of South Florida) May 20-21, 2017, was to provide useful, practical, and professional information for entrepreneurs who have plans to, or have recently launched a startup company, also networking opportunities with other entrepreneurs and mentors, and other information. The workshop was held in LA, California and brought in 58 participants. The iPEC consisted of 8 sessions over two days and offered insightful talks on experiences of failure and success of founders, business model, finances, intellectual properties, group discussions, government funding, and a pitch session for three startups, and inspiring talk and concluding remarks by 45th President Jaehoon Yu. This workshop has all the positive elements of any entrepreneurship program but in smaller scale, later fully blown at UKC IES.

• Silicon Valley Hi-TECH Seminar Series and Startup Pitch

KSEA Silicon Valley Chapter (Chapter president Steve Sung Won Moon) hosted its Hi-Tech Seminar Series V & Startup Pitch, December 16, 2019, at Samsung America in San Jose, CA. Noteworthy is the participation of prominent Chairman Chong Moon Lee and several startup CEOs. Many attendees gave elevator speeches on what "true success" means to them. Mr. Chong Moon Lee gave the keynote speech on how to Korean culture, history, and background affects us in the modern world and businesses. Two startups participated in the pitch (Speaking in AI, Fighting Against Cancer) and several companies introduced their business ideas.

Professional Development Forum, Silicon Valley, CA

Epilogue

For the past 50 years, KSEA has been mainly led by academia, but for the next 50 years KSEA will expand to members who have interests in industry and entrepreneurship. There may be many factors that can explain the explosive global interests in entrepreneurship. The booming of entrepreneurship could be attributed to the global trends from vertical industrial environment toward horizontal enterprises; that is, the tendency of increasing societal entropy as human history evolves. In recent years, KSEA and its strategic partners including APSs, and chapters have been putting a lot of effort into entrepreneurship via such platform as UKC IES and STEP-UP. Also, the favorable atmosphere of the US-Korea collaboration through entrepreneurship offers a new opportunity for the healthy growth for KSEA. In conclusion, I hope such entrepreneurial efforts will ultimately help all the constituents of KSEA in US and Korea.

STEM Partnership Program

Hong Thomas Hahn
The 28th President

The STEM Partnership Program is one of the newest programs that is still evolving. As part of the KSEA's vision, its goals are two-fold: (1) to help prepare K-12 students for the future of creativity and innovation through enhanced STEM education in synergistic partnership with small/medium enterprises (SMEs) and (2) to provide a platform for K-12 students and their parents to access new educational tools produced by SMEs.

The SME Committee initiated the Program's planning during the 46th Administration with the following key features in mind: partnership with SMEs and financial self-sufficiency. Through the partnership, K-12 students will benefit from using high-tech educational tools, and SMEs will have a chance to market their new products.

The platform chosen to implement the Program was a STEM Fair where K-12 students and their parents can personally contact representatives. The Fair would thus be an excellent means of promoting both community service and SME growth. Before going nationwide, two pilot STEM Fairs were organized locally in Los Angeles by SEM Committee and SoCal Chapter. The first STEM Fair was held as an addition to the NMSC during the 46th Administration and the second as a separate event in collaboration with the Korean Women in Science and Engineering (WISE) during the 47th Administration.

Pilot Events

17th NMSC & STEM Fair, Harvey Mudd College, CA, April 7, 2018

The Fair was an addition to the NMSC at the Sothern California Chapter. The main goal was to provide an opportunity for the students in grades 4-11 to have fun in STEM while challenging their mathematics and science skills at NMSC. The Fair was intended to be a community service event organized in synergistic partnership with Harvey Mudd College and was generously supported by various organizations, businesses, and individual sponsors.

The Fair mainly consisted of four STEM Labs, which were offered concurrently in the afternoon after the NMSC. Lead instructors were all KSEA volunteers: Dr. Min Yang (robotics), Brian Min (drones), Dr. Injoo Hwang (3D printing), and Dr. Jeho Park (coding). Robots and drones were on loan gratis from Robolink, while Zeus Tech provided both instructors and 3D printers from Korea.

In addition to the corporate sponsors mentioned above, the following sponsors generously provided monetary: Lee & Ro (Steve Ro, president/CEO), Ewha Womans University Alumni Association (Bo Kyoung (Lee) Chung, LA President), Seoul National University Alumni Association (Shin-Yong Kang, SoCal President), US Education Consulting (Min Yang, CEO), and Dr. Yong-Mi Kim (USC Medical School).

Robotics class in groups

The original target enrollment was 20 students for each of the four Labs; however, reregistration had to be closed three days before the event date when it exceeded 100. About 80 % of those registered for the Fair indicated their participation in NMSC as well, with a total of about 260 students signing up for NMSC and/or STEM Fair.

The demand for the Fair exceeded our expectations, as the preregistration number suggests, and many positive comments were heard from the parents. One drawback of the Fair was the insufficient time allocated for the Labs: only 3 hours. Therefore, it was decided to hold the Fair as a separate event.

KSEA-WISE STEM Fair, Santa Monica College, CA, December 1, 2018

The Fair was a successful outcome of a synergistic partnership effort with ROBOTIS, UCLA RoMeLa, Santa Monica College, and STEAM CUP USA. Generous local sponsors included Lee & Ro, US Education Consulting, Korean Life, MedQia, Karen Moon, and KSEA Seniors Club, making the event financially self-supporting.

The main features of the Fair were: (1) three STEM labs in robotics for grade groups K-3, 4-7, and 8-12, respectively, (2) an informative parent session in parallel featuring KSEA and KWiSE speakers to address parents' concerns, (3) professional ROBOTIS staff leading the labs using their robotic kits, (4) local college students volunteering as teaching assistants, and (5) KSEA and KWiSE members providing essential logistics support. After competitions for STEAM CUP medals, both students and parents had a chance to be entertained by exciting talks on macro and microrobots.

A total of 52 K-12 students participated in the STEM labs supported by more than 50 volunteers and teaching assistants. All in all, almost 150 students, parents, volunteers, and speakers enjoyed a full day of STEM activities. Aside from coverages by local media, such as Korea Times, Korea Daily, and MBC America, a sampling of testimonials from a few participants attests to the success of the Fair:

"Thank you for hosting the STEM fair. I very much enjoyed working with other members of my division. I liked building the robot because it was a new experience for me. After the STEM fair, I thought about my future in STEM. I liked hearing Dennis Hong talk about his robots and how they made the robots. I had an amazing experience at the STEM fair." – Rachel

"Thank you for hosting the STEM fair. I enjoyed building the robot and very much enjoyed programming the robot. The part I most liked was competing in the competitions. I also liked the speeches of Dennis Hong. I believe that at the most by 2040, robots will take over humans' jobs. I had a great time and a lot of experience at the STEM fair. Thank you." - Alex

"안녕하세요. STEM fair 를 만들어주셔서 너무감사하고 그날 교수님들과의 세미나를 통해서 STEM과 아이들의 교육에 대해서 다시한번 생각하는 좋은시간이었습니다. 저는 이런 기회가 저나 아이들에게 더 자주 있었으면 좋겠어요. 한번이 아닌 이런걸 계기로 뭔가가 꾸준히 연결이 되서 아이들이 배우고. 배운아이들은 나중에 봉사같은프로그램도 만들어 도와주고 캠프나 주말클라스같은걸 꾸준히 만들면 등록할거같아요. 그리고 교수님들과의 대화시간도 아이들에게 너무좋은 경험일거같습니다. 모두 정말 대단하신분들인데.커뮤니티를 위해 애써주신다는게 대단한 일이십니다. 너무 감사드립니다. 수고하셨습니다." – 학부모

Future Plan

Based on the two pilot events, the future STEM Fair will be offered nationwide as an extension of NMSC in the afternoon. We recommend its structure to be as follows.

The Fair will consist of several workshops in various STEM areas. Some workshops will be conducted by industry representatives using their products, and others, by KSEA members employing exciting experiments/demonstrations. The main goal is to raise curiosity and ignite interest in STEM in participating students through hands-on, gamified instruction. A combination of on-site and online instruction will be employed depending on the host local chapter's situation.

We will actively solicit STEM-related SMEs' participation as the Fair is an excellent platform to market their products. Other businesses will also be invited to display their products to create a festive environment.

STEM Fair 1

STEM Fair 2

The Spirit of KSEA Small and Medium Enterprise Committee (SMEC)

Yong Nak Lee* and Hong Thomas Hahn**

**The 10th President and **the 28th President*

Over the past five decades, the strategic focus of the KSEA mission has evolved considerably. Over the first decade since its founding, KSEA spent most of its effort to help US-trained scientists and engineers return to Korea to drive its rapid industrialization. From the second decade on, the emphasis has been on developing scientific networking between the US and Korea externally while solidifying organizational structure and operational process internally.

In 2015 Dr. Yong Nak Lee, the 10th KSEA President, re-examined what KSEA can do to accelerate the US and Korea's economic development. He formed a group of select KSEA members. He subsequently contacted President-Elect Jaehoon Yu to seek the Executive Committee's support to create an ad hoc committee to reach out to small and medium businesses (SMBs) that had so far been neglected. With his approval, Dr. Yong Nak Lee formed an ad hoc Small/Medium Business Committee (SMBC) as Chair. The other members included Drs. H. Thomas Hahn, Bertrand Lee, Nak Ho Sung, Kenny Kim, and Gyeong S. Hwang.

As a first step, the Committee surveyed the status of SMBs to find that SMBs owned about 70% of intellectual properties and manufacturing and technical capabilities in developed countries. In contrast, the opposite was true in Korea. Further, most medium businesses in Korea are OEM manufacturers for big companies that provide the requisite technologies and own the markets. Therefore, they are mostly just an extension of those big businesses. Only a few medium businesses exist while most others are small, trying to survive in this highly competitive global market.

To identify those SMBs to partner with, Drs. Nak Ho Sung and Yong Nak Lee visited Small and Medium Business Administration (SMBA) Administrator Ju, Young Sup, and other officials in mid-2016. They soon realized that SMBA officials only had limited responsibilities and authority. The same was true for those at other subordinate organizations under SMBA. Dr. Sijoong Kim (former Minister of MOST and President of KOFST) arranged a meeting with Dr. Myungja Kim (KOFST President-Elected) and Drs. Lee and Sung of SMBC to explore ways to support SMBC's activities; however, no tangible outcomes came about. Despite these obstacles, the Committee continued to move forward with its mission. A generous donation of $20,000 from Dr. Byiung Jun Park through Dr. Nak Ho Sung was a much-needed boost for the Committee. It was deposited in an SMBC account by the KSEA Finance Director with approval from PE Jaehoon Yu.

At the UKC 2016 held in Dallas, SMBC hosted an SMB Workshop with three small businesses participating from Korea. Two of them were small established ones, but the third was a potential startup dreamer. Mr. Ju, Jae-Heon of HTRD Korea, Inc. made a presentation focusing on (1) the present status of Korean SMBs, (2) problems faced by Korean SMBs, and (3) requests for KSEA to help Korean small businesses. The second speaker, Mr. Byun, Hyung-Eun from Process & Control, Inc., delivered a speech, in essence, confirming our findings of a very few medium enterprises existing in Korea. The third participant, Dr. Kang, Deok-Hong, presented a paper on the thermoelectric power generator (TEG) at the Poster Session, hoping that KSEA members could help in his development efforts. The Workshop provided meaningful opportunities for direct communications between KSEA members and Korean small businesses.

Although SMBC could not meet these three Korean small businesses' requests, Dr. Y. Lee separately tried to help Dae Hong Industry Ltd. (a medium company) with their desire to export their products (heat-pipe exchangers) to the US. However, since Japan had provided their core technologies, they had great difficulty entering the US market. These difficulties were a direct result of the Korean corporate structure that heavily favors big businesses. However, such disappointment only reinforced the Committee's determination to help Korean SMBs as initially intended.

The Committee continued its search for Korean SMB partners to work with made with a few startups; however, they were not ready to enter the US market. At the same time, the Committee prepared a draft policy to establish itself as a standing committee for approval at the mid-term Council Meeting in January of 2017. However, some questions on the Committee budget's details prevented its formal presentation

to the Council. Therefore, we deemed it prudent to further refine the policy for presentation at the 46th Council Meeting in 2017.

In April 2017, Dr. Yong Nak Lee resigned from the chairmanship to elect Dr. Hahn a new chair. Also, Dr. Bertrand Lee resigned from the Committee, and Dr. Kenneth K. Park replaced him. The Committee held consultation meetings on Skype individually with four SMBs on heat exchangers, heat resistant materials, nano-cosmetics, and nanomedical diagnostics. Unfortunately, these partnerships did not last long as common goals could not be agreed on promptly.

The Council finally ratified the Committee as a standing committee with a slightly different name, Small/Medium Enterprise Committee (SMEC), at the 46th Mid-Term Council Meeting in 2018. The following new members were subsequently elected to the Committee: Drs. Gyeong S. Hwang, H. Thomas Hahn, Jae Hoon Kim, Myung Jong Lee, Yong Nak Lee, and Nak Ho Sung. Dr. Hahn was elected the Chair of the Committee, a new website, http://ksea-smec.org, was set up to improve communications with potential SMEs, and SMEC began its business as a standing committee.

The Committee's stated goal is to "*reach out to small and medium-sized enterprises, both Korean and Korean-American, and develop mutually beneficial partnerships. Such partnerships entail networking between KSEA members and SMEs and holistic counseling on new business opportunities and marketing*".

After three years of difficulty developing any meaningful partnerships since the inception of SMBC, the Committee steered to focus on the following four areas: STEM partnership development, Innovation and Entrepreneurship Symposium coupled with Startup Pitch Competition (IES-SPC), and mentoring service.

As part of the STEM partnership program, we held a first STEM (science, technology, engineering, mathematics) Fair as part of the NMSC in collaboration with the SoCal Chapter in 2018. The goal was to provide a platform where STEM-related businesses can help K-12 students develop an interest in STEM while introducing their products. Another self-supporting STEM Fair was held jointly with KWiSE (Korean-American Women in Science and Engineering) in December 2018, focusing on robotics. After evaluating the pros and cons of the two STEM Fairs, the Committee recommended the STEM fair to be held as part of NMSC, thereby saving expenses associated with the venue and publicity until it expands to warrant an independent event. Eventually, the STEM partnership program may include STEM summer camps and STEM internships.

The Committee held its first IES-SPC as part of UKC 2019, and we owe its success to Drs. Deok-Ho Kim, Kyeong Ho Yang, and Tae Heum Jeong. The program will continue as a regular component of UKC as it brings together scientists, engineers, entrepreneurs, venture capitalists, lawyers, and others.

The Committee provides mentoring services to SMEs and startups utilizing its vast network of KSEA members and alumni. This service started with Telofarm (Dr. Junghoon Lee, CEO), the first-place winner of the 2019 SPC. The SMEC mentoring service will be an additional benefit to the winners of SPC.

The Committee continues to explore ways to develop partnerships with SMEs and startups through informal, personalized relationships. Additional generous donations from Dr. Yong Nak Lee and Dr. Tae Ryang Shin sponsor the Committee services.

Founding Members of SMEC

H. Thomas Hahn
SMBC, SMEC

Gyeong S Hwang
SMBC, SMEC

Kenney H Kim
SMBC

Yong Nak Lee
SMBC, SMEC

Ken E Park
SMBC

Nak Ho Sung
SMBC, SMEC

Jae Hoon Kim
SMEC

Myung Jong Lee
SMEC

Yong Nak Lee at SMB Workshop

Q & A Session

Presentation

Participants

Help Provided to Korean Small and Medium Enterprises by Bushitol Corporation Founded by KSEA Members

Kun Sup Hyun*, Chung P. Park**, Kab Sik Seo***

[1] The 21st President, [2] The 8th Ohio Chapter President and [3] KSEA member from 2015-Present

Introduction

Helping Korean small & medium enterprises (KSMEs) was not a primary mission of KSEA, which was established in 1971 under the sponsorship of Ministry of Science and Technology. However, in about 2000, the need of help from Korean scientists and engineers in U.S. arose among the KSMEs which were supported by a different Ministry. Then, KSEA was not ready to help them due to lack of funding and organizational structure. Besides, most of KSEA members were from academia and big enterprises and did not have proper skill sets to provide the help that KSMEs needed. Most of the small and medium-sized companies wanted to market their products and technologies rather than getting technical helps. Korean Small & Medium Business Administration (SMBA) still valued KSEA and its members' technical knowledge, network and presence throughout the region. The SMBA decided to tap into the resources in developing a program to help the KSMEs to acquire funds such as Small Business Innovation Research (SBIR) and to explore the US market. The Bushitol Corporation was founded to fulfil the KSMEs project by 10 KSEA members scouted by the SMBA under the leadership of Dr. Kun Sup Hyun.

2002년 SBIR 교포자문단 출범 시 현건섭 재미과협 21대 회장현건섭박사에게 임명장 수여

부싯돌㈜ (Bushitol Corporation) 간략한 소개

부싯돌 ㈜ (www.bushitol.com) 은 중기청과 중진공이 2003년에 시작한 SBIR 진출지원사업을 원활히 수행하기 위해 스카웃한 10명의 재미 과학기술자들에 의해 설립되었다. SBIR 프로그램은 미국 연방정부가 자국 중소기업의 혁신기술개발을 지원하는 제도이다. SBIR 진출지원사업은 기술집약적인 한국 중소기업들이 미국 중소기업청 (SBA)에 연구개발과제를 제출하여 연구자금을 획득하게 하는 사업이었다. 이 사업에는 연구개발 제안서를 작성하고 자금을 받기위해 연구를 책임지고 수행할 책임연구원 (principal investigator) 의자격을 가진 과학기술자가 필요했다. 이들 전문인력을 찾는데 재미과협의 네트워크가 유용했고 과기협회장을 역임한 현건섭의 역할이 컸다. 부싯돌의 창립과 운영은 현건섭, 이도익, 박정부 등 과기협 회원들이 주도했다.

2005년 중기청/중진공의 SBIR 진출지원사업이 어려움에 봉착하여 중단되자 부싯돌(주)은 중기청/중진공의 다른 해외진출 지원 사업인 민간센터 활용사업에 북미 민간센터로 참여하여 기술과 기술제품의 북미시장 마케팅을 지원하는 일을 시작했다. 당 사업에 2015년까지 10년간 참여하여 많은 한국중소기업들의 북미진출을 도왔다. 중기청/중진공 사업 외에도 지자체와 대학 그리고 출연연구소 등과도 협력하여 여러 중소기업의 북미진출을 도왔다. 지금까지 부싯돌이 도와준 업체의 수는 160여에 달한다. 중소기업의 해외시장개발지원 외에 기술지원에도 힘써 은퇴한 재미과협 과학기술자들이 한국에서 강연할 기회와 컨설팅하는 기회를 주선해 주었다. 또한 한국의 우수 기술을 미국에 소개하는 일도 해 왔다 (**별첨1** 참조).

이들 업무를 수행하기 위해서는 여러 분야의 전문인력이 필요해 멤버들을 계속 발굴 추가하여 지금은 그 수가 62명에 이른다. 멤버들의 전문기술분야는 첨단재료, 화공 및 환경기술, 생명과학기술 (의료기기 전문), 전기전자 및 정보기술, 기계 및 계측장치 등 모든 분야를 망라하고 있다. 그 외에 당 센터에는 1명의 변호사와 기업경영과 마케팅 경험을 겸비한 멤버들도 여러명 있다. 이들

멤버들은 대부분 재미과기협회 회원들이고 New York, Washington DC, Chicago, Boston, San Francisco, 등을 포함한 북미 10개 이상의 요지와 한국에서 활동하고 있다 (**별첨2** 참조). 부싯돌㈜은 과기협과 직접 연계된 조직은 아니지만 지금도 리더쉽과 핵심멤버들이 과기협회원이며 조국과 사회에 공헌한다는 과기협과 유사한 사명 (mission)을 가지고 일을 하는 조직으로 현역 및 은퇴한 회원들이 참여해서 활동하기에 적합하다. 한국중소기업의 해외진출 교두보 역활을 하는 기업이념을 바탕으로 부싯돌 원래의 설립 목적인 과학 기술에 관련된 일을 중점적으로 다루고 있어 과기협과 연계하여 상호 보완의 위치에서 협력한다면 바람직한 결과를 얻을 수 있을 것이다.

부싯돌㈜의 핵심역량과 비즈니스 모델

부싯돌은 다양한 분야에 걸쳐 엄선된 기술 및 지식 기반의 산업 및 학계 전문가, 마케팅/판매에 정통한 북미시장 전문가, 또한 기술과 경영을 겸비한 전문가들로 구성되어 있다. 당사 멤버들이 갖고 있는 산업계와 학계에서의 풍부한 경험, 북미 현지 비즈니스 경험, 현지에 구축된 광범위한 네트워크를 통하여 국내기업과의 협업, 자문, 및 교육을 제공하는 능력이 있고 북미시장에서 고객사를 대표할 수 있는 문화적, 경영적, 기술적 력량을 갖추고 있다. 부싯돌의 비즈니스 모델은 용역 내용에 따라 네가지로 나눈다.

1. 기술 및 경영 자문

기술과 제품의 북미시장 진출 관련 용역으로, 자문료 기반 서비스이다. 북미시장 진출 전략에 필요한 시장규모 산정, 산업 가치사슬 분석, 제품/기술 경쟁력 평가, 경쟁자 분석, 진입장벽 분석 및 Go-to-market 전략 등을 제공하며 북미시장 진출 실행방안으로 각종 인허가/인증 취득계획, 지적재산권 보호 계획, 가격 정책 수립, Distribution 채널 조사 등의 서비스를 제공한다.

2. 연구개발 및 사업화 (R&BD)

부싯돌 주체 연구소를 이용하여, 자체 또는 고객의 기술로 연구비를 획득하는 용역으로 유망기술 소싱, 연구자금 획득, 기술상용화 및 투자유치 및 인큐베이션이 주 서비스다. 유망 기술 소싱으로는 국내기업, 국내대학, 정부출연 연구소 소유 또는 자체기술이 될 수 있고 진출 지원금은 한국정부로 부터 받는다. 또한 연구자금은 SBIR 등 미정부자금과 대기업 등 민간자금을 통해 획득할 수 있다. 기술 상용화의 경우 고객사에 우선권을 부여하는 " 투자유치 및 인큐베이션" 모델을 적용한다.

3. 마케팅 및 사업 개발 지원

자문료와 더불어 매출이익을 공유하는 용역으로 판매 경로 확보, EPA, FDA, UL 등의 인허가 취득 대행, 및 마케팅 대행을 수행하며 제품특성에 따라 부로커, 온라인 마케팅, 프로모션/광고 대행업체 등을 이용한다.

4. 투자유치 및 인큐베이션 지원

고객사 주체의 현지법인, 자문료와 성공보수 및 지분참여를 병행하는 용역으로 VC를 통한 현지투자유치, SBIR을 통한 자금조달, 사업 및 R&D 프로젝트 관리, 사업전략 수립 및 실행, 현지법인

부싯돌㈜의 주요 사업실적

부싯돌은 2003년 설립이후 중소기업지원에 중점을 두고 중기청과 중진공 프로젝트를 수행하여 많은 실적을 냈다. 또한 대기업, 학계, 정부출연 연구기관과 연계하여, 기술자문, 교육등과 관련된 서비스를 제공했다. 그 주요사업실적을 아래에 요약한다.

중기청/중진공 민간 해외진출 지원사례

2003-2004년과 2007-2009년에 걸쳐 중기청/ 중진공의 민간 해외진출지원센터 활용사업의 북미지역 센터로 지정되어 일했다. 중기청/중진공은 민간 해외진출지원사업의 일환으로 조달시장진출지원 프로젝트를 별도로 만들었는데 당 센터는 조달지원센터로 추가 임명되어 총 11개의 프로젝트를 지원했다. 대부분의 업체들을 GSA 스케줄 등록 준비를 하도록 자문했다. 한 업체의 경우 맹인협회 distributor를 통하여 조달시장에 들어가게 되었다. 또한 중기청/중진공의 SBIR 진출지원사업의 위촉기관으로 활약했다. 총31개업체가 15개 프로포잘을 제출하여 한 과제가 SBIR자금을 획득한 바 있다. 2005-2014년에 걸쳐 중기청/중진공의 북미지역 민간네트워크로 활약하며 미국정부 조달 진출 11개를 포함 총 160개의 프로젝트를 지원했다. (**별첨3** 참조). 주로 산업용 제품의 진출을 지원하여 그 결과로 시장조사, 고객목록, 영문홍보물, 견적 수령, 상담 주선, 샘플 송부, 협력업체 발굴 등의 결과물을 산출했다. 또한 해외시장개척요원 지원, 지자체의 프로젝트도 지원하여 고객사들이 북미시장 교두보를 확보하고 시장진출 방법과 시기 등에 대한 자문을 받아 5 업체가 성공적인 제품 판매를 성사시키고 당시 총 600만불 이상의 수출실적을 달성했었다. 다음은 그 성공사레이다.

1. 기계부품 수출지원

컨베어벨트용 롤러 제품에대한 영문 홍보물 작성, 전시회 참여 (2007-2008 SME, 2008 MINExpo)를 통하여 미 전역 독점 distributor를 발굴하고 계약조건 협상, 계약서 작성, 계약체결을 위한 자문수출지원으로 미화 100만불 이상의 수출을 창출했다.

2. 의료제품 수출지원

폴리우레탄 정형외과용 기브스와 부목 (화이버글래스

재질)에 대한 distributor 발굴, 물류창고 운영, 각종 전시회에 동반 참여하고 정부지원이 끝난후에도 4년이상 계속 지원하여 총 200만 불 이상의 수출을 달성했다.

3. 화학제품 수출지원
연료 에탄올 생산용 조효소제 시장개척을 위해 최대 연료 에탄올 제조업체와 협력 주선하여, 2만불 상당의 시험용 판매를 가능하게 했다.

4. 금속재료 기술 및 판매 자문
초음파 단조에 의한 금속 표면 개질 기술 판매를 위해 63개의 고객 목록을 확보하고 14만불 상당의 수출 창출, 유력협력업체와 MOU 체결, SBIR 프로포잘 4개를 제출하는 업적을 이뤘다.

5. 환경정화제품 수출지원
굴뚝 매연 정화장비 (산업용 Boiler와 Gas Turbine 용)를 2009 SBIR 진출지원 참여업체 당사 자문위원이 30년이상 종사하여 광범한 네트워크를 가지고 있는 분야로 미국지사 설립에 자문위원이 직접 투자에 참여 하여 첨단기술, 저렴한 가격, 큰 시장의 장점으로 미국 서부에서 제일 큰 sales agency (고용인 140 명)와 독점 계약을 맺었다. 3년간 미화 1,500만불 수주 목표로 노력한 결과 300만불의 매출을 달성했다. 이후 4-5년간에 수주가 지속되었지만 매연규율이 아주 엄한 California주의 정화장비 시장이 끝나 지금은 주로 필요한 부속을 공급하는 서비스를 하고 있다. 또한 이 미국내의 자문위원은 한 한국중소기업을 지원하여 Ship Ballast Water Treatment Systems (BWTS)의 미국시장을 개발하였고 C&C Panasia 사를 설립하여 판매영업뿐만 아니라, after sale 서비스와 parts 공급등으로 지속적인 미국대리점으로 활약하고 있다.

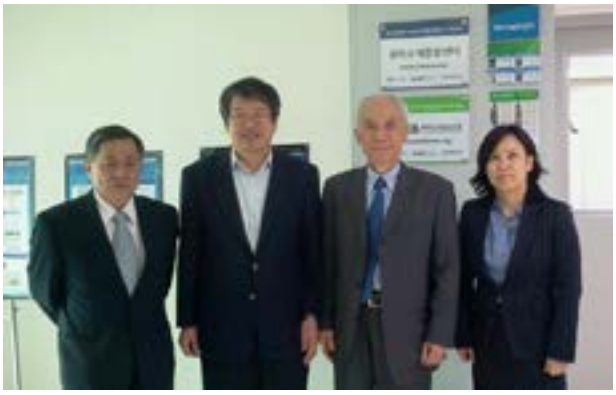
기술 및 경영자문 실적과 사례
한국중소기업을 위한 사업화전략 및 국제협력방안 자문을 위해 서울 소재 (주)기술과 가치사와 양해각서를 체결하고 당사의 위탁으로 과기부주관 대덕연구개발특구 강점기술분야도출 기획프로젝트에 참여하여 4개의 전략사업군 (바이오신약, 건강 및 의료장비, 이스포츠, 연료전지)에 대해 국제협력방안을 포함한 사업화전략에 대한 전략서를 제출한바 있다.

2010년 이후 국내외 비즈니스 상황이 급속히 변화함에 따라 중진공과의 협력활동이 줄었고 부싯돌의 원래목적인 과학기술자문에 비중을 두고 대기업과 연구기관의 연구개발 자문 및 교육에 더욱 관심을 기울였다.

2010년 현 부싯돌 회장 현건섭 박사는 한남대학교 명예교수 및 산학협력단 고문으로 임명되었고 대전테크노파크와 대기업 R&D 센터, 출연연구소와 교류가 시작되었다. 당시 대전은 지리적으로 편리한 위치에 있어 KAIST, 한남대학 대덕켐퍼스, 대전전시장등에서 국내 및 국제학술대회가 자주 열렸고 부싯돌의 제2목적인 대기업과의 교류를 이룰 수 있었다. LG화학, SKI, 롯데화학, 금호화학, 삼양화학, 한화화학, 제일모직, 기계연구소, 화학연구소등과의 교류가 그 대표적인 경우다. 또한 여러 학술대회를 통해 과기부와 재경부와의 접촉이 이루워졌고 나노 융합소재 가공기술센터 (CNSPPT)의 설립을 추천하게 되었다. CNSPPT는 15개 이상의 대기업 및 중소기업 회원사의 회비와 정부출연금으로 운영되며 4개 기술센터 (서울대, 서강대, 한남대, 울산연구단지)가 있다. 이는 SPE Korea 에서 '현건섭 최우수논문상'을 선택 수여하게 된 동기가 되었다.

2015년 롯데화학 연구소 기술협력 협의

2011년에는 한국화학연구소 고분자가공교육 강좌를 5차 (총 20시간)에 걸쳐 제공했고 총 545명이 참석했다. 2014년에는 화학재료 솔루션센터 (CHEMSOL)와 MOU를 맺고 기술동향/기술심층분석과 화학재료 데이터 뱅크 (CMiB) 에 부싯돌의 협력을 협의했고 2019년까지 5차에 걸친 세미나를 제공했다.


2014년 한국화학연구소와 MOU 협약 기념

2019년에는 한국유변학회와 나노 융합소재 가공기술센터(CNSPPT)에서 유변학응용에 대한 워크샵 (1일)을 제공했다. 이 강좌에는 CNSPPT 회원업체의 연구담당자, 대학원생, 교수 및 플라스틱 관련 기자 등 100여명이 참석했다.

부싯돌의 국내 유수기업들에 대한 기술협력은 계속되고 있고 2018년이후 3개 기업에서 5차례 기술세미나를 제공했고 1개 대기업에 기술자문을 했다.

부싯돌㈜ 멤버들의 활동 사례

부싯돌 자문위원들 중에는 자회사 또는 협회를 설립하고 미국과 한국에서 활약하고 있는 과학기술자들이 17명이나 된다. 이들 중 최강일 박사는 한국정부와 또는 미국, 캐나다 정부로 부터 5년 누계 1,000 만불 이상의 연구자금을 지원받고 정부지원 연구개발프로그램에 참여하고 있다. 또한 생명과학분야의 전문위원인 한인석 박사는 바이오와 의료에 관련된 23개 회사를 자문하여 이중 4개의회사가 IPO를 마쳤고 한국창업업계를 창립하여 한국기업를 지원하고 있다. 고분자가공분야의 entrepreneur 김성훈 박사는 Bio microchip 회사를 창업하고 현재 15명의 사원이 일하는 창업회사로 성장하고 Mass-Producible Microfluidic Biochip과 Liposome Synthesis Chip 제품을 생산하고 있다. 부싯돌은 기술, 창업, 경영, 판매분야의 경험을 쌓은 이들 전문자문위원들과 협업하여 시너지효과를 얻을 수 있는 장점을 가지고 있다.

별첨1. 부싯돌(주) (Bushitol Corporation)의 주요 연혁

- 2003. 09. 26. Boston에서 SBIR진출 지원사업의 자문위원들의 일관된 자문활동을 돕는 목적으로 10명의 자문위원들이 “한국기업의 북미 진출 교두보”를 기본 이념으로 창립. 회장에 현건섭, CEO 사장에 박정부 취임
- 2003. 11. 18. 중기청/중진공 SBIR 진출지원사업의 미국측 수행기관으로 지정. 2003년에는 10개 업체를지원하고 2004년에는 21개 업체를 지원
- 2004. 12. 11. (주)케이알 (KR)정밀과 당사제품과 북미진출지원협약을 체결
- 2005. 05. 17. 중기청/중진공 민간 해외진출지원센터 지정 4개 업체 지원
- 2005. 10. 08. (주)기술과 가치 (Technology and Value)와 양해각서 체결
- 2006. 01. 03 (주)기술과 가치와 대덕 연구개발특구 강점 기술분야 도출 기획 연구 위탁계약서를 체결하고, 당 프로젝트에 참여
- 2006. 03. 21. 중기청/중진공 민간 해외진출 지원센터 재지정, 7개 업체 지원
- 2007. 06. 05. 중기청/중진공 민간 해외진출 지원센터 재지정, 7개 업체 지원
- 2007. 05. 30. 중진공 미국사무소 해외시장개척요원 프로젝트 2개 업체 지원
- 2007. 10. 15. 중진공 미국사무소 해외시장개척요원 프로젝트 1개 업체 지원
- 2007. 10. 16. 한국기술거래소 해외기술거래지원센터로 지정, 6개 프로젝트 지원
- 2008. 01. 14. 중기청/중진공 민간 해외진출 지원센터 재지정, 조달시장진출지원 6개 업체를 포함한 총 12 업체를 지원. 아울러 중진공 광주-전남지역사무소의 프로젝트 1개를 수행
- 2008. 08. 19. 한국기술거래소 해외기술거래지원센터로 재지정, 8개 프로젝트지원
- 2008. 07. 14. 중기청 SBIR 진출지원사업의 수행기관 (재) 글로벌네트워크로부터 당사업의 관리기관으로 위탁받아 15개의 SBIR 진출지원 프로젝트를 관리
- 2009. 12. 24. 중기청/중진공 민간 해외진출 지원센터 재지정, 조달시장진출지원 5개 업체를 포함한 총 13업체를 지원
- 2009. 01. 01. SBIR 진출지원사업의 관리기관으로 총 27개의 프로젝트 관리
- 2009. 10. 28. 대전테크노파크의 첨단부품소재 마케팅 지원사업에 참여한 한 바이오업체 제품의 북미시장 개척을 지원
- 2009. 11. 02. 2009년 중소기업청 수출기업화 사업 중 시장조사 프로젝트의 일환으로 경기도 소재 1개 업체에 시장조사와 홍보물 한글-영어 번역등 용역 제공
- 2010. 03. 05. 2010 해외민간네트워크로 재지정 받고 총 3개 업체를 지원
- 2010. 07. 02. 중기청 SBIR 진출지원사업의 수행기관인 (사) 벤처기업협회와 관리기관 협약을 맺고 11개 업체의 프로젝트를 관리
- 2010. 07. 02. 대전테크노파크의 첨단부품 및 소재산업 마케팅 지원사업 중 마케팅 전략수립 컨설팅 사업에 참여한 4개 업체를 지원
- 2010. 10. 20. 중진공대구사무소의 해외시장 심층조사 지원사업에 참여한 1개업체를 지원
- 2011. 01. 20. 중기청/중진공 민간 해외진출 지원센터 재지정되어 4개업체를 지원
- 2011. 04. 14. 중기청/한국벤처기업협회의 SBIR 진출지원사업 관리기관으로 재지정되어 3개업체를 지원
- 2011. 05. 09. 중진공 글로벌강소기업 육성프로그램 사업수행사로 임명되어 업무약정서 (MOU) 체결하고 2개의 강소기업의 북미진출을 지원
- 2011. 06. 24. (재)강원테크노파크의 강원 광역선도사업 브랜딩 (Branding) 지원사업의 위탁사업자로 참여하여 1개 업체의 북미진출을 지원.
- 2011. 11. 30. 한남대학교 산학협력단의 대전금형 RIS 사업단 마케팅전문기업활용 사업에 전문기업으로 선정되어 당 사업단의 대표들의 유로몰드 전시회 (EuroMold Exhibit) 참관을 돕고 당 사업단의 해외 마케팅용 웹사이트를 구축했음
- 2011.09-12.03 한국화학연구소 고분자가공교육 5차 (총 20시간)에 걸쳐 강좌 총 545명 참석
- 2012. 06. 27. 중진공 글로벌강소기업 육성프로그램 사업수행사로 임명되어 업무약정서 체결하고 1개 업체를 지원

2012년 세계시장을 향한 중소기업해외민간 네트워크 출범 기념

• 2013. 02. 04. 중기청/중진공 민간 해외진출 지원센터 재지정되어 정규 민간네트워크 활용사업 지원업체 1개와 단기컨설팅 2개 업체의 북미진출을 지원
• 2014. 02. 24. 중기청/중진공 해외 민간네트워크 활용사업 일반 네트워크로 재지정
• 2014. 04. 24. 한국화학연구소 화학소재 솔류선센터와 MOU 체결
• 2014 삼양사 대전 연구소 플라스틱공정교육 강좌 3회(3일)
• 2015 (주)실빅스 의 Silver Nano 제품을 미국 EPA 에 인증등록 완료
• 2016. 02. 27. 서갑식 2대 CEO 사장으로 취임
• 2016 중진공 해외진출전략컨설팅 프로그램으로 (주)이도 Road Safety Products 의 마케팅 지원 (Stellar Pride, Inc.와 협업)

• 2017. 05.10 Davinci TF 사와 MOU 체결
• 2018. 07.24 글로벌창업협회와 MOU 체결
• 2018. 05.13 삼양사 대전연구소 유변학 기초 및 응용 강좌 (1회)
• 2018. 05.18 롯데케미칼 연구소 R&D 및 유변학 강좌 약 200명 참석 (2일)
• 2019 LG화학 기술자문
• 2019. 09.27 나노 융합소재 가공기술센터 (CNSPPT) 유변학응용에 대한 워크샵. 100여명 참석 (1일)
• 2019 한국윤활협회, 한국기계공학회와 윤활공정관리워크샵 제공 협의
• 2019 (주)에코윈 한국산업진흥원 KTAG 프로그램에 공동지원
• 2020 플라스틱 리사이클에 대한 대기업자문 협의중

별첨2. 부싯돌 사의 분야별 인력구성

전문 분야	전문기술자	숫자
첨단재료	박용진, 박은성, 임장희, 오신무, 김주영, 최관영, 남궁민, 김수호, 이강욱,신대환	10
화공 및 환경	현건섭, 이도익, 박정부, 김상형, 최기주, 김화옥, 윤정호, 장태석, 최용택, 김성훈, 백기열, 최경홍, 이상호, 서갑식, 최영국, 이강원, 남세현, 김진	18
생명과학	이재윤, 한인석, 박은성, 김화옥, 신대환	5
전기 전자 장치	김철규, 박건이, 민원기, 정치영, 박영건	5
통신 및 정보	전승일, 최강일, 이민규, 오태환, 김영록, 조준서, 최영배, 김종문, 이중빈, 이인재, 김영	11
기계, 계측 및 건설	장영환, 박노억, 이강원, 장욱일, 서인수, 이종욱, 이종도	7
마케팅	송도원, 정진숙, 손호균, 노재팔, 정일창, 박용근, 이인재	7
기술 사업화	박정부, 정진숙, 박용진, 장영환, 이종욱, 현건섭, 김종문, 정일창, 장욱일, 조준서	10
투자유치	장태석, 이인재	2
법률 및 특허	주대삼	1

별첨3. 부싯돌 사의 중기청/중기원 프로젝트 수행역사 (2003-2013)

주관기관	프로젝트	2003-4	2005-6	2007-8	2009-10	2011	2012	2013	계
중기청	SBIR	31		13	25	3	0		72
중진공	민간 네트워크		11	13	11	4	5	3	46
	조달 진출지원				11				11
	미국 사무소			3					3
	강소기업 육성					2	1		3
중진공 지역본부	전남-광주			1					1
	대구-경북				1				1
	경기도				1				1
대전 테크노파크	부품 마케팅				5				5
강원 테크노파크	브랜딩 지원					1			1
한국 기술거래소	기술 이전			14					14
한남 대한학련	대전 금형RIS					1			1
총계		31	11	44	54	11	6	3	160

My Experience of the R&D Capability Improvement Effort in the Korean Heavy Industries Corporation

Chai Chin Suh

The 19th President

Introduction

It is my great pleasure as a member of KSEA to present my own experience helping to improve their R&D capability of the heavy machinery manufacturing industry through a corporation, like Korea Heavy Industries Corporation (Hanjung). Currently, Hanjung changed its name to Doosan Heavy Industries Corporation due to the ownership change.

I was fortunate to be asked to help Hanjung as an advisor. In Korea, the position of adviser is considered to be equivalent to a EVP without any executive power. As such, the position was respected and well treated with all the amenities, such as a chauffeured car, free housing, an expense account, a dedicated secretary, etc.

Of course they were happy with my background, training, and experience. In Korea, prior to coming to U.S.A., I was a faculty member of Seoul National University for 16 years, where I received my B.S. and taught Thermodynamics, Power Plant Engineering, and Advanced Engineering Mathematics. In U.S.A, I earned my Ph.D. in Mechanical Engineering in 1971 from the University of Michigan, and afterword, I gained considerable industrial experience in the U.S.A. for a substantial period (over 30 years). I considered myself to be well-qualified for the position and the task.

It was an extraordinary jump for the Hanjung to transform to "*Hanjung*" trade mark bearing manufacturer from the original trade mark (such as MAN or GE), bearing manufacture (OEM). My emphasis was strict approach to the engineering problems by 'formulations.

"*Formulation*" tends to be simultaneous partial differential equations, yet numerically organized in order to be aided by computer solutions. Formulation could be either differential or integral, depending upon the modeling of the problem. "*Solution*" requires a few appropriate methods, such as the method of characteristics, the Galerkin method of weighing functions,and Green's function in the integral equation, to name a few.

I am amazed at how much mathematical background and training are required to understand and develop new techniques to solve fundamental engineering problems involved in R&D. I still believe that extra effort should be placed to recruit qualified staff members with a strong academic background in mathematics and engineering fundamentals from the beginning.

Once we have a group of qualified staff, the leadership should provide ample support, encouragement, and technical guidance in an effort to train them in R&D organizations and university research laboratories abroad. They have to be exposed to ongoing analytical and experimental tools and skills, and become a part of the global family for the advancement of science and technology.

I had opportunities to participate in the following activities by serving a leadership role:

1. development of the design capability of diesel engines
2. improvement of the analytical and experimental capability of the failure evaluation of engine parts
3. nuclear power plant equipment design and qualification

Experience with R&D Efforts

Engine R&D

The type of engine in Hanjung's production is a large size, two stroke, low speed marine diesel engine. For example, the largest size has the following power and dimensions: 100,000 HP, 12 cylinders, bore of 1m, weight of 2,000 tons, 5m wide, 15m high, and 25m long. These large engines are designed by either WNSD (Wartsila New Sulzer Diesel) or MAN-B&W, Copenhagen, Denmark.

Under my leadership guidance, we set up a working plan starting from a conceptual design based on the target technical specifications to the completion of testing the prototype engine in three years. This working plan works not only for the large marine diesel engine, but also any type of diesel engine of any size or type in such use for truck, train, or power generation.

Conceptual Design for New Engine Product
The target of the new product was to set a goal in the form of the technical specifications. The specifications include: bore, stroke, speed, bmep, bsfc, compression ratio, etc.

On-board Tests and Rig Tests
Component tests are either on-board or rig tests. On-board tests will be concerned with component development on board with the rest of the engine assembly, while the rig tests will be component-dedicated tests isolated from the rest of the engine assembly. Components could make up a fuel injection system, suction and exhaust system, combustion chamber, cooling system supercharging air system, lubrication system, etc.

Computer Aided Design
Cycle analysis, combustion analysis, and fuel injection analysis were performed by softwares: BOOST, FIRE, and HYDSIM. Pre-process and post-process were done by PATRAN, I-DEAS, and a number of graphics programs and some support works. Non-linear engine dynamics, piston dynamics, crankshaft torsional vibration and bearing calculations were carried out by EXCITE, GRIDE, BRICKS, and also by ANSYS, FLUENT, and STAR-CD.

Engine Design Firms
Staff training and technology transfer were performed by AVL in Graz, Austria. AVL was selected among SWRI in the U.S., Ricardo in Great Britain, and FEV in Germany.

Hanjung is one of the biggest manufacturers of large two stroke marine diesel engines under the licenses of WNSD and MAN-B&W. Therefore, it is natural for Hanjung to develop its design capability based on its manufacturing experience with marine diesel engines.

Design Capability
Hanjung has now acquired its own design capability to design and produce a new line of diesel engines to meet any requirements from the start of the conceptual design to the end of the prototype engine test in three years' time.

Failure Analysis of Engine-Bearing Support Girder Cracks
It was to develop engineering analysis and testing capability so that any type of failure analysis encountered can be satisfactorily performed.

The case in point was the evaluation of the bearing support girder cracks in eleven engines designed by WNSD: TRTA 84T/T-B; 40,000 HP; 84cm bore engines. Hanjung has never been subjected to any claim of malfunction due to manufacturing defects.

WNSD was insisting that their design was flawless based on their analysis of the ample endurance limit of the specified material of cast steel and the safety factor of their design practice. However, Hanjung was able to demonstrate successfully under my leadership that a design flaw was indeed responsible for the crack development. The design did not provide an adequate safety factor based on the fracture mechanics consideration of cast steel production practices and the required endurance limit for the cyclic operations among other considerations.

Hanjung is now enjoying the capability of both analysis and test to cope with technical problems associated with designs and operations.

Development of the Design Capability of Nuclear Power Plant Equipment
1. Steam Generator Nozzle Flow Analysis
2. Polar Crane Design and Analysis
3. Equipment Seismic Qualification

Conclusions
It was a worthwhile experience for me as a member of KSEA to participate in the improvement of the R&D capability of Hanjung and heavy industry in general in Korea.

The success of this undertaking lies in the human factors. That is to say, we have to have a well-qualified staff. We have to have a critical mass of those people. Then, we need in leadership those who understand the problems, with substantial technical experience and academical training encourage people, and take the lead. Meeting these two goals is extremely difficult to achieve.

Still a third factor is the will of the CEO. He has to abandon the old culture (ways of doing things) and adopt a new attitude, which is reflected totally independent from the trend leaning toward buying licenses, hiring foreign consultants, getting third party (foreigners) evaluations, and so on.

The CEO, leadership, and R&D staff should be concerned with proactively and squarely meeting the challenge of R&D's demands with confidence, imagination, and creativity. Only then will we succeed in accumulating knowledge and skill in time and becoming a member of the global family, enjoying our contribution to our common benefit and reward.

I am now proud of being one of contributors to lift Hanjung from OEM to Hanjung trade name bearing manufacturer. Another good news is now Hanjung is exporting the nuclear power plants overseas. And we see so many giant diesel engines bearing Hanjung's trade mark pulling oil tankers or generating electricity in an unimaginable places, or nations.

Entrepreneurial Journey: Measured Risk Taking and Continuous Learning for Value Creation

Andrew Sungsoo Kim

CEO/Founder, HRCap, Inc.

Entrepreneurship is the pursuit of opportunity beyond resources controlled; an entrepreneur is one who identifies a need for innovation, then takes considerable risk to organize and operate a new business. I received the 2012 KSEA Entrepreneur of the Year Award. I had founded HRCap, a Total HR Solutions Provider, and was acknowledged for its direct impact on the growth of Korean-American businesses and community. As I look back on the past 60 years of my life, I always had an entrepreneurial spirit to create value by gathering like-minded people into communities, changing inefficient processes, and identifying gaps to build from scratch.

I joined LG Electronics in 1987, and specialized in HR and Recruiting. I was identified and hand-picked by the LG Group Executive Committee for a fast-track HR expatriate opportunity. I came to the States in 1995 on a five year expat engagement as the HR & Recruiting Director in the CEO's Executive Office. This was the first time ever that a Korean conglomerate made the investment to send an expat overseas to solely focus on global recruiting. I was tasked to create recruiting strategies and a strong pipeline of top graduate-level candidates in the Science & Technology field. In the five years, I had visited over 500 campuses and met over 20,000 Korean-American and Korean International students to promote LG's brand and to recruit strong candidates in advance.

During this time, I met honorable leaders from KSEA HQ and active members from KSEA Chapters nationwide. I was deeply inspired by the impact KSEA had on the growth of the Korean-American community–in not just promoting the application of Science & Technology, but also guiding Scientists and Engineers develop their career. I made it a priority to make LG the main corporate sponsor for UKC and to partner with KSEA NY Metro Chapter for KMSO to instill greater interest in early STEM education. I continued my commitment to KSEA's mission even after leaving LG Electronics by actively serving on the Council (2000-2010) and as Auditor (2010-2020) for the NY Metro Chapter.

In fact, 2020 marks the 20 year anniversary of HRCap. It has been 20 years since I decided to leave my nest of 15 years and to forego the promised stability of a global corporate job at LG. Instead of going back to Korea alone to climb the corporate ladder, I took a leap of faith to stay in the States to build a start-up. The risk was high – financially, culturally, and socially. I had a family to care for with humble savings and limited funding. English was not my first language and the U.S. labor law was completely foreign to me. I was shunned by my trusted community as a scapegoat for leaving the company at that time. However, the decision was an obvious one. I wanted my children to continue their education here and to see them grow up to realize the American dream. I also knew exactly what the global labor market challenges were at the time, and had faith that my HR expertise and proven recruiting experience will drive the foundations for an innovative business model. Lastly, I had felt a genuine life-calling to create value as an ambassador to the global Korean-American labor market.

Starting and sustaining a business for over 20 years has not been easy. Based on market data, 90% of new startups fail; 50% make it to 5 years, 33% make it to 10 years, and only 25% make it to the 15 year mark. The past 20 years were filled with challenges and risks, but I was fortunate to have advisors, partners and employees who did not lose hope. We stayed firm in delivering highest service excellence even during the recessions, turnovers and now the pandemic. Our secret was to continuously learn, adapt, and transform; organized in 3 growth phases.

The first growth phase (2000-2010) of HRCap was a time of foundation and vision establishment. During these first few years, we identified a market need and reached highest client satisfaction. We acquired top recruiters to strengthen our niche practice, and joined partnerships with the government and press to build our corporate brand. We hosted the first Korean-American Online Recruitment Fair with The Korea Maeil Economic Daily (CyberCampusTour). By 2010, we

made measurable impact on the Korean-American market, and were awarded by the Korean Ministry of Knowledge Economy with the "*Leading Recruiting Firm in the U.S. Recognition*" and U.S. Pan Asian American Chamber of Commerce with the "*Top 10 Asian American Business Award*".

The second phase (2010-2020) was spent on further realizing our vision, customizing our services, and widening our coverage. We expanded our business beyond U.S. and Korea to Asia and Europe. We developed our own ERP and CRM systems to allow for efficiency and intimacy. We launched various SNS platforms and opened communication channels to address unique client and candidate needs. While we were busy prospecting new opportunities in the first ten years, the second ten years were spent actively responding to client service inquiries and government partnership requests. We worked closely with our clients to grow their footprint in the States as the go-to bilingual recruiting agency. We were selected to act as the exclusive recruitment agent for official recruiting projects with the Korean government. Our teams began to specialize in unique service offerings, and we continued give back to our community through our HR expertise. We hosted the Global Employment Seminar with the Consulate General of the Republic of Korea in New York, published the Road to Employment Guidebook, and organized the first ever two-day KSEA UKC 2018 Public Session with career seminars, job fair and panel discussions to educate the general public.

The third phase (2020-2030) is now focused on leading the market with digital transformation. We will not just assess and react to the market needs, but create and lead the global labor market. We now service over 1000 clients globally, with a talent pool of over 600,000 candidates, including 70,000 Korean Americans. We are no longer just known as No. 1 in the bilingual niche market, but have also built a brand for specializing in confidential Executive Recruiting and HR Consulting with exclusive client representation. We have built strong synergetic teams that partner with clients to effectively glocalize through cultural transformation strategies and critical placements. We are not just recruiters, but cultural ambassadors for global mobility by screening and training for adaptability and fit. We have a proven global brand for service excellence in speed and accuracy with emphasis in integrity, intimacy, and professionalism. We are leveraging our HR data powerhouse and differentiated service to become not just the largest but the best Asian Total HR Solutions Provider by 2030.

2020 has been a difficult year for all, but HRCap has committed to turn such challenges into opportunities to mark 2020 as our greatest milestone growth year. Even with the uncertainties brought forth by Covid-19, we took risks to improve our services offerings, hire more qualified employees with entrepreneurial spirit, and invest in systems and processes for greater digital transformation. This allowed us to be more nimble, progressive, and effective throughout the pandemic. As a continuous learning organization, we have delivered even higher service excellence as an indispensable growth partner to our global community.

I believe there are 10 distinct traits that have defined and enhanced my entrepreneurial journey: 1) prudent market analysis, 2) honest self-assessment, 3) measured risk taking, 4) nimble adaptability, 5) continuous skills development, 6) investment in networking, 7) proactive collaboration, 8) time & asset management, 9) unwavering self-motivation, and 10) genuine passion. These characteristics and success factors have allowed me to create value as an entrepreneur – all the while adding value to the global labor market, creating niche communities, growing with client partners, making profit to retain and reward top talent, building life-long relationships, mentoring careers, and fulfilling my very own life calling. I will always continue to take measured risks for growth and be a life-long learner.

2018 UKC Public Session Leadership with Ambassador Hyo-Sung Park

2018 HRCap presentation to Consulate General of the Republic of Korea in NY

2017 NRC HRCap Sponsorship, CEO Andrew Kim with Dr. Stephen Suh

The Sustainability of the Business

Kook-Wha Koh

Founder of Chrysan Industries, Inc.

First, I would like to congratulate KSEA on its 50th anniversary.

I founded Chrysan Industries in 1977 as a small chemical manufacturing company serving the Detroit auto industries. It is now a global manufacturer of lubricants and specialty chemicals for the auto, aerospace and other industries. Headquartered in Plymouth, Michigan, Chrysan has facilities in the United States, Asia-Pacific, and South America. In November this year, we will celebrate Chrysan's 43rd anniversary.

I have faced numerous challenges and made mistakes over the last half century, but I continued to march towards my dreams, despite these setbacks. When I started Chrysan, there were very few women chemical engineers and I struggled with speaking English to my customers. I read many books about leadership and attended seminars and training courses for sustaining and growing small businesses. I learned many things, including importance of networks, relationships, persistence, patience and grit. I would like to focus on three lessons that served were critical for me in understanding how to sustain Chrysan in the face of increasing global competition.

Quality and Character of the Leader

The first lesson is the quality and character of the leader must drive the company to success. The leader should have a positive energy that can see around corners to overcome difficult situations. The leader's health is also important because I often worked more than 100 hours per week without sickness. I took short naps (10 or 20 minutes) to re-energize, so I got the nickname "*woman of steel*".

The leader must also have the utmost integrity with respect to him or herself, the company and its employees. The leader must make hard decisions all the time, but the courageous leader makes the right choice - not the easy one. Making courageous decisions leads to innovation and ultimately success. In 1990, I relocated Chrysan from downtown Detroit to a new facility in Plymouth, Michigan. I had four children, three in college, and we went deeply into debt to relocate Chrysan, but it was a courageous decision and it was the right decision.

Passion

The leader should work harder than every other employee. This exhibits passion and commitment to the company. If a leader does not, he or she will quickly lose the respect of its employees.

In 1975, Paul Allen and Bill Gates wrote ALTAIR BASIC, a result of many hours of work, skipping meals and sleep. I often slept in the office, getting dressed and washed up before the first employee arrived the next morning. I believed that Chrysan was going to be successful in formulating lubricants and specialty chemicals for many industries and worked tirelessly to make that happen. I heard "no" many more times than I heard "yes" but I continued to believe that my efforts would pay off.

Focus

Some people can do several things at the same time seamlessly. But most of us focus on one thing at a time to achieve goals. It is important for the leader to allocate the right time, energy, and resources to the right strategies, problems, and projects. Madame Currie focused on her work even when she

was going blind. Albert Einstein focused on one thing, his research. He did not notice he wore two different colors of socks. Dr. Christian Barnard from South Africa, who was the first human heart transplant surgeon, was so much attached to his work that he could not hold his family together. My first priority was my children, the second was Chrysan, and the third was my husband. After the children went to college, Chrysan became my most important priority. Since I focused on the business, frequently I had dreams about Chrysan while I slept at night. As soon as I woke up, I wrote down the contents of my dream in a journal before I forgot. I truly lived and breathed Chrysan 24 hours a day!

Giving Back

My entire life I received help from many people in different ways. In order to express our gratitude to the educational institutions that supported us financially and in many other ways, Kwang and I set up the scholarship programs at the Engineering College of University of Iowa and at the Engineering College of Seoul National University. We treasure the letters of gratitude from students every year. Since my retirement from Chrysan in 2006, I continue helping in Research and Development and make presentations at professional trade organizations around the world. I also volunteer at lubricant and engineering societies, including serving as a technical editor in the Tribology & Lubrication Technology publication in 2015-2016.

Succession Plan

Suk-Kyu Koh, our second son, took the baton of leadership at Chrysan and has built it into what it is today.

Part III

Community Services and Grass Roots of KSEA

Chapter 7

Math, Physics, and Science Contests

- The National Math and Science Competition (NMSC)
- History of National High School Physics Contest (NHSPC)
- KSEA NY Metro Mathematics and Science Olympiad (KMSO)

The National Math and Science Competition (NMSC)

Quiesup Kim

The 32nd President

The Goal: One of the KSEA Missions

In 2001, KSEA initiated a National Mathematics Competition (NMC) to reach out to the public to cultivate a culture of volunteering among members, sponsors, and journalists, for promoting the multi-subjective educational effects for future generations nationally and to add to their already successful local chapter activities. The NMC was open to the parents and children of members, not just members

Since the beginning, in 1971, the Korean-American Scientists and Engineers Association (KSEA) has exclusively performed its activities for their fellow members, countries, such as USA and Korea. Its immediate goals and visons are focused to meet the needs of the members as follows:

a. Promote friendship and fellowship among Korean-American professionals engaged in science, engineering, and related fields.
b. Enhance the professional and social status of Korean-American professionals engaged in science, engineering, and related fields.
c. Promote cooperation between the USA and Korea in science and engineering
d. Contribute to the social welfare and the industrial development in the USA and Korea through the promotion of science and engineering.
e. Promote and cultivate the next generation of Korean-American scientists and engineers.

The sole purpose of this event was to promote the mathematical skills of the younger generation to enhance their interest and potential for future careers in the fields of science and engineering.

The Operations

The National Mathematics Competition Ad hoc Committee was established

Adapting the proposal from the Chapter President Committee (Chair, Mr. Peter Woo Of Ohio, and Vice Chair. Dr. Won Gil Choi), the 30th KSEA President, Prof. Nak Ho Sung, organized the National Mathematics Competition Ad hoc Committee (Members: Dr. Choe, Whee Ghee/ Dallas, Dr. Jae H. Kim/ Pacific Northwest, Mr. Min Kim/ N.Y. Metro, Dr. Kwang-il Lee/ S. California, Dr. Soon Sin Steven Oh/ New England, Dr. Hemin Chin/Executive Director/ HQ, Quiesup Kim/ Chair, KSEA VP) on February 23, 2002 to promote the successful local mathematics competitions to the national level.

Furthermore, the NMC was envisioned to advance an independent future national test model for the evaluation of young persons' educational progress as professional scientists or engineers.

In spite of many initial challenges involving problem dates, funding, and coordination, three experienced chapters (Midwest/ Chapter President, DC. Sung-young Jeong, New England/ Chapter President, Dr. Donald Dong Whan Kim, and Pacific Northwest/Chapter President, Dr. Jae Hoon Kim) agreed to assist four new chapters (Louisiana/ Chapter President, Prof. Myungi Sung, Minnesota President, Dr. Hee-Jin Park, San Diego Chapter President, Dr. Won Gil Choi, and Southern California Chapter President, Prof. Hyung Min Michael Chung) in their participation in this historic new national event.

As will be described more in detail below, the Ad hoc committees were established to expand the competition to other subjects such as sciences, physics, engineering, in 2006, 2013, and 2017, respectedly. However, the initial huge success of the KSEA National Mathematics Competition was brought to this event to be as an annual KSEA event, in order to reach out to more than 200 KSEA volunteer members, one thousand participating proud Korean-American students, parents, and sponsors.

The proud volunteers were college students, teachers, and parents including the weekend Korean Schools. Sunday Schools, newspapers, especially, the Korea Daily, Broadcasters, Korean-American organizations, and business groups. Parents and students also participated in various seminars prepared by the local Mathematical Educational Groups for learning about American educational systems and for sharing educational experiences in U. S. KSEA especially appreciated the support of the major sponsors such as Microsofts, Inc., Korea Daily (**Fig. 3**), Korea Times, KTAN-TV, Radio Seoul, Radio Korea, Voice of America-Korean, and Pulmuone-USA, at the beginning.

The Funding

The funding needed for the Competition and for the awards was raised locally by the participating Local Chapters, and partial support was provided by the KSEA headquarters as part of the chapter support budget in certain years.

The Participants

The tests were given locally at the same time from 2:00pm EST for one hour on April 20, 2002, in a written format (**Fig. 2**). No calculators or rulers were allowed. Problem sets and instructions for the participating chapter Committees were prepared and distributed by the National Mathematics Competition Ad hoc Committee and were posted on the KSEA web site (www.kesa.org). The Committee eventually became the Standing NMSC Committee.

In 2003, about 1500 students from 13 chapters participated in NMC2003, which was a remarkable statistics, considering the fact that it was the 2nd NMC organized. The NMC2004 built the momentum further with 15 chapters arranging competition sites in 18 different cities and 1,754 students participated from all over the United States.

For example, 2007 National Mathematics Competition (NMC 2007) was held on April 21, 2007, by Kang-Wook Lee, NMC 2007 Operation Committee Chair and Sung Yell Song, Math Committee Chair. A total of 2,242 students in grades K-4 through K-11 participated in the competition, which took place in 29 different cities under the supervision of 21 chapters in the US and 5 chapters in Canada.

NMC 2007 was the 6th competition which KSEA hosted as an event of nationwide scope that integrated earlier regional activities into the national competition series, as summarized by **Table 1**.

Chapter	Math	Science
Arizona	56	43
Austin	44	
Central Illinois	29	
Georgia	125	
Iowa City	9	
Michigan	31	
Midwest	71	
Mississippi	12	12
Minnesota	15	
Northern CA	72	
North Texas	126	
New England	154	
North Carolina	131	
Ohio	29	29
Oregon	78	78
Pacific-NW	325	270
Sacramento Valley	science only	82
San Diego	116	105
Southern CA	230	
South Texas	81	67
Washington Metro	169	
Canada	339	
Total Participants	2242	686

Table 1. Number of Participants by Chapter

The brief summary of the participants, since 2002, is shown in **Fig. 1** below. It shows variation in numbers, depending upon a variety of reasons. However, the number of participants remained high in the two thousands, depending on factors such as how to creatively operative the competition in respective year, subjects tested, or funding situation.

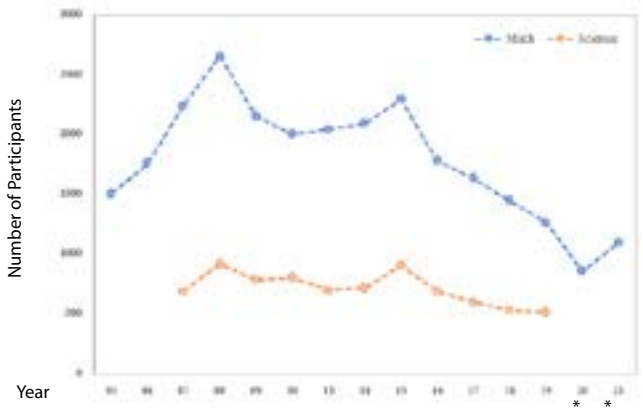


Fig. 1 The Total Number of Participants Each Year
* These 2 years were done by zoom meeting due to Covid 19

Performance of the Competition

The competition was in the form of a written examination. It started at 2pm, Eastern Standard Time (11 am Pacific Standard Time) and lasted 60 minutes for the 4th, 5th, 6th, 7th, 8th grade, participants. The examination was 90 minutes in length for the 9th, 10th, 11th grade participants.

Participation of a chapter in an NMC means that a considerable number of members with a spirit of community service were mobilized. Moreover, most participating chapters made tremendous efforts in fundraising and publicity in their regions. For example, the Pacific Northwest Chapter in Seattle arranged for a Gold Award to be given by Governor of the State of Washington, Gary Locke, to the 1st place winner in each grade in its region.

The North Texas Chapter was able to obtain a donation of $4,000 from Texas Instruments, Inc., among other donations acquired in support of the management of their NMC 2004 site. Many other chapters were able to obtain similar donations.

Moreover, participating chapters conducted information seminars for parents or guardians while students were taking the tests. Examples of the seminar topics included admission policies of universities, careers in science and engineering, financial plans for university education, introduction to KSEA, etc.

The Headquarters operated a Website for online applications, for example, in 2004, http:/lksea.org/nmc2004/registration/, for those students in regions where regional web sites were not available.

Three chapters were newcomers to the NMC in year 2004: Austin, Northern California, and South Virginia. They all managed their NMC 2004 sites with great success. The Northern California Chapter and the South Virginia chapter had never held mathematics competitions before. The leaders in the Northern California Chapter expected that 200 students will participate in NMC 2005. The Austin Chapter had held regional mathematics competitions before, but this was the first time they participated in the NMC.

Winners and Awards

Cash awards and certificates were given to the highest achievers in each category, as determined by the National Committee. These included the awards of the KSEA President and the Ministry of Science and Technology of Korea. Local Chapter Awards were also given to the highest achievers in different categories that were classified by the participating Local Chapters. Perhaps the most valuable award for everybody was to have demonstrated to themselves an ability to create bridges to future generations by reaching out to the community. The Committee sincerely appreciates all the volunteers for their unselfish contributions to make the NMC events possible.

National-level awards and special sponsors

Each KSEA chapter completed the grading of the students' examinations within hours after the tests and presented the chapter awards on the same day, except for the case of one chapter which gave the chapter awards a few days later.

For example, the KSEA-Pacific Northwest Chapter in Seattle gave a Gold Award presented by Governor of the State of Washington, Gary Locke, to the 1st winner in each grade and a Silver, in 2004.

The Korean Consulate General in Seattle presented an award to the 2nd winner in each grade. KSEA Headquarters has received all the answer sheets of the participants from every KSEA chapter, analyzed them thoroughly, and determined the recipients of the national-level awards. Each award carries a cash prize as follows:

Grade	1st place	2nd place	3rd place
4th - 7th	KSEA President's Prize ($400)	$250	$150
8th	Shoon Kyung Kim Prize ($400)	$250	$150
9th	Yohan and Rumie Cho Prize ($400)	$250	$150
10th	Chunghi Hong Park Prize ($400)	$250	$150
11th	lnyong Ham Prize ($400)	$250	$150

The named prizes (Shoon Kyung Kim Prize, Yohan and Rumie Cho Prize, Chunghi Hong Park Prize, and lnyong Ham Prize) were introduced to express KSEA's deep appreciation to those who made generous contributions to the KSEA scholarship funds over the years.

Also, Asiana Airlines donated a round-trip airplane ticket to Korea to one top national-level winner in the 4th grade (Kevin Ko in Triadelphia Ridge Elementary School who participated in the competition in Baltimore) and another ticket to one top national- level winner in the 5th grade (John Jin in Elmonica Elementary School in Seattle).

The Korean-American newspaper companies, Joongang ll-bo USA and Hankook Il-bo USA, also served as cooperating sponsors and provided generous support in publicity andmarketing. Their support was a significant factor behind the success of NMC 2004. The support of Korean Consulate Generals in major cities and various donors who supported chapters' participation in NMC 2004 are also gratefully acknowledged. Many KSEA officers and parents expressed their feelings that the questions presented to examinees this year were generally more difficult than those used in previous years.

Nevertheless, NMC 2004 produced a much larger than expected number of perfect scores. The resulting increase in the overall prize money coupled with the increased management expenses due to the increased number of examination sites and participants created a budget overrun situation in the headquarters. However, the situation was quickly corrected by the enthusiastic and generous donation of the following respectable scientists.

Name	Affiliations
Kyong-Chul Chun, Ph.D.	Manager, Argonne National Lab, Former President of KSEA
Jay-Hoon Chung, Ph.D.	President of Tayco Engineering, Inc., CA
Kwang-Hae (Kane) Kim, Ph.D.	Professor, UCI, CA
Soon-Kyoon Kim, MD.	President, Signature Healthcare Services, LLC

Kang-Wook Lee, Ph.D.	IBM, NY
Jonathan Min, Ph.D.	Principal scientist, Broadcom, Inc., CA
Chong Sook Paik Sung, Ph.D.	Professor, University of Connecticut
Nak-Ho Sung, Ph.D.	Tufts University, Former President of KSEA
Kenneth Yu, Ph.D.	Professor, Univ. of Maryland, Former Executive Director of KSEA

The students who demonstrated their outstanding mathematical talents and were chosen to receive national-level awards, are as shown **Table 2**.

Table 2. The students who demonstrated their outstanding mathematical talents and were chosen to receive national-level awards

Grade	Ranking	Name	School	Chapter
4	1	Kevin Ko	Triadelphia Ridge Elementary	Baltimore
	2	Chloe Choe	Enterprise Elementary	Pacific Northwest
	3	Bon-Hwang Koo	Preston Hollow Elementary	North Texas
5	1	John Jin	Elmonica Elementary	Pacific Northwest
	2	Rona Choo	Elmonica Elementary	Pacific Northwest
	3	In Young Cho	Haycock Elementary	Washington Metro
	3	Mario Choi	Cold Spring Elementary	Washington Metro
	3	Kristin Kim	Meridian Park Elementary	Pacific Northwest
6	1	Angela Choi	Takoma Park Middle	Washington Metro
	1	Dahan Choi	Marshall road Elementary	Washington Metro
	1	Jaewon Kim	Boulan Park Middle	Michigan
7	1	Alex Yoo	Takoma Park Middle	Washington Metro
	1	June Jhe	Jonas Clarke Middle	New England
	1	Sooji Kim	Wester Middle	North Texas
	1	Minseon Shin	Walter Reed Middle	Southern California
8	1	Yong Cho	Canyon Vista Middle	Austin
	1	Ji-Kwang Kim	Takoma Park Middle	Washington Metro
	1	Mijin Jung	Luther Jackson Middle	Washington Metro
8	1	Byung Ha Kang	Washington Irving Middle	Washington Metro
	1	Bryan Chun	Lake Braddock Secondary	Washington Metro
	1	Paul Joo	Memorial Middle	Louisiana
	1	Minha Chun	Cereton W. Washburne	Midwest
	1	Albert Kim	Miller Middle	Northern California
	1	Brian John Suh	Zundy Jr. High	North Texas
	1	Sojung Yi	International Community	Pacific Northwest
	1	Yon Ho Choi	Eckstein Middle	Pacific Northwest
	1	David Shin	Northshore Middle	Pacific Northwest
	1	Eric Cho	Horace Mann	Southern California
	1	Jason Lee	Harvard-Westlake	Southern California
9	1	Young Jeong	Thomas Jefferson High	Pacific Northwest
	2	Edward Hong	Decatur High	Pacific Northwest
	3	David Lee	Palos Verdes Intermediate	Southern California
10	1	Menyoung Lee	Thomas Jefferson H.S. for Science/ Tech	Washington Metro
	2	Joo Young Park	Langley High	Washington Metro
	3	John Seo	Diamond Bar High	Southern California
11	1	Chris Chung	Naperville North	Midwest
	2	Anthony Kim	Thomas Jefferson H.S for Science/ Tech	Washington Metro
	3	Joseph Pyoungchan Ahn	Phillips Exeter Academy	New England

Benefits for the KSEA and the Community

The NMC has become a great tool for chapters to make parents of Korean-American students in their community more aware of the existence and activities of KSEA. KSEA Headquarters provides a common problem set for use in all competition sites. In a sense, the ability of a local chapter to arrange a competition site has become a meaningful measure of the chapter's vitality and vitality of the general community, especially interested in their children's education.

NMC were previously performed in a few local chapters but not nationally. However, the success of the super performance of NMC was not only for mathematical education of KSEA, but also for general community of KSEA, in reaching out to the public and promoting science, technology, engineering, and mathematics (STEM) education for future generations, and in members, sponsors volunteering spirit and the needed national networking. In fact, now the KSEA National Mathematics and Science Competition (NMSC) is the one of the most popular and successful annual activities of the KSEA. KSEA added an area of Sciences to the National Mathematics Competition, in 2006 and added Physics in 2014.

For future NMSC events, KSEA wanted to note the importance of other sciences. Chemistry, Biology, Computers, Geography, and Earth Science were subjects that students could learn even at early elementary grades, noted in 2007 NMSC. Perhaps a test that includes several sciences would be more appropriate and more fun. This would also expose students to other sciences and encourage them to be better-rounded and excel in many scientific areas.

Challenges

Overall, NMSC has a clearly been a successful event. Some minor issues have come up such as younger brothers and sisters of participating students roaming around the examination sites, while making noise, but these issues were completely overshadowed by the feelings of success shared by the large number of KSEA members involved in organizing NMSC and the parents of the students who participated, The big success of NMSC is mainly due to the strong enthusiasm toward and belief in the importance of educating children that many Korean families are still maintain.

However, the success would not have been possible without outstanding self-sacrificing voluntary service of many KSEA members. The generous support of cooperating sponsors has also been a great contributing factor.

It was also worth noting that the following committees met their responsibilities for operating the NMSC with high degrees of professionalism and community-service spirits.

Fairness

Other Ethnics Participation to NMSC, adjusting the testing ages, different subjects, and including neighboring countries, are just a few topics that should be further studied to improve KSEA activities to next level.

Fig. 2 Student participants in the National Mathematics Competition in 2002

수학 경시대회
갈수록 좁은문

Fig. 3 Article on the NMC from the April 23, 2002, Korea Times Northwest Edition

History of National High School Physics Contest (NHSPC)

Chueng-Ryong Ji* and Jaehoon Yu**

**The 38th President and **the 45th President*

KSEA Cooperation with AKPA as the eldest Affiliated Professional Society

Start of KSEA Cooperation Project with AKPA

As an effort to increase membership and promote strong collaboration between Korean American Scientists and Engineers in all areas, KSEA created the Affiliated Professional Societies (APS) early 2010's. One of the first APS was the Association of Korean Physicists in America (AKPA) whose members have always been playing strong leadership roles in KSEA.

In 2011, during the 40th administration under president Hosin David Lee, the then elected vice president of AKPA, professor Jaehoon Yu of the University of Texas at Arlington (UTA), who went onto become the 45th president of KSEA, proposed to implement the National High School Physics Contest (NHSPC). The NHSPC proposal was timely since KSEA was working on effectively integrating the newly created APS program. In this regard, NHSPC was to set an example to other ASP as the first APS-KSEA organized program for middle to high school age students and to promote interests to physics, the subject that provides fundamental principles to all science and engineering.

In order to test the viability and the merit of the proposed NHSPC, AKPA proposed a pilot project, rightfully dubbed as the High School Physics Contest (HSPC) before going to national, at the 40th midterm council meeting. The proposal was approved, and a $3,000 startup funds were provided to prepare and publicize the contest.

The ultimate goals of NHSPC are not only to promote physics to highs school students but also to get Korean-American community to be more acceptable and closer to physics. It was also envisioned that winning an award at the NHSPC helps Korean-American students an opportunity to strengthen their college applications and encourages them to become scientists. AKPA has been in close contact with the American Physical Society on this physics contest project, announcing and reporting on the success of NHSPC at its annual meetings.

AKPA and KSEA co-hosted this pilot program of National High School Physics Contest on Saturday, April 21, 2012, the same day of the KSEA National Math and Science Contest (NMSC) which was the 11th Math competition and the 6th Science competition organized by KSEA.

This pilot High School Physics Contest (HSPC) was held both in North Carolina (NC) Chapter and Northern Texas (NT) Chapter for 9-12th grades. The students were given 90 minutes to solve 15 problems–10 mechanics and 5 electro-magnetism. All problems were multiple-choice problems to ensure the objectivity of the grading with a total of 10 answer choices each to minimize accidental ties and to ensure testing the students' physics skills, effectively preventing any potential leaks due to the administration of contest at different times to accommodate time zones.

Progresses and Challenges

Year	Chapters	Participants
2013(4/13)	8	36
2014(4/12)	10	82
2015(4/18)	12(14*)	86(109*)
2016(4/09)	11	66
2017(4/08)	10	56
2018(4/07)	7	48
2019(4/13)	7	41
2020(4/18)	Cancelled	Cancelled

*AKPA Newsletter Vol.30, No.7, April 2015, Report by Prof. J. Yu including non-ethnic Korean participants

As the chair of the NHSPC pilot exam preparation committee, professor Chueng Ji of NCSU spearheaded and contacted WebAssign for AKPA to use their application to generate problems. AKPA acknowledges the courtesy provided by the WebAssign in preparing the problem set by a team of five AKPA members: Profs. Chueng Ji (NCSU), Kinney Kim (NCCU), Dean Lee (NCSU), Sungkeun Park (Korea Univ.) and Jahoon Yu (UTA), from the inception of NHSPC in 2012. While WebAssign provides template problems, it is essential

for the problems to be made absolutely clear and create the 10 answer choices, including the 9 incorrect yet possible, so that the skills of students are truly measured.

Nine students in NC and five students in NT participated in the first contest in 2012. Of these participating students, four students (two in each chapter) scored above the minimum threshold, i.e. 5 or more correct answers, and won first and second prizes. These winners received the certificates jointly awarded by the AKPA and KSEA presidents of the year and cash awards while all participating students received a T-shirt specially designed by an artist at UTA Art department.

From the Pilot Program to the National Contest

- With the success of this pilot project, AKPA and KSEA agreed on continuing this contest yearly in nationwide base along with the NMSC on the same day.
- The National High School Physics Contest (NHSPC) started in earnest in 2013 during the 41st administration under professor Hyung Min Chung's leadership.
- The creator of NHSPC, professor Jaehoon Yu then subsequently implemented the contest as part of the KSEA policy during the 42nd administration, under professor Myung Jong Lee's leadership, for which he was serving as the executive director, marking NHSPC as a fully integrated part of the NMSC.
- AKPA contest preparation team members decided to reduce the number of problems to 12 (8 mechanics + 4 electromagnetism) together with 10 answer choices for each problem of NHSPC. The exam time was also reduced to 75 mins.
- In 2015, under the leadership of then AKPA president, professor Jaehoon Yu, created and establish professor Kiuck Lee High School Physics Scholarship in memory of late professor Kiuck Lee with the help of his family and the entire AKPA members and started providing support for the award money for national winners of NHSPC. This scholarship enabled NHSPC to be more financially self sustaining and made KSEA and AKPA more of an equal partner for a sustainable program, making NHSPC a long lasting historic example of KSEA's APS program.

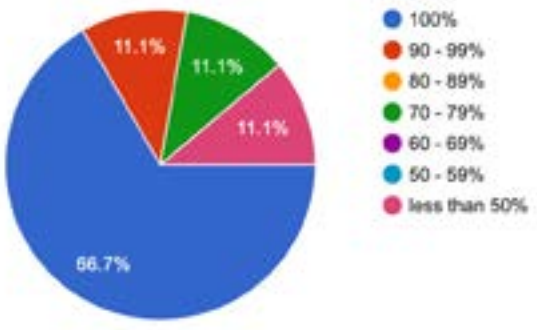
National High School Physics Contest (NHSPC) from 2013 till 2020 - First NHSPC on April 13, 2013

- The first nationwide NHSPC was held on April 13, 2013, the same day of the 12th NMSC. (See **Fig.1**)
- In contrast to NMSC for 4th-11th grade students, NHSPC is offered to 9th-12th grade high school students.
- Total 36 students from eight chapters of KSEA participated in the first NHSPC: Central Virginia, Indiana, North Carolina, North Texas, Ohio, Silicon Valley, Southeast Virginia, and Washington Metro.
- The AKPA problem preparation committee put in an enormous amounts of thoughts to ensure the fairness and security of the test. For this purpose, two separate versions, east and west versions, of exams with identical problems in different order of problems and different order of identical answer choices for each problem were provided to each chapter's discretion of schedule arrangement for NMSC vs. NHSPC.
- Three national prize winners of the first NHSPC in 2013 were
- 1st prize: Youngjean Han (10th) of Monta Vista HS, CA. 2nd prize: Hyun Keun Ahn (11th) of Coppell HS, TX.
- 2nd prize: Robin Park (9th) of Thomas Jefferson HS for Science and Technology, MD.
- AKPA provided monetary support for the national prizes as the Kiuck Lee High School Physics Scholarship awards while KSEA provided the T-shirts for participants and volunteers, as well as publicizing the contest since 2016. The certificates for the national prizes are signed by AKPA and KSEA together.

Progresses and Challenges in NHSPC

Since the NHSPC started nationwide in 2013, there were immediate growths in participation in subsequent couple of

Additional Photo exhibiting a close relationship between AKPA and KSEA.
Former Presidents of AKPA (1st Lee, Tong-Nyong; 4th Park, Yoon Soo; 15th Kwak, Nowhan) and their spouses are pictured with Late Former President of KSEA (12th Park, Jae Young) and his spouse. Dr. Yoon Soo Park and his wife are shown at the left, and Dr. Jae Young Park and his wife are shown in the middle, while Dr. Tong-Nyong Lee and his wife and Dr. Nowhan Kwak's wife and Dr. Kwak are shown at the right in the photo



Survey result on the admission rate of awarded high school students to universities

years. Total 82 students from ten chapters of KSEA participated in the second NHSPC on April 12, 2014, and total 86 students from twelve chapters participated in the third NHSPC on April 18, 2015. Including non-ethnic Koreans, total number of participants was 109 in the third NHSPC in 2015. Over these years, the average score has also increased by 25%.

While there was a certain growth of female student participation such that 20% of participants were female students in the fourth NHSPC on April 16, 2016, the total number of participating chapters of KSEA has decreased to eleven, and the total number of students was correspondingly decreased to 66 students.

The number of participating chapters of KSEA kept reduced in subsequent years such as ten in 2017 and seven in 2018 as well as 2019. Corresponding reduction in the total number of participating students in fifth (4/18/17), sixth (4/7/18) and seventh (4/13/19) NHSPC occurred as 56, 48 and 41, respectively. This trend of decrease is also apparent in NMSC participation, as well.

In an effort to revert this trend of reduction, the survey was conducted after the seventh NHSPC in 2019. According to the responses from nice chapters of KSEA, it appears important that the KSEA HQ's careful review on the multi-year history of each local chapter's NMSC participation not just last year's record should be made to figure out the overall budget that each local chapter requires for boosting the participation both in NMSC and NHSPC. The survey clearly indicated that the admission rate of awarded high school students to universities was very high, compared to other students. Many additional activities for the parents and family members of the participants have been offered. **Fig. 2** shows the physics demonstration to the public during NHSPC in 2019 in North Carolina chapter.

The eighth NHSPC scheduled April 18, 2020 along with the 19th NMSC was cancelled due to the COVID-19 pandemic and taken place as the Zoom/Moodle Exam in the following year April 24, 2021, which was participated by 60 high school students from 14 chapters. That exam was however invalidated due to an overlap with previously published exam questions. Nevertheless, the AKPA contest preparation team succeeded in completing the new set of standalone exam problems without using the WebAssign facility and offered the retest of the NHSPC 2021 on August 7, 2021 over the Zoom/Moodle, which was participated by 9 high school students from 3 chapters. Subsequently, KSEA-AKPA Physics Fair was held on August 21, 2021, including the 2021 NHSPC award ceremony and the physics demonstration with a few invited talks. NHSPC remains as an excellent role model for the collaboration between KSEA and its APSs despite the complications due to the prolonged pandemic.

The contact with Korean Physical Society as well as the American Physical Society must be further strengthened with the forthcoming NHSPC to continue promote interests to fundamental science to young students.

The online practice via WebAssign from Cengage may be arranged by KSEA to provide the benefits for the high school students to practice physics problems. Further benefits for K-12 students may be sought to provide the facility of practicing mathematics as well as physics with WebAssign as in the example of Khan Academy. Much bigger picture of the vision for the young generations can be motivated with the success of NHSPC.

Fig.1 Two photos taken in the first NHSPC (North Carolina Chapter Participants)

Fig.2 Physics demonstration for the public during NHSPC in 2019

Fig.3 Photo taken at the award ceremony of the first NHSPC in 2013 in North Texas chapter. NHSPC creator, Professor Jaehoon Yu is describing the goals and purposes of the NHSPC to the audience at the NMSC

KSEA NY Metro Mathematics and Science Olympiad (KMSO)

Eunju Im* and Kang-Wook Lee**

Reviewed by Sung-Kwon Kang[1], Jun Ho Shin[2] and Min Suk Kang[3]

**The 46th NY Metro Chapter President and **the 37th President*

[1]The 35th President, [2]the 37th NY Metro Chapter President, and [3]the 43rd NY Metro Chapter President

Introduction

Since 1994, the New York Metropolitan (NY Metro)chapter has been hosting the KMSO, an annual competition for the second generation Korean-American and other interested students in the NY Metro area. The objective of KMSO is to promote and nurture the curious young minds in their pursuit of challenges, to help them discover the joy of science and mathematics, as well as to provide mentoring and a sense of community. The KMSO became the most important and meaningful chapter activity and the largest community service of our members. It is meaningful since it is a unique and dedicated volunteer service to the Korean-American community. It was an extremely tough project for the chapter, especially at the beginning, since we needed to develop a good overall program, to raise an enough fund, to recruit dedicated members and to advertise it to the Korean community. The idea was conceived in early 1994 mainly by three members: immediate ex-chapter president (CP) Yeon-Tae Jung, CP Myung Jong Lee, and elected-CP Kang-Wook Lee. Its preparation began on July 1st, 1994 under the leadership of the new CP, Kang-Wook Lee. The first KMSO was held on November 19th, 1994 at the Bronx High School of Science under the following purposes: to inform the young generation Korean-American students of the importance of math and science to their education and careers, to provide their parents with the information about children's education, and to demonstrate the modern sciences and technologies. It turned out a huge success. The total attendance was over 1,000 including 425 students. The NY Korea Times selected the first KMSO as one of the top 10 Korean-American community news (**Fig. 1**).

Fig. 1 (Above) A Newspaper article as the first page top news of the NY Korea Times in Nov, 1994
Fig. 2 (Right) A newspaper article of NY Korea Daily in Nov, 2020

The KMSO has been held in November every year since 1994. In particular, the 27th KMSO was held with an online format due to the COVID-19 pandemic (**Fig. 2**). The KMSO was organized only by the NY Metro chapter from 1994 to 2002, co-organized by the NY Metro and New Jersey (NJ) chapters from 2003 to 2006 to expand to the south of NJ. Since 2007, it has been organized only by the NY Metro chapter. The

Table 1. The details of KMSO

#	Date	Venue	Grades	Chair
1	11/19/1994	Bronx High school of Science	5-10	Kang-Wook Lee
2	11/18/1995		4-10	Ki Won Lee
3	11/16/1996			Seung Pil Kim
4	11/22/1997			Daniel Yu
5	11/28/1998			Jong-Deok Choi
6	11/27/1999			Seong In Kim
7	11/25/2000			Hyun Park
8	11/24/2001			Young Lok Kim
9	11/16/2002	Lehman College		Kang-Il Choe
10	11/22/2003		4-11	Sunghoon Kim
11	11/20/2004			Sunghoon Choi
12	11/19/2005			Jeong Seop Shim
13	11/11/2006	Manhattan College		Sung Hyuk Cha
14	11/17/2007	Queens College		Seongwon Kim
15	11/22/2008			SeungHyuk Shin
16	11/21/2009		4-12	Il Park
17	11/20/2010			Seonjoo Jang
18	11/19/2011			Jun Ho Shin
19	11/17/2012			Bongjun Ko
20	11/23/2013			Grace Park
21	11/22/2014		2-12	K. Stephen Suh
22	11/21/2015			Sae Woong Park
23	11/19/2016			Eon Soo Lee
24	11/18/2017			Min Suk Kang
25	11/17/2018	St. John's Univ.		Ohbong Kwon
26	11/23/2019			Ju-Hyun Lee
27	11/21/2020	Virtual		Eunju Im

venue had been the Queens College for the 11 years from 2007 to 2017. From 2012, it has been prepared in cooperation with New York Korean Biologists (NYKB) to increase the participation of the scientists in the field of life sciences, which have recently attracted attention, thus it has provided the students with an opportunity to meet and communicate with NYKB scientists from the leading research institutions and universities. Since 2018, it has been held at the St. John's University which was better suited to provide an environment where the students can attend the KMSO and spurt their curiosity in education. The detailed dates, venues, eligible student grades, and KMSO chairs can be seen in **Table 1**.

The KMSO was the first math and science competition event probably in the history of KSEA and in the NY Tri-state area Korean communities. It is noted that the KSEA Headquarters (HQ) has started the Math Competition since 2002 and the National Math and Science Competition (NMSC) from 2007.

Fig. 3 A scene of the science demo in 1994 (1st KMSO)

Fig. 4 A scene of the science competition in 2002 (9th KMSO)

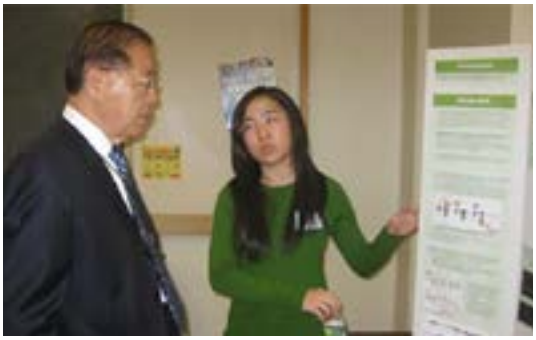


Fig. 5 A Scene of a poster competition in 2010 (17th KMSO).
Dr. Moon Won Suh (the 23rd KSEA President) was an invited speaker

Fig. 6 A Scene of the Lab-based wet Chemistry experiment in 2014 (21st KMSO)

Fig. 7 Scenes of the science competition (CoDrone & Chemistry) in 2019 (26th KMSO)

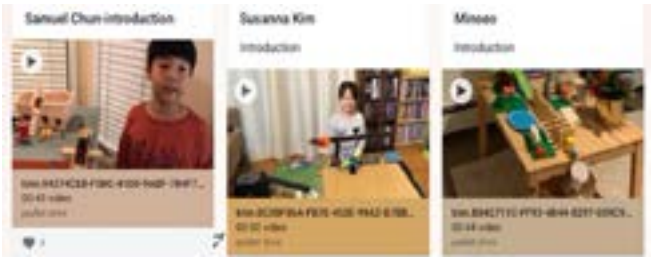


Fig. 8 Scenes of the science competition (Entry) in 2020 (27th KMSO)

Programs

Science: At the beginning, the science program was launched with a science display session in which KSEA members demonstrated or displayed various topics of sciences and technologies to students and parents (**Fig. 3**). As the program was further developed, a science competition (**Fig. 4**) was added to the display. From 1997 to 2001, both the science display and competition had been offered. Then to reduce the burden of the organizers, the display part had been excluded and only the science competition has been offered since 2002. In 2009 poster presentations were added, and in 2015 the participating student levels were further extended down to the 2nd grade.

In the early stage of the science competition, a student could choose and participate in one of the three different competitions, depending on their grade, knowledge, or age. From 2009 to 2019, four to six different competitions had been offered. After the poster presentation was offered in 2009, most 11th and 12th grade students have presented their research posters during which the professional judges and KSEA members talked with and gave advice to the students

Fig. 9 A scene of the parents program in 1994 (1st KMSO) Speaker: Sang Hee Lee, Chairman at the time of the National Scientific Advisory Council of Korea

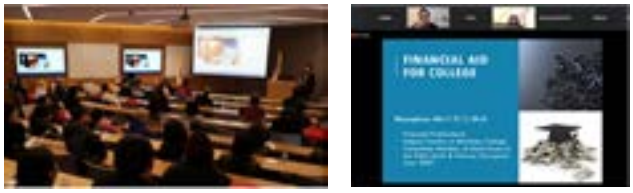


Fig. 10 Scenes of the parents program in 2018 (25th KMSO) and 2020 (27th KMSO)

about their researches (**Fig. 5**). To increase the participation and interest in science, we also developed and added a program of Science Entry for the 2nd and 3rd grade students who collaborate with their parents to complete a project. This Science Entry started in 2015 when Dr. K. Stephen Suh was the chair of the science competition committee. This Entry program had been a big success every year.

As the interest in computer science kept increasing recently, coding competitions were added to the science competition from 2019 and the lab-based wet chemistry experiments were changed to the lab-based dry chemistry using a drug-development program (**Fig. 6** and **Fig. 7**). As of 2019 before the 2020 COVID-19 pandemic, we established the five science groups (Science Entry, Science General, Physics, Chemistry, and Science Written test) plus two special science competition groups (Poster presentation and Coding competition). In 2020 during the COVID-19 pandemic, all science programs of the 27th KMSO had to be newly developed in order to fit to the online format. The KMSO organizers shipped science materials to the lower grade (2nd-5th) students and the supervisors led the competition via online (**Fig. 8**). For the higher grade (6th-12th) students, we introduced computer

#	Date	Speakers
1	11/19/1994	이상희, 백경숙, 안세영
2	11/18/1995	이상희, 백경숙
3	11/16/1996	전신애, 강경식, 학생연사 4명
4	11/22/1997	전혜성, 강영우, 학생연사 3명
5	11/28/1998	현용수, 학생연사 4명
6	11/27/1999	함인영, 학생연사 1명
7	11/25/2000	정영숙
8	11/24/2001	강성모
9	11/16/2002	신의항
10	11/22/2003	박순탁, 김승운
11	11/20/2004	서진규
12	11/19/2005	전신애
13	11/11/2006	정미령, 박중련
14	11/17/2007	강성권
15	11/22/2008	박길재, 학생연사 1명
16	11/21/2009	김준기, 김은희
17	11/20/2010	김준기, 이석, 서문원
18	11/19/2011	최희선, 석성남
19	11/17/2012	권현주, 한상준
20	11/23/2013	조석희
21	11/22/2014	이강욱, 김준기, Panelists
22	11/21/2015	Panelists
23	11/19/2016	Celline Kim (2009 KMSO Awardee), Panelists, 학생연사 5
24	11/18/2017	Panelists (여성과학자), 학생연사 3
25	11/17/2018	박광수, 고봉준, Panelists (과학교육학)
26	11/23/2019	이정규, 최성은, 박광수
27	11/21/2020	오명근

science-based competitions to each subject, such as physics using Lego-based simulation program and computer science solving a maze with Python (a programming language).

Math: The math competition takes place in the afternoon while the science competition does in the morning. The math competition is administered by a mathematics committee

Fig. 12 Group photo of the Awardee in 2018 (25th KMSO)

Fig. 11
Drs. Kang-Wook Lee and Myung Jong Lee just before the first KMSO Award Ceremony in 1994

Fig. 13 Drive-thru Award Ceremony in 2020 (27th KMSO): The 46th CP Dr. Eunju Im was presenting an award to a student in car

composed of math and related field professors or teachers at various universities or high schools. The competition is offered to the 4th to 11th grade students, and the difficulty level of the math questions is arranged to have the mathematical ability of the students in each grade properly evaluated. For the first five years, Professor Myung Jong Lee had been the chair of the math committee.

Parents Program: The Parents Program is another big pillar of KMSO and is positioned as an event to promote a communication between scientists and parents. As shown in **Table 2**, the invited speakers were professionals in their area and sometimes the former KMSO awardees. The topics included children's life, education, scholarship, and career as well as Korean history, culture and pride (**Fig. 9 and Fig. 10**).

Approximately 500 parents attended the first KMSO Parents Program. Dr. Sung-Kwon Kang had been its program chair for the first 20 years. He had invited many prominent speakers from the US, England and Korea as shown in **Table 2** and also arranged their travels.

As Dr. Min Suk Kang started to organize the Parents Program in 2014, the program has included a panel discussion typically combined with a few presentations. The invited panelists and speakers are composed of the experts in various fields of science and engineering under the specified theme of the year. This new format has enhanced the interaction between the scientists & engineers and the parents through question-and-answer sessions, resulting in sharing the in-depth knowledge and trends in the STEM fields as well as other areas of the parents' keen interests. By conveying multiple voices from multiple science fields including engineering, medicine, biotechnology, pharmaceutical, and IT, the KMSO has provided a forum for a new level of interactions between KSEA members and parents. It is learned that many parents appreciated their direct conversations, particularly with the past KMSO science awardees, the women in science, the current graduate students, and the artificial intelligence (AI) experts.

Award Ceremony

The result of the KMSO was announced on the same day of the competition, and the award ceremony had been held with all attendees (students, parents, members, volunteers, sponsors, press, and the other invited) for the first three years from 1994 to 1996 (**Fig. 11**). But due to the difficulty of logistics and the unexpected adverse effects to non-winners, our chapter decided to invite only the awardees and their parents to a separately-held award ceremony 2-3 weeks after the competition. This new format has been used since 1997. Its venue included a community center, the Greater NY Korean-American Society auditorium, and the same venue as the KMSO (**Fig. 12**). Under the pandemic in 2020, we adopted a drive-thru ceremony by following the COVID-19 safety guidelines: wearing masks and social distancing (**Fig. 13**). Most of the students and parents attended and enjoyed the ceremony. The awards over the years usually include the 1st, 2nd, and 3rd places, and a commendation, with scholarships and/or gifts, as well as the special awards from LG Electronics (who provided with LG monitors or smart phones as a prize),

Fig. 14 Group photo of KMSO Organizers, staffs, and volunteers in 2019 (26th KMSO)

KSEA President, University Presidents, the Consulate General of the Republic of Korea in New York, and/or the Mayor of New York City.

Fund-raising Activities

As the magnitude of the event scale was unprecedentedly so big to the chapter from the beginning, a great sum of expenses and the corresponding income were absolutely required. The annual KMSO could not have continued without a large size of the funds that the chapter had raised each and every year. For the first KMSO in 1994, there were 16 sponsors including many local Korean-American small-to-medium size businesses, Korean-American societies, the Consulate General of the Republic of Korea in NY, KSEA HQ, and individuals. In addition to most 1994 sponsors, Samsung Electronics donated a relatively large sum of fund for the second KMSO, but it was just a one-time donation solicited by a chapter member, Dr. Michelle Kim. While the event continued with many success stories, the funds (income) decreased significantly in 1996 and furthermore the fund-raising expectation for KMSO 1997 became very low as both the local businesses and the Korean companies were experiencing their financial difficulties (IMF crisis in Korea). For KMSO 1997 our chapter desperately needed one or two big sponsorships ($15k or more) to compensate the expected smaller fund-raising than the previous years. When our members were looking for big sponsors and contacting a few large Korean company's NY Metro Headquarters, only the LG Group expressed an interest. At that time, Mr. Sungsoo Kim (our current regular member and officer) was a manager in the LG NJ Headquarters and our chapter's contact point. Mr. Kim played a major role in LG's decision of sponsoring the KMSO with a large size of the fund that boosted our momentum for KMSO 1997, in the math test of which 421 students participated. Since 1997, the LG Group has continued sponsoring the KMSO for the last 24 years without skipping a single year as of 2020. Our chapter certainly hopes that they would continue the long good relationship. The NY Metro chapter is extremely proud of the LG Group and our members would like to express our sincere and heartfelt thanks to their generous donations to this event which has become one of the most helpful and meaningful service activities for the NY Metro Korean-American community.

Even after securing the major sponsor of the LG Group, the chapter still had to raise the funds from the Korean-American small businesses often including small Korean restaurants by visiting them from 1994 to 2007. Due to the time-consuming fund-raising efforts for the 14 years and the extreme burden to the KMSO organizing committee members, the chapter decided to discontinue the fundraising visits to local small businesses in 2008 when the fund-raising committee chair, Dr. Sunghoon Choi (the 30th CP), convinced the Image Solutions to donate a relatively large size of the fund. Since then, the chapter has focused mainly on a few selected small-to-medium size companies, local societies, the NY Consulate General, the Greater NY Korean-American Society, KSEA HQ, etc., for the KMSO fundraising. It is noted that the current sponsors include local Korean-American businesses, Korean companies such as Samsung and SK, and organizations such as the Korean American Association of the Greater New York, and the Consulate General of the Republic of Korea in NY.

Role of Volunteer Students

When the number of attendees was in the range of 500-1,200, it was challenging to guide them to the assigned rooms, to post signs on streets and buildings, to proctor & grade math/science exams, and to guide the awardees in the ceremony on the same day. The student volunteers from many local schools played a major role in handling those areas. Our chapter has student representatives from several universities in the New York and New Jersey area. Before the event, each school representative collected and formed a list of volunteers and send it to a chosen volunteer director who assigned each student to a specific role requested by the organizing committee. The school representatives and the volunteer director often had to call the volunteers to make sure that each student was coming. One of the student representatives in the first KMSO was Dr. Jeong Seop Shim, who became the volunteer director in the next event. Dr. Shim later became the chapter president and the chair of KMSO in 2005.

Summary

The NY Metro chapter has held the KMSO every year since its inauguration in 1994. The dedicated efforts of officers, ex-officers, ex-CPs, and student volunteers made such sustained volunteer activities possible for the last 27 years (**Fig. 14**). The KMSO has been recognized by the members, Korean-American parents, and the media as one of the best volunteer activities for the Great NY Korean Community.

"*Community Service*" is one of the three KSEA missions along with "*International Cooperation*" and "*Career Development*." Since it is believed that the KMSO has been one of the largest and highest-quality community services in KSEA, the NY Metro chapter has accomplished the mission successfully for the last 27 years.

Chapter 8

Awards and Scholarships

- Annual Awards
- KSEA Scholarship and Grant

Annual Awards

Nak-Ho Sung

The 30th President

KSEA was established in 1971 by Korean-American scientists and engineers in US with an enthusiastic support from the Ministry of Science & Technology (MOST) of Korea. Many people have dedicated their extra efforts in creating KSEA, a volunteer organization, and KSEA has been built upon the participation and volunteerism of individuals, who are also very active in their respective field of science and engineering. It took 30 years for KSEA to recognize those individuals of unusual dedication and high professional achievement and this belated action may have been attributable to inadequate organizational stability of KSEA in early days.

KSEA Awards were instituted in 2000 by 28th Council, however, it is implemented first in 2002 (30th Administration). The very first "*Call for Nomination for the Awards*" was announced in April 2002 issue of ***KSEA Letters*** (Vol.30, No. 4, p 8) (**Fig. 1**), and it was limited to two areas; "*Outstanding Contribution to KSEA Award*" and "*Entrepreneur of the Year Award*". A third category of "*Outstanding Chapter Service*" was added later.

Each year, "*Honors and Awards Committee*" places announcement for the Awards in March, evaluates nominee's credentials, and the qualified candidates are recommended to the President and Executive Committee (EC). The final recipients are recommended by the President/EC and approved by the Council. Awardees are recognized at the Award Ceremony, which is one of the main events of UKC/ Annual Meetings.

In 2002, Inaugural Awards for "***Outstanding Contribution to KSEA***" were conferred to Dr. Hyung-Sup Choi (1st Minister of Ministry of Science & Technology of ROK), Dr. Seung-Soo Han (former Prime Minister, Chief of Staff for the President of ROK) and Prof. Shoon Kyung Kim (1st President of KSEA). "***Entrepreneur of the Year***" Awards for 2002 were bestowed to Dr. Byiung Jun Park (Founder & CEO, Materials Testing Lab. Inc.) and Dr. Steve Kim (Founder of Xylon). "***Outstanding Chapter Service Award***" was offered to Dr. Jae Hoon Kim of Seattle Chapter.

The scope of KSEA Award has been expanded since then, and **Table 1** shows the chronology of inauguration of additional awards. Three types of honorary membership have been established also since 2008 to recognize members and corporations of distinguished service to KSEA. These are "***Distinguished Service Member***", "***Distinguished Sponsorship Member***" and "***Honorary Member***". Brief summaries of ***seven award*** categories and three ***honorary memberships*** of today are as follow:

- **Outstanding Contribution to KSEA Award** to a member who has made exceptional contributions to KSEA in particular and the society in general through dedicated and exemplary services in science and engineering including international cooperation (Joint Award with Minister of MSIT).
- **Scientist of the Year Award** to a member who has made outstanding technical contributions in the areas of science (Joint Award with President of KOFST).
- **Engineer of the Year Award** to a member who has made outstanding technical contributions in the areas of engineering (Joint Award with President of KOFST).
- **Entrepreneur of the Year Award** to a member who has demonstrated stellar performance in the areas of entrepreneurship (Joint Award with Maeil Business Newspaper).
- **Outstanding Chapter and Chapter President Award** to a local chapter which has contributed significantly to enhance KSEA activities through novel and exemplary programs and services.
- **Outstanding Community Service Award** to a member who has provided outstanding services to a greater community on behalf of KSEA.
- **Young Generation Leadership Award** to a young generation member who has provided outstanding membership development and services for the young generation.

And

- **Distinguished Service Membership (DSM)**: KSEA members who have served KSEA with distinction.
- **Distinguished Sponsor Membership (DSpM)**: Individuals or organizations who have made substantial financial contributions to KSEA. A nomination is not needed as KSEA will choose an organization on the basis of the sponsor record.
- **Honorary Membership (HM)**: KSEA members at least 75 years old who have retired with a distinguished career.

The list of recipients of various KSEA Awards and Honorary Memberships are presented in chronological order in **Table 2** through **Table 8**.

Awards are given to individuals who have made outstanding services or achievements. Among the various awards, "***Outstanding Service to KSEA Award***" is perhaps most significant to the organizational perspectives of KSEA, as this award recognizes personal dedication, which is vital to the stabilization and growth of KSEA.

Fig. 1 First Announcement of Awards in 2002

Recipients of this award include officials from Korean government and organizations: ***Prime Ministers*** (Dr. Seung Soo Han, Dr. Woo-Shik Kim), ***Ministers of the Ministry of Science & Technology*** (Dr. Hyung-Sup Choi, Dr. Sijoong Kim, Dr. Yung Bog Chae), ***Presidents of the Korean Federation of Science and Technology Societies*** (Dr. Wan Kyoo Cho, Dr. Ki-Jun Lee, Dr. Sang-Dae Park), and Member of Korean National Assembly (Dr. Sang Kee Suh).

In US side : ***University President*** (Dr. Sung-Mo Kang), ***Former Presidents/Professors*** (Prof. Shoon Kyung Kim, Prof. Kiuck Lee, Prof. Jae Young Park, Prof. Ki-Hyun Kim, Prof. Chin Ok Lee, Prof. Moon Won Suh, Prof. Dewey Doo-Young Ryu, Prof. Ki Dong Lee, Prof. H. Thomas Hahn, Prof. Nak-Ho Sung, Prof. Chan Il Chung, Prof. Kang-Won Wayne Lee) ***Former Presidents/Industry*** (Dr. Yong Nak Lee, Dr. Chai Chin Suh, Dr. Kun Sup Hyun, Dr. Saeyoung Ahn, Dr. Kyung Chul Chun, Dr. Sung Kwon Kang), and ***KSEA officers*** (Mr. Jun-Mo Nam, Dr. Hee Koo Moon).

KSEA is indebted to all recipients of this award as well as to many other former presidents and HQ officers for their contributions to bring about today's KSEA.

Table 1. Inauguration Chronology of Different Awards

Year	Award Started	Admin
2002	Outstanding Contribution to KSEA	성낙호 (30th)
	Entrepreneur of the Year	
	Outstanding Chapter Service	
2004	Scientist of the Year	김귀섭 (32nd)
2007	Outstanding Community Service	강성권 (35th)
2008	Engineer of the Year	이강원 (36th)
2009	Young Generation Leadership	이강욱 (37th)

Three types of honorary membership have been established also in 2008 to recognize members and corporations of distinguished service to KSEA. These are "*Distinguished Service Member*", "*Distinguished Sponsorship Member*" and "*Honorary Member*". The recipients of each categories in honorary membership are shown in **Table 7** below.

Table 2. Recipients of "Outstanding Contribution to KSEA Award"

Year	Name	Affiliation	Admin
2002	Hyung-Sup Choi	1st Minister of MOST	성낙호 (30th)
	Shoon Kyung Kim (1st P)	Professor Emeritus, Temple University	
	Seung-Soo Han	청와대 비서실장, 국무총리, UN 의장	
2004	Kiuck Lee (2nd P)	Professor Emeritus, Marquette University	김귀섭 (32nd)
	Sijoong Kim	전 과총회장, 과기부 장관	
2006	Kun Sup Hyun (21st P)	President, PPI	김광해 (34th)
	Hee-Koo Moon	Manager, Solar Turbines, Fellow ASME	
2007	Yung Bog Chae	전 과총회장, 과기부 장관	강성권 (35th)
	Chan Il Chung (31st P)	Professor, RPI	
2008	Wan Kyoo Cho	전 서울대학교 총장, 전 과총회장	이강원 (36th)
	Ki-Hyon Kim (15th P)	Professor, NCCU	
	Woo-Shik Kim	전 국무총리, 전 연세대학교 총장, Visiting Prof. KAIST	
	Moon Won Suh (23rd P)	Professor, NCSU	
2009	Yong Nak Lee (10th P)	President, Heat Transfer R&D, Ltd.	이강욱 (37th)
	Saeyoung Ahn (25th P)	President, Fuzbien Technology Inst.	
2010	Jae Young Park (12th P)	Professor Emeritus, NCSU	지청룡 (38th)
	Sang Kee Suh	Member, Korea National Assembly	

2011	Ki-Jun Lee	전 과총회장, 전 서울대학교 총장	김재훈 (39th)
	Jun-Mo Nam	National Cancer Institute, ED, KSEA	
2012	Nak Ho Sung (30th P) by KSEA and MEST	Professor, Tufts Univ.	이호신 (40th)
	Chin Ok Lee (18th P) by KSEA and MEST	Adjunct Professor, Rockefeller Univ.	
2013	Kyung Chul Chun (26th P) by KSEA and MSIP	Argon National Lab.	정형민 (41st)
2014	Dewey Doo-Young Ryu (24th P) by KSEA and MSIP	Professor, UC-Davis	이명종 (42nd)
	Sang-Dai Park by KSEA	전 과총회장, 서울대 명예교수	
2015	Ki Dong Lee (27th P) by KSEA and MSIP	Professor Emeritus, Univ, Illinois	안국준 (43rd)
	Sung-Mo Kang by KSEA	President, KAIST	
2016	Chai Chin Suh (19th P) by KSEA and MSIP	EAE Engineering, 전 서울대학교 교수	김영수 (44th)
2017	Sung Kwon Kang (35th P) by KSEA and MSIT	IBM T.J. Watson Res. Center	유재훈 (45th)
2018	H. Thomas Hahn (28th P)	Professor Emeritus, UCLA	서은숙 (46th)
2019	Kang-Won Wayne Lee (36th P)	U. Rhode Island, Professor	서광순 (47th)
2020	Hosin David Lee (40th P)	U. Iowa, Professor	오준석 (48th)
2021	Kang-Wook Lee (37th P)	IBM T.J. Watson Res. Center	조술연 (49th)

Table 3. Recipients of "Scientist of the Year Award"

Year	Scientist of the Year	Affiliation	Admin
2004	William T. Chu	Sr. Researcg Scientist, Lawrence Berkley Lab.	김귀섭 (32nd)
	Henry Heejong Lee	Professor, Florida A&M Univ.	
	Chong Sook P. Sung	Professor, Univ. Connecticut	
2007	Yong Moon Choi	Executive Consultant, SK Bio-Pharm-Global	강성권 (35th)
2011	Phillip Kim	Professor, Columbia Univ.	김재훈 (39th)
2012	Taekjip Ha	Professor, U. Illinois at Urbana-Champaign	이호신 (40th)
2013	Kyung Sang Lee	NIH	정형민 (41st)
2014	Kyungjae Myung	Sr. Investigator, NIH	이명종 (42nd)
2015	Eun Suk Seo	Professor, U. Maryland	안국준 (43rd)
2018	Daniel Lee	Professor, Cornell Tech	서은숙 (46th)
2019	Young-kee Kim	Professor, Univ. Chicago	서광순 (47th)
2021	Hong Kun Park	Professor, Harvard Univ.	조술연 (49th)

Table 4. Recipients of "Engineer of the Year Award"

Year	Engineer of the Year	Affiliation	Admin
2008	Mun Yong Choi	Dean of the School of Eng. U. Connecticut	이강원 (36th)
2010	Myungho Steve Roh	President, Founder Lee & Ro, Inc.	지청룡 (38th)
2011	Francis Chung	Dept of Water Resources, State of California	김재훈 (39th)
2012	John Kim	Professor, UCLA	이호신 (40th)
2013	Kang Won Lee	Manager, IBM TJ Watson Research Center	정형민 (41st)
2014	Kyungjae Myung	Sr. Investigator, NIH	이명종 (42nd)
2015	Jane Oh	Computer System Engineer, EDS	안국준 (43rd)
2016	MinJun Kim	Prof. Southern Methodist Univ.	김영수 (44th)
2017	Gyeong S Hwang	Professor, UT-Austin	유재훈 (45th)
2019	Nosang Myung	Professor, UC Riverside	서광순 (47th)
2020	Yongho Sohn	Pegasus Professor, U. Central Florida	오준석 (48th)

Table 5. KSEA "Entrepreneur of the Year"

Year	Recipients	Affiliation	Admin
2002	Byiung Jun Park	Founder & CEO, Merchant Testing Laboratory	성낙호 (30th)
	Steve Kim	Founder of XYLON	
2004	Yong-Nak Lee	President Heat Transfer R&D, Ltd.	김귀섭 (32nd)
2008	Jin Soo Kim	Founder/CEO Image Solutions Inc.	이강원 (36th)
	Te-Won Lee	CEO/Co-Founder, Softmax, Inc	
2009	Yongkeun Joh	President, Advanced Food Systems, Inc.	이강욱 (37th)
2011	Timothy H. Haahs	Architecture/Engineering Co.	김재훈 (39th)
2012	Sung Soo Kim	CEO & President, HRCap	이호신 (40th)
2014	TeK One members	Bo Ryu, Lydia Shin, Sunghwan Cho, and Alex Choe	이명종 (42nd)
2015	Byoung In Suh	Founder, Bisco, Inc.	안국준 (43rd)
2017	Tae Ryang Shin	President/Founder, Swagger Foods Corp.	유재훈 (45th)
2018	Kook-Wha Koh	President/Founder, Chrysan Industries, Inc.	서은숙 (46th)
2019	Kang P. Lee	President/CEO, Aspen Systems	서광순 (47th)
2020	K. Dennis Kim	Chairman, EVS, Inc.	오준석 (48th)
2021	Jong Sung Koh	CEO, Genosco Inc.	조술연 (49th)

Table 6. Recipients of "Outstanding Chapter/Chapter Service" and "Outstanding Community Service" Awards

Year	Outstanding Chapter & Chapter Service	Chapter President	Outstanding Community Sevice	Affiliation	Admin
2002	Pacific North Chapter	Jae Hoon Kim			성낙호 (30th)
2004	Central Pennsylvania				김귀섭 (32nd)
2007	NY Metro & New Jersey		Gye Won Han & Jeong Seop Shim	Structural Genomics/ Scripps R. I. & Manager,Otto H. York Center, NJIT	강성권 (35th)
2008	Washington Metro	Jungho Kim	Yonshik Choi	Engineer, Alcatel-Lucent	이강원 (36th)
	Southern California	Jane Oh	Jungho Kim	Professor, U. Maryland	
	South Texas	Jung Hyeob Roh			
2009	San Diego	Young-Hwan Kwon			이강욱 (37th)
	Midwest	Youngsoo Park			
2010	Sacramento Valley	Steve Lee			지청룡 (38th)
2011	Seattle WA	Heonmin Lim			김재훈 (39th)
2012	Austn TX	Jinwoo Lee	Sylvester J. Gates	Professor, Univ. Maryland	이호신 (40th)
2013	North Carolina	Sung Woo Kim			정형민 (41st)
2014	Georgia	Sang Hyuck Park	Susan Keun Hang Yang	Chapman Univ.	이명종 (42nd)
	New York Metro	Jeong Seop Shimw			
2015	Georgia	Sang Hyuck Park	Susan Keun Hang Yang	Chapman Univ.	안국준 (43rd)
	New York Metro	Jeong Seop Shim			
2016	Chicagoland	Kyuwon (Ken) Lee	Jane Oh	Computer System Engineer, EDS	김영수 (44th)
2017	Southern California	Jinlee Kim	MinJun Kim	Prof. Southern Methodist Univ.	유재훈 (45th)
2018	Michigan	Bemjamin Lee	Seogjoo Jang	Professor, Queens College, CUNY	서은숙 (46th)
2019	South Texas	Sukjoo Choi	Jiyoon Yoon	Univ. of Texas, Arlington	서광순 (47th)
2020	North Carolina	Sunkyu Park	Jaewoong Jeong	Miami Univ. Ohio	오준석 (48th)
2021	Chicagoland	Seungwon Chung		AbbVie	조술연 (49th)

Table 7. Recipients of "Young Generation Leadership Award"

Year	Recipients	Affiliation	Admin
2009	John C. Lee	Sr. Software Engineer, Northrop Grumman Corp.	이강욱 (37th)
2010	Ben Lee	Invia Medical Imaging Solutions	김재훈 (39th)
	Tom Oh	Assoc. Professor, Rochester Inst. Tech.	
2012	Sun Min Jung	Boing Co.	이호신 (40th)
2013	John Lee	Manager, KPMG LLP	정형민 (41st)
2014	Kaylee Shin	SBM Offshore	이명종 (42nd)
2015	Michael Lee	Asst Professor, NJIT	안국준 (43rd)
2016	Claire Hur	Asst Res. Prof. UCLA	김영수 (44th)
2017	Daegene Koh	Post Doc. Stanford University	유재훈 (45th)
2018	Stella Soy-oung Chun	Thermo Fisher Scientific	서은숙 (46th)
2019	Katherine Soojin Cho	UCLA	서광순 (47th)
2020	Ryuhwa Kim	Project Manager, Data Service Co.	오준석 (48th)
2021	Hyeonki Jeong	Georgia Inst. Tech.	조술연 (49th)

Table 8. Recipients of Honorary Memberships

Year	Distinguished Service Member	Honorary Member	Distinguished Sponsorship Member	Admin
2008	Kiuck Lee (2nd P)			이강원(36th)
2009	Sang-Il Choi (8th P)			이강욱(37th)
	Young Bae Kim (4th P)			
2012	Yong Nak Lee (10th P)	You Song Kim		이호신(40th)
	Ki Dong Lee (27th P)			
	Chan-Mo Park (13th P)			
2013	Jun-Mo Nam	Changkyiu Riew		정형민(41st)
	Ki-Hyon Kim (15th P)			
	Kun Sup Hyun (21st P)			
2014			LG, KOSEN	이명종(42nd)
2015	Moon Won Suh (23rd P)		POSCO	안국준(43rd)
2016	Saeyoung Ahn(25th P)			김영수(44th)
2017			Hyundai Motors	유재훈(45th)
2018			SK Innovation	서은석(46th)
2019	Nak Ho Sung (30th P)		CJ	서스티븐 (47th)
2020			Seoul Business Agency	오준석(48th)

Prof. Shoon Kyung Kim, a first recipient of "Outstanding Contribution to KSEA" Award in 2002

Dr. Byiung Jun Park, First recipient of the "Entrepreneur of the Year Award" in 2002

KSEA Scholarship and Grant

Nak-Ho Sung
The 30th President

Since its inception in 1971, one area KSEA has been focused is to nurture 2nd generation scientists and engineers of Korean heritage in US. A number of different endeavors have been made over the years to encourage, inspire, and mentor undergraduate and graduate students and postdoctoral fellows. These activities include Summer Internship program, Postdoctoral Fellowship, creation of KSEA Scholarship, endowment of private-donor sponsored scholarships, and more recently, establishment of KUSCO-KSEA graduate scholarship. Financial aid, started with a meager $1,000 in 1987, has been expanded to yearly disbursements of more than $50,000 nowadays. To young students and postdocs, receiving a scholarship means more than financial assistance, as this is a public recognition of high achievements in their academics, civil, extracurricular activities, and demonstrated potential for becoming a leader in the society. To KSEA, it is also an important vehicle in maintaining connectivity to young generation.

The following is the summary of each program.

1. Summer Internship Program for 2nd generation students (1979–1997)

In 1979, KSEA Council instituted "*Scholarship Committee*" to promote ***Summer Internship Program*** for seniors and graduate students in science and engineering. The main purpose of the program is to encourage career development in science/engineering field, provide opportunities for future participation in development of Korean industry, and expose to Korean heritage and culture, by providing three-month internship activities at Korean industry and R&D institutions. This program was developed in collaboration of KSEA (the 7th Administration, 최상일) and KOSEF (Korea Science and Engineering Foundation, 최형섭), and run jointly. KSEA handled announcement and selection of students and KOSEF arranged matching of each student with different institutions ranging from universities, industrial labs to national R&D institutes. Three-month internship begins in June, and travel and local expenses in Korea were supported by the program. Over the 18 years (1979-1997), 287 students had a benefit of this program. Ownership of this program was, however, claimed by KOSEF later in 1997, and KSEA's role in the program was officially terminated. (More details are available in KSEA 25th Year Anniversary Book).

2. Postdoctoral Fellowship (1981–1990)

A fellowship program was initiated in 1980/81 (10th Administration, 이용락), to provide financial assistance to postdoctoral fellows from Korean Universities who wish to have research experiences in U.S. A total of 16 postdoc fellows were supported, while some of the funds were also used in support of travel expenses for the graduate students who are attending major conferences. This program was ended in 1991 (the 19th Administration, 서재진), because needs for such postdoctoral fellows were recognized broadly and many opportunities became widely available in Korea in later years. (More details in KSEA 25th Year Anniversary Issue).

3. KSEA General Scholarship (1990–present)

In 1983/84 (the 12th Administration), needs for financial support for undergraduate students were considered as a high priority, and a fund raising effort was initiated with a target of $100,000 to establish general scholarships for undergraduates. It took more than 6 years to reach this goal, and in 1989/90 (the 18th Administration), ***KSEA General Scholarship*** was finally established. First award of the scholarship was given

to 6 students in 1992 (20th Administration). Since then, KSEA scholarship fund has been grown steadily, and as of 6/30/20, a little over $189,000 has been accrued and endowed. Actual dispenses of KSEA Scholarship were made from income generated by the endowed fund as well as supplemental fund from annual operating budget of each administration. From 1992 to 2020, a total of 189 students were benefitted from this scholarship.

4. Named Endowed Scholarship (2002 – present)

Prior to 2002, there were only 2 named scholarships, one private individual and one corporation. ***Inyong Ham Scholarship*** was established as early as in 1985 (the 13th Administration) with a $10,000 donation from Prof. Inyong Ham. Eleven years later, ***Hyundai Scholarship*** was created with a $30,000 donation from Hyundai Electronics in 1996 (the 24th Administration). Since then, no visible efforts were made until in 2002 (the 30th Administration), when two private donors were induced to create named scholarships with $50,000 (*Chunghi Hong Park Scholarship*) and $25,000 (***Rumi & Yohan Cho Scholarship***) respectively. This opened up a new wave to bring in many other named scholarships, and as of 2021, we have a total of 15 as shown in **Table 1**.

Table 1. Named Endowed Scholarships

Year	Names Scholarship	Initial Amount	Admin
1984	KSEA Scholarship	$10,000	박재영 (12th)
1985	Inyong Ham	$10,000	박찬모 (13th)
1996	Hyundai	$30,000	유두영 (24th)
2002	Chunghi Hong Park	$50,000	성낙호 (30th)
	Rumi & Yohan Cho	$25,000	
2004	Shoon Kyung Kim	$25,400	김귀섭 (32nd)
2005	Namsook & Jehyun Kim	$30,000	이승원 (33rd)
2006	SeAh-Haiam	$25,000	김광해 (32nd)
2008	Woojin Kane Kim	$10,000	이강원 (36th)
2009	Changkiu Riew & Hyunsoo Kim	$30,000	이강욱 (37th)
2011	Jae S. & Kyuho Lim	$30,000	김재훈 (39th)
2014	Yoo, Young & Im, Kyungbin	$35,000	이명종 (42nd)
2017	Chanil &Young Hee Chung	$35,000	유재훈 (45th)
2019	Laksan Lee Yong Nak	$35,000	서 스티븐 (47th)
2020	Tai Ryang & You Hyun Shin	$35,000	조술연 (49th)
2021	Kyong Chul Chun		
2021	Chan-Mo Park		

5. Young Investigator Grant

In 2011, 39th Administration launched "KSEA Young Investigator Grant" to support young scientist and engineers who have excelled in their early career development with a $10,000 research grant. This is the KSEA's highest recognition to young researcher who are outstanding in their achievement in science and technology area as a young investigator. Two awards are given each year, one to a researcher in academia and the other to industry/government researcher. This grant is managed by Honors and Award (HAC) Committee, and awardees are recognized at UKC. Up to 2020, a total of 17 young investigators were honored with this grant as illustrated in **Table 2**.

6. Non-endowed Named Scholarships

In 2006 (the 34th Administration), Dr. Wan-Kyoo Cho, a former Minister of Education in Korea and former president of Seoul National University, offered a scholarship of $1000 to KSEA, with a pledge of $1000 for every year in the future. His pledge was an open ended one, and considering Dr. Cho's stature in science community, KSEA decided to offer a named scholarship "***Wan-Kyoo Cho Scholarship***". This scholarship has been offered every year since 2006. In 2010 (the 38th Administration), Dr. Yoon Soo Park made a pledge of $10,000 to create a named scholarship. However, the funding was provided only for 3 years, 2010-2012, and it was awarded then, as "***Yoon Soo Park Scholarship***".

7. KUSCO-KSEA Graduate Scholarship

In 2005 (the 33rd Administration, 이승원), The Korea-U.S. Science Cooperation Center (KUSCO) offered to KSEA a scholarship program for graduate students with a stipend of $1,000 for each students. The scholarship was named as *KUSCO-KSEA Scholarship*, and a total of 14 students were granted in 2005. In 2006, the amount of scholarship was increased to $1500, and since then, the number of awards also has been increased gradually to 20 students. This scholarship often comes with a travel grant for attending UKC, where scholarship awardees are recognized. A list of recipients is presented in **Table 3**. A total of 291 students were awarded in this program as of 2020.

Table 2. Young Investigator Grant Recipients

Year	Awardee	Affiliation	Admin
2011	Daeyeon Lee	University of Pennsylvania	김재훈 (39th)
	Inchan Kwon	University of Virginia	
2012	Cheol-Hwan Park	The Robert Bosch Research and Technology Center	이호신 (40th)
	Jongho Lee	University of Pennsylvania	
2013	Deok-Ho Kim	University of Washington	정형민 (41st)
	Jin-Oh Hahn	University of Maryland	
2014	SungWoo Nam	University of Illinois at Urbana-Champaign	이명종 (42nd)
	Young Shik Shin	UCLA	

2015	Seok Kim	U. Illinois, Urbana-Champaign	안국준 (43rd)
2016	Seung Woo Lee	Georgia Inst. Tech.	김영수 (44th)
2017	Jiook Cha	Columbia University	유재훈 (45th)
	Aram Chung	RPI	
2018	Si Hong Park	Oregon State University	서은숙 (46th)
	Jung Hun Seo	SUNY Buffalo	
2019	Se Kwon Kim	University of Missouri - Columbia	서광순 (47th)
	Chi Hwan Lee	Purdue University	
2020	Joseph Kwon	Texas A&M University	오준석 (48th)
2021	Haegyeom Kim	Lawrence Berkeley Nat'l Lab	조술연 (49th)
	Sangsik Kim	Texas Tech Univ.	

8. Future Direction

The role of scholarship is beyond a simple financial aid to students. As stated earlier, the scholarship is a medium in nurturing and encouraging young generations to be a high achiever in their future career, through recognition of their excellence in academics and leadership. Unfortunately, the total number of scholarship recipients has been remained at 40 (20 graduates and 20 undergraduates) since 2012, as shown in **Table 4**, which is definitely stagnant. This is not acceptable.

We must continue to expand scholarship program, both in numbers and dollars, and it is most appropriate time (50th year commemorative) to create a more prestigious and substantial program. For example, a scholarship with at least one year of complete support for tuition and stipend for any university of candidate's choice, such as "*KSEA Scholar(tentative)*" program could draw more attention of excellent students and recognition of KSEA. This will require more active fund raising in near future.

Table 3. Recipients of KUSCO-KSEA Graduate Scholarship

Year	Awardee
2003	Byung Joo Lee, Kyeong-Pyo Kang, Jane Christina Kim, Taehyoung Kim, Sun Hwan Lee, Jaehyung Ju, Min-Young Kim, Woo Cheol Chung, Ju Hyun You, Young Jin Chun, Junsung Lim, Joon Ho Choi, Samuel Yoon, In-Seok Seo
2006	Hanna Kim, Kwisun Park, Charlin Han, Do Eun Kim, Deok-Ho Kim, Chang-Hwan Choi, Hana Oh, Sejin Han, Sang-Ho Cha, Yuan Hwan Kim, Su Seon Yang, Jane Yoo, Talley B. Whang, Young Ha Kim, Young Soo Kim
2007	Chan-Byoung Chae, MyoungKeun Choi, Eun Young Choi, Seonghwan Kim, Myounghee Kim, BoHoon Kim, Heon-Mo Koo, Junyoung Park, Hyungjun Park, Mi-Kyung Park, Sungkyu Seo, Sung Bin Shin, Ji Soo Yi, Joonhyuk Yoo, Intae Lee, JongKi Moon, YongKeun Park
2008	SangNam Ahn, Sung Hwan Cho, Gahgene Gweon, Sung Chul Joo, Yoona Kang, Wooseok Ki, Eunjung Kim, Hong Jin Lee, Seung Eun Lee, Seung-Jin Lee, Seung Hoon Nam, Chulwoo Oh, Won Kyung Park, Wookeun Shin, Iltai Kim, Mijin (Erika) Kwon, Eugene Kym
2009	Hyojin Kweon, DongSoon Park, Inchul Choi, Christopher Chang, Seung-Hwan Lim, Won Tak Hong, Dae-Jin Kim, Sejin Ahn, Juyul Lee, Jisun Kim, Tae-Hyung Kim, Pyoungchung Kim, Sangwon Lee, Jaehong Chon, Jang-Won Lee, Bumjoon Kang, JaeSung Park
2010	Kyung-Hak Choi, Ho Seop Eom, Ka Yeon Jeong, Jina Hong, Sang Ho Kim, Heuijoon Park, Jong-Ha Lee, Seokho Chi, Hyang Mi Moon, Seungdae oh, Eunsu Lee, Heaemin Chung, Jae Ho Shin, Sook Ha, YoungHee Kim
2011	Hyungsin Kim, Sang Min Park, Ye Suk Song, Jeongsu Lee, Seung Whan Lee, Bum Chul Kwon, Jeongdong Choi, Hosang Ahn, David Cho, Michael Lee, Sang Hoon Son, Dae Yu Kim, Sok-Hee Jung, ChangHyun Byun, Albert Kwon, Byung-Wook Kim, Youngbum Jun, Doyun Lee, Michelle Lee, Sun Hye Kim
2012	Seung Hyun Kim, Ji Eun Han, Won Chan Oh, Youn Na, Youngjib Ham, Sinchul Yeom, Juhee Bae, Jin Yong Oh, Peter Kim, Hyun-Woo Kim, Jun Suk Rho, Kangmu Lee, Hyejin Park, Do-Soo Moon, Youngsoo Seol, Hyunwook Park,Chul Sung, Keum Young Lee, Young Wook Kim, Woo-Shik Shin
2013	Taekwan Yoon, Dennis Kim, Sun Young Jeong, Sungjae Ha, Sungwook Woo, Janet Choi, Young Wook Kim, Byung O. Kang, Anna Lee, Dolim Lee, Woochul Jung, Hyejin Park, Stella Lee, Jin Seok Yang, Hyunju Kim, Annie Lee, Kyoungha Kim, Ethan Ahn, Clara Park, Mingon Kang
2014	Yoonseob Kim, Joonseok Lee, Jungwon Ahn, Chang Yu Hong, Jongkwon Choi, Chungja Yang, Seoung Jun Lee, Jisun Park, Hyungil Kim, Jaepyeong Cha, Joonseok Cho, Joonmoo Huh, Yoonsung Chung, Kyu Han Lee, Changju Lee, Jaewook Myung, Sunwoo Lee, Sunai Kim, Jiwon Mun, Seungeun Park, Jihyun Song
2015	Jiehyun Yeom, Kibum Kim, Yena Son, Hyunggu Jung, Jieun Son, SeCheol Oh, Farrah Yhee, Jaesung Choi, Jinhan Kwon, Woongsik Nam, Gloria Bora Kim, Yoon Woo Byun, Sangkyun Cho, Mina Choi, Rachel Lee, Seounghoon Woo, Jungjin Kim, Hayeun Ji, Nu Na, Sung-Hye Kim
2016	Sookyung Kim, Kyung Hyun, Dahea You, Seung-Been Lee, Piljin Chun, Jaekyo Yi, Won Jun Cho, Jeyoung Woo, Erik Reinertsen, Taekeun Kim, Som Yun Min, Jaeil Han, Yeon Ju Son, Taegon Oh, Kyung Eun Kim, Yungjun Yoo, unghoon Jahng, Minung Kang, Hyeonu Heo, Ju Yong Koh
2017	Sungyun Cho (Cornell U.), Sanghyun Hong (U. Maryland), Woong Hwang (Yale U.), Nathanael Lee (Georgetown U.), Haemin Paik (Cal Tech), Sun Ho Ro (Rutgers U.), Peter Yu (Ohio state U.), Daejin Kim (Georgia Tech), Esther Kim (Baylor Coll.), Eun-Kyeong Kim (Penn State U.), Jihyun Kim (Texas A&M), Jinhee Kim (U. Florida), Jungwoo Kim (Cal Tech), Taewoong Kim (U. Oklahoma), Yoonjung Joo (Northwestern), Sungyuo Jung (CCNY), Jason Ki (CUNY), Philip Kong (Yale U.), Soyoon Kim (U. Texas Austin), Kihyun Lee (Cornell U.)
2018	Seoungjun Park (M.I.T.), Brandon Wang (NYU), Junsuk Ko (UT Houston), Minseon Kim (UT Houston), Vinna Nam (Cal. Northstate), Chulwoo Park (George Wash. U.), Jonathan Lee (Harvard U.), Ji Young Kim (U. Michigan), Ji Soo Park (Georgia Tech), Jaehoon Jeong (U. Maryland), Yuna Oh (Weill Cornell), Jin Hong Mok (Texas A&M), Haena Kim (U. Washington), Youseob Song (Louisiana State), Nambo Cho (Arizona State U.), Donghee Koh (U. Tennessee), Junho Lee (Texas A&M), Hong Gyoon Jung (S. Illinois U.), Do Soon Kim (Northwestern U.), Jun Kim (Rice U.)
2019	Jung Park (Columbia U.), Min-hwan Oh (Columbia U.), Yujin Park (Ohio State U.), Dennis Cha (UCLA), Hyun Gi Yun (Cal Tech), Hanna Kim (U. Cincinnati), Eugene Yoon (U. Southern Cal.), Dongheon Lee (Texas A&M), Yongjin Shin (Northwestern U.), Seunf hwan Lee (Rice U.), Youlim Ha (Johns Hopkins), Matthew Shin (U. Chicago), JaeHyeok Jin (U. Chicago), Junghyun Park (N.Y.U.), Jieun Chon (Virginia Tech), Soojin Kim (Northwestern U.), Isaac Kim (Brown U.), Donggeun Tak (U. Maryland), Youngkwan Song (U. Ill. Chicago), Yuri Park (U. Houston)
2020	Dawa Seo (Northwestern U.), Je Choi (U. Pennsylvania), Hyunglok Kim (U. Virginia), Woosol Lee (U. of Florida), Sunkyu Kim (U. SouthCarolina), Woochul Shin (Oregon State U.), Chris Kim (LSU), Woi Sok Oh (U. Florida), Sewoon Kim (U. South Carolina), Won Hee Ko (U.C. Berkley), Sa Do Kang (Penn State), Yongtaek Oh (Drexel U.), Taeksang Lee (Purdue U.), Shang Eun Park (Chapman U.), Ji-Eun Kim (Ohio State U.), Joonbum Lee (Ohio State U.), Sun Hye Kim (Georgia Tech), Woong Hee Cho (U. Texas), Kang-Won Park (U. Massachusetts), Jungsang Cho (CCNY)
2021	Junghwan Kim (University of Illinois at Urbana-Champaign), Chang Hyeon Lim (Georgia Institute of Technology), Gainbi Park (University of Wisconsin-Milwaukee), Heeduk Oh (North Carolina State University), Woo Je Chang (Northwestern University), Jenny Lee (Harvard University), Yoonjae Lee (Johns Hopkins University School of Nursing), Joshua Bang (University of California Santa Barbara), Junho Park (Texas A&M University), Junghyun Bae (Purdue University), Inyoung Jun (University of Florida), Minki Kim (University of Michigan, Ann Arbor), Yun Hwa Choi (University of Wisconsin - Madison), Gawon Cho (New York University), Harang Ju (U Penn), Bongjoong Kim (Purdue University), Jihoon Sohn (University of Southern California), Hyung Joo Kim (Oregon State University), David Park (Columbia University), Dongjoon Kim (The Ohio State University)

Table 4. Undergraduate Scholarship Recipients

Year	KSEA Scholarship	Inyong Ham, 1985	Hyundai, 1996	Admin
1999	Susan Yun, Peter Lee, Janice Kim, Derick Chae, Benjamin Lee, Brian Kim, Young Han Kim	Koo Hong Chung	Elizabeth Cho, James Park	이기동
2000	Derick Juhyung Chae, Michael Lee, Koo Hong Chung, Jin Kim Montclare, Albert O Gee, Richard Kim, Mary Eun Jeon	Binna Park	Linus Junghwang Park	한홍택
2001	Sandra Kang, Yong Won Lee, Woo Jin Lee, Teresa Seo, Jane Oh, Sung Hyun Kim,Wan Hui Cho	Jeung Hyun Cho	Hye Young Min, Dennis Hong	정호
2002	Daniel K. Lee, Sun H. Choi, Stella Kim, Brian Y. Um	Jean Nahrae Lee	Teresa Seo, Jane Oh	성낙호
2003	Brian I. Cash, Rennie Lee, Jae H. Chang, Hyeong Chan Kim, Jennifer Kim, Sun Park	Joosung Lee	Hyung Joo Park	정찬일
2004	Charles Lee, Ji-Hyun Clara Cho, Yoon Kyu Han, Seri Park, Suzie Ahn, Tamara Felts	Grace Lyo	Angela Moon	김귀섭
2005		Yoon Hee Patricia Ha	Mee-Jung Jang, Min Jee Koo	이승원
2006	Eugene Y. Kim, Elizabeth Chang, Iny Jhun	Min Young Jang	Mimi Chang, Christine Choi	김광해
2007	Dina Baik, Peter Chung, Seung-Jae Bang, Donghyun Kim, Sang Won Kim, Taewan Kim	Gene Lee	Justin Chung, Ji-Won Youm	강성권
2008	Jung Kim, Nina Kim, Aileen Kang, Yonwook Kim, Hannah Kim	Eun-joo Choe	Peter Cho, Grace Kim	이강원
2009	Christopher Kim, Gunhee Yang, Tony Kim, Woohyuk Ji, Sea Moon (Simon) Cho, Jean Kang,, Tiffany Son, Christopher Hong	Ye Jin Kang	Dongkook Lim, Seung Hyun Chris, Kim	이강욱
2010	Aaron Sohn, Sung-Hye Kim, Joy Kim, David Shin, Jae Moon, Megan Yoo, Na Lim Heo, Seungtack Baek	Daniel Choi	Jingyu Lee, Daehwan Jung	지청룡
2011	Sahn Park, Erik Reinertsen, Raekyu Park, Keun Suk Park, Phillip Kong, Jungmin Ryoo, Hyeeun Jeong, Jessica Choi, Joanne Kim, Janet Lee, Danny Koh, Joey Kim, Wonjin Yun, Yun Young Choi, Jihyun Jung, Sekyung Kim	Bruce Youm	Wonjae Lee, Heui Beom Lee	김재훈
2012	Maroo Ghill, Steve Han, Joon Sohn, David Ji, Samuel Rho, Young Eun Ju, Kyung Min Chae, Yun Jae Jo, Henry Shin, Joshua Cho, Alex Chung, Michael Lee, YeBin Kim, Sumin Park, Scott Kim,Susie Lee,Ye Ji Shin	Min Lee	Won-Jun Kuk	이호신
2013	Se Eun Park, Yonggi Um, Michelle Son, Sun Hwi Bang, Tae Kim, Sungwhan Paek, Jei Min Yoo, Na Young Kim, Stepheni Uh, JeeHee Choi, Dayoung Ko, Ji Ho Ahn, Jesi Kim, Hae-In Kim, Christine Choi, Hyenjae Chung	Sang Hyuck Yu	Sehun Nakama	정형민
2014	Somin Kwon, Kevin Shin, Hyojung Choi, Chris Chu, Gerina Kim, Heeseon Yeon, Martin Moon, James Yoon, Jay Hahn, Yeseul Lee, Brandon Wang, Julia Yun	Albert Kim	Mitchell Kim	이명종
2015	Minsu Cho, Dawit Lee, Kate Lee, Eugene Yoon, Hong Gyoon Jung, So Yeon Koo, Janghun Yu		Susie Min	안국준
2016	Jowoon Park, Lee Gill, Jina Jun, Ryan Rho, Giseok Choi, Seong Ah Kim, Yoon Son Ahn	Angela Kim	Daehyun Kim	김영수
2017	Yea-Shine Lee, Sunny Park, Youngmu Shin, Justin Yoon	Justin Chang	Vivian Han	유재훈
2018	Jeremy Yang, Hanna Ryu, Elizabeth Kwon, Jeremy Yang, Hanna Ryu, Elizabeth Kwon	Yongha Hwang	Jane Choi	서은석
2019	Rea Yoh, Jin Song Kim, Joseph Chong, Hyeyeong Jang, Min Kim	Soonmyung Hwang	David Byun	서 스티븐
2020	Jooyong Lee, Suhee Jeong, Jongha Choi, Sue Lee, Sungbin Park	Jae Choi	Christine Ahn	오준석
2021	Gena Lee, Minseok Kim, Matthew Jeon	Yechan Yang	Eric Kim	조술연

Year	Chunghi Hong Park, 2002	Rumie & Yohan Cho, 2002	Shoon Kyung Kim, 2005	Nam Sook & JeHyun Kim, 2005	SeAh-Haiam, 2006
2003	Meehee Choi				
2004	Irene S. Kim, Rebecca E. Whang				
2005	Stephanie Sharkey, Misun Kim	Yang Woo Gho	Laurel Yonghwa, Lee	Maria Love Lee	
2006	Janet Choi, Beulah Jo	ICU	Yoonah Lee	Eunice Kim	
2007	Grace Lee, Juhee Choi	Sukbong Kwom	Christopher Han	Jennifer Choi	Solomon Lee
2008	Kristy Cho, Jieun Choi	Sung Hoon Kim	Hattie Chung	Jennifer Im	Iris Kim
2009	Rachel Lee, Juri Hur	ICU	Chang-Ryul Lee	Do Young Yoon	Jina Lim
2010	Julie Park, Duk Kyu Park	Suk Lee	Sohyun PRK	Jae Young Han	Alex Chung, Matthew Cho
2011	Gloria An, Jane Hwang	Jae Hong Kim	Jeffery Song	Eun Won Kang	Seung Hoon Lee, John Park
2012	Michelle Lee, Ga Young Moon	Yena Son	Stephanie Jeong	Amber Kim	Suhyoung Lee
2013	Ji Hye Moon, Ahram Yoon	Seungho Mok	Yoon Sun Choi	Renaid Kim	One Hyuk Ra
2014	Meena Park, Jennifer Lee	Justin Lee	Eunah Lee	Soojin Kim	Jae Youn Shin
2015	Ji Won Park, Minjung Kim	Elaine Kang	Jino Park	Peter Yun	Juliet Kim
2016	Coco Roening, Michelle Roh	Seula Koo	Deborah Park	Hara Jang	Tae-hyeon Kim
2017	Nahee Park, Stephanie Moon	Soyoung Joo	Naomi Ahn	Daniel Cho	Kyujin Jang
2018	Jae-Eun Lim, Youngjae Lee	Anna Yoon	Younjoo Yu	Joo Hee Kang	Sue Junn
2019	Yejin You, Yunjoo Shin	Caroline Kim	MinSoo Kang	Ahryun Kim	Hyun Seok Shin
2020	Rachel Kim, Minyoung Kim	James Kim	Jungyeon Lee	Dongsub Kim	Jisung Seo
2021	Rachel Kang, Ha Young Kong	Jeremiah Kim	Huijin Chung	Hyeyeon Shin	Wonyoung Choi

Year	Woojin Kane Kim, 2008	Changkiu Riew & HyunSoo Kim, 2009	Jae S. & Kyuho Lim, 2010	Yoo, Young Soo & Im, Kyung Bin, 2013
2009		Joonyoung Park		
2010		Brian Kim		
2011		Yunjae Baek	Donghwi Bae	
2012	Ka-Hyun Paek	MeeAe Hong	Hongwoo Jang	
2013	Yura Rhee	Catherine Kim	Brian Sahnghoon Lee	
2014	Daniel Park	Yun Tae Cha	Sinhye Lee	Seong Hwan Park
2015	Mun Yong Jang	Byunguk Kang	Joseph Lee	Yongtaek Oh
2016	Haram Kim	Weon-Deok Seo	Christine Sim	Jaehyeok Roh
2017	Karen Han	Isaac Kim	Sang-Chan Kim	Grant Lee
2018	Jaehyun Seo	Dong Gun Oh	Christopher Kim	Jeremy Kim
2019	Rachel Han	Jinjoo Kang	Sanghyun Nam	Kyle Kim
2020	Dohoon Min	Lucy Cho	Haeju Jeong	Andy Kim
2021	SungJong Park	Sharon Kwon	Heewon Kim	JiHo Han

Year	Wan-Kyoo Cho	Chan Il & Young Hee Chung	樂山 李龍洛	Tai Ryang and You Hyun Shin	Kyong Chul Chun
2021	Halie Kim	Irene Pak	Alice Lee	Eugene Ahn	Victoria Kim

Chapter 9

Chapters and Branches

- The Chapter and Branch List
- Arkansas
- Berkeley
- Boise Idaho
- Central Virginia
- Chicagoland
- Eastern Carolina
- Gainsbille FL
- Georgia
- Nebraska
- New England
- New Jersey
- New York Metro
- North Carolina
- Ohio
- Sacramento Valley
- Seattle
- Southern California
- South Texas
- Washington Metro
- Wisconsin

The Chapter and Branch List

Chapter Code No.	Type	Founded Year	Name	Revised Name	Status (Present, 2021)
1	Chapter	1973	Central Pennsylvania		Non-Council Chapter
2	Chapter	1975	Connecticut		Region 6
3	Chapter	1973	Georgia		Super Chapter
4	Chapter	1976	Indiana		Non-Council Chapter
6	Chapter	1973	Michigan Area		Non-Council Chapter
7	Chapter	1973	Midwest Region	Chicagoland	Region 3
8	Chapter	1974	Minnesota		Non-Council Chapter
9	Chapter	1972	New England		Region 6
10	Chapter	1972	New Jersey		Non-Council Chapter
11	Chapter	1977	New York Metropolitan		Super Chapter
12	Chapter	1972	North Carolina		Super Chapter
13	Branch	1972	Northern California	2013 to Berkeley	Region 2
14	Chapter	1973	Ohio Area	Ohio	Region 5
15	Chapter	1974	Pacific Northwest	Seattle	Non-Council Chapter
16	Chapter	1972	Philadelphia		Non-Council Chapter
17	Branch	1974	St. Louis		Branch
18	Chapter	1972	Southern California		Region 2
19	Chapter	1972	Southwestern States	South Texas	Super Chapter
20	Branch	1973	*Upstates New York		
21	Chapter	1972	Washington Metro Area		Super Chapter
22	Branch		West Penn		
23	Chapter	1977	Alabama		Region 8
24	Chapter	1975	Austin TX		Region 4
25	Branch	1977	*Central Texas		
26	Branch	1973	Colorado		Branch
28	Branch	1977	*Florida		
29	Branch	1977	*West Virginia		

* Does Not Exist Currently

Chapter Code No.	Type	Founded Year	Name	Revised Name	Status (Present, 2021)
30	Chapter		Silicon Valley		Non-Council Chapter (TBD)
31	Chapter	1981	Baltimore		Non-Council Chapter
32	Chapter	1981	Tennessee		Region 5
33	Branch	1981	*North East Ohio		
34	Branch	1982	*Arizona		
35	Branch	1982	Rolla MO		Branch
36	Branch	1982	*Kansas MO		
37	Branch	1983	*Oklahoma		
38	Branch	1983	*Northeastern New York		
39	Branch	1983	Southeastern Virginia		
40	Chapter		North TX		
41	Chapter	1983	Central Virginia		Region 7
42	Chapter	1983	Central Illinois		Non-Council Chapter
43	Chapter	1983	Nebraska		Region 3
44	Chapter	1984	Wisconsin		Non-Council Chapter
45	Branch	1985	*New Mexico		
46	Branch	1985	Lehigh Valley		
47	Branch	1986	South Carolina		
48	Branch	1987	*North Arizona		
49	Chapter	1987	Southern Virginia		Region 7
50	Branch	1987	*Western New York		
51	Branch	1988	*Great Lakes reg.		
52	Branch		Iowa city		
53	Branch	1990	Central Iowa		
54	Branch	1992	*Mid MO		
55	Branch	1993	Louisiana		
56	Chapter		Utah		Non-Council Chapter
57	Branch	1995	*Northwest		
58	Chapter	1995	Sacramento Valley		Non-Council Chapter

* Does Not Exist Currently

Chapter Code No.	Type	Founded Year	Name	Revised Name	Status (Present, 2021)
59	Branch		North Florida		Branch
60	Chapter		San Diego		Super Chapter
61	Branch		Mississippi MS		
62	Branch		Oregon		Branch
63	Branch		Nevada		
64	Branch	2012	Dayton-OH		Branch
65	Branch		North Dakota		Branch
66	Branch		Peoria-IL		Branch
67	Chapter		Orlando Central Florida		Non-Council Chapter
68	Chapter	2011	Tampa Bay		Non-Council Chapter
69	Chapter	2012	Idaho		Region 1
70	Chapter		Berkeley		
71	Chapter	2014	Gainesville FL		
72	Chapter	2013	Arkansas		Region 4
73	Chapter	2015	Southwest Ohio		Non-Council Chapter
74	Chapter	2014	Nashville		
75	Branch		Central Oregon		Branch
76	Chapter		Eastern Carolina		
77	Chapter	2017	Texas Coastal Bend		Non-Council Chapter
900	Branch		KFDA		
901	Branch		KJIST		
903	Chapter		Kentucky		
906	Branch		KSEA International		
907	Branch		KSEA Canada		

Arkansas

Young Hye Song*

contributions from Donghoon Yoon[1], Sun-Ok Lee[2], Byungwhi Kong[3], Ilwoo Seok[4], and Hyunju Jeong[5]

**The 7th Arkansas Chapter President*

[1]The 1st Arkansas CP, [2]the 2nd Arkansas CP, [3]the 3rd Arkansas CP, [4]the 4th Arkansas CP, and [5]the 6th Arkansas CP

List of former Chapter/Branch Presidents

- This chapter was inaugurated on November 2, 2013.
- Former CPs: Donghoon Yoon (July 2013-June 2014), Sun-Ok Lee (July 2014-June 2015), Byungwhi Kong (July 2015-June 2017), Ilwoo Seok (July 2017-December 2018), Jung Ae Lee-Bartlett (January 2019-December 2020), Hyunju Jeong (January 2020-June 2021)

Highlights of notable achievement, events, and relevance to mission of KSEA

- AR chapter is uniquely created in that the chapter contains five different branches all located far apart, as shown in the picture below. As such, we have committee members representing different branches, and these branch leaders hold local events to network with local members of KSEA. The chapter gathers once or twice a year.

AR Chapter branches are as follows:

- Fayetteville Branch (University of Arkansas Fayetteville)
- Jonesboro Branch (Arkansas State University)
- Conway Branch (University of Central Arkansas, Hendrix College)
- Little Rock Branch (University of Arkansas for Medical Sciences, University of Arkansas Little Rock)
- Pine Bluff Branch (FDA National Center for Toxicological Research, University of Arkansas Pine Bluff)

42nd: Initiation of Chapter Establishment on 11/2/2013 by Sun-Ok Lee and Donghoon Yoon

- Chapter Code was generated on the KSEA website as KSEA-Arkansas
- Local Committee Members; Donghoon Yoon, Sun-Ok Lee, Byungwhi Kong, Ilwoo Seok, Peter Kim, Jaheon Koo
- More than 30 members registered in KSEA-Arkansas Chapter
  - (As of 10/30/2013, 30 Senior Members and 4 Graduate Members)

43nd: Under the leadership of CP Lee, the following events were held:

- Local Committee Members; Sun-Ok Lee, Dongryeoul Bae, Byungwhi Kong, Ilwoo Seok, Jaheon Koo, Donghoon Yoon
- KSEA Arkansas (AR) Chapter Meetings (9/2014, 3/2015)
  - KSEA Arkansas Chapter fall and spring meetings were held in Conway and Fayetteville, respectively
  - The major events we discussed were (1) introducing the 43rd term president and local committee members, (2) planning and reporting the event/activities (NMSC and branch meetings, budget), (3) supporting branch meetings, and (4) voting for the 44th term
  - Membership drive was held during these meetings (small gift to new member)
- KSEA AR Chapter Local Branch Meetings (10/2014, 12/2014)
  - Meetings for KSEA AR Chapter membership drive were held at each branch.
- Winter Seminar Meeting at Fayetteville, AR (12/2014)
  - The event was conducted to introduce or exchange research topics and hot issues
- KSEA National Math Contest (NMSC, 4/18/2015)
  - Ten students have participated in this event.

44th – 45th: Under the leadership of CP Kong, the following events were held:

- KSEA Arkansas (AR) Chapter Meetings (8/2015, 2/2016, 10/2016, 4/2017)
  - KSEA Arkansas Chapter fall and spring meetings

were held in Conway and Fayetteville, respectively, and membership drive was held during these meetings.

- KSEA AR Chapter Local Branch Meetings (10/2015)
  - Meetings for KSEA AR Chapter membership drive with seminar sessions were held at each branch.
- Year Ending & New Year Parties (12/2015, 1/2016, 12/2016, 1/2017)
  - Member appreciation parties with KSEA AR Chapter membership drive were held at each institutions as listed above.
- Seminar Meeting at Little Rock, AR (4/2/2016)
  - A seminar series was held with members at FDA National Center for Toxicology Research, Arkansas.
- KSEA National Math Contest (NMSC, 4/9/2016)
  - KSEA AR chapter hosted KSEA NMSC Competition on April 9, 2016 at Fayetteville, Little Rock, and Jonesboro, AR. Ten students have participated in this event. The event was very successful and rewarding. The first and second placements were recognized.

46th – 47th: Under the leadership of CP Seok, the following events were held:

- Fall chapter picnics (9/2017, 10/2018)
- Participation in NMSC (4/2018)
- Three branch meetings
- One committee annual retreat

2013 Inauguration Meeting in Conway

2014 Fayetteville branch picnic

2015 Jonesboro branch meeting

49th: Under the leadership of CP Jeong, the following events were held during the pandemic:

- Three bimonthly virtual chapter seminars (2/2021, 4/2021, 6/2021)
- Participation in NMSC (4/2021)

Challenges, difficulties, anecdotes, and their significance to KSEA

Due to geographical locations of the different branches, it is difficult for the chapter members to gather on a regular basis. Further, the ongoing COVID-19 pandemic made it extra challenging for the chapter members to gather.

In addition, there aren't many Koreans living in Arkansas, so the chapter has stayed generally small. As of 9/28/2021, we have nine members that have paid dues for the current term, and 21 additional members from the previous term.

Anecdotally, the initial members were recruited by committee members searching university directories for common Korean last names. Thanks to these tireless efforts by the inaugural members, the Arkansas chapter has stayed afloat and helped Koreans in Arkansas network with one another for the past eight years.

2015 Pine Bluff branch meeting

2015 Little Rock branch meeting

2017 Fall Picnic

Berkeley

Won Jun Jo
Berkeley Chapter President

List of former Chapter/Branch Presidents

Prof. Sangkee Min (2013-2015), Won Young Park (2015-2017), Sang Hoon Lee, PhD (2017 -2019), Won Jun Jo, PhD (2019-)

Highlights of Notable Achievement, events, and relevance to mission of KSEA

- KSEA-Berkeley increased membership number significantly since 2017
- KSEA-Berkeley increased number of events for members and public including membership drive, academic seminars, happy hours, Berkeley Lab tours, and 2019 KOLIS (Korean Life Scientists in the SF Bay Area)-KESA Joint Conference, 2013 US-Korea Clean Energy and Clean Tech Forum, etc.

1. ***Membership Drive:*** Offers a brief description of KSEA and financial support to people in order to encourage them to sign up for the membership. Also, provides a wide array of networking opportunities among current and prospective members via the above-mentioned events.
2. ***Academic Seminars:*** Berkeley chapter started hosting the academic seminars from March 2015. We have hosted over 50 seminars and cumulative participants including chapter members and guests are more than 500 people. The seminar will serve to share the academic knowledge and provide an opportunity to network between all of the participants. The seminars are always open to non-members so that they played a key role to promote the memberships for researchers and students in Berkeley region.
3. ***Happy Hours:*** Berkeley chapter hosted biannual dinners to extend the interaction and networking among Korean researchers and students in Berkeley region, thereby promoting the chapter overall memberships.
4. ***Berkeley Lab Tours:*** This open lab event hosted by the KSEA Berkeley Chapter served to share and discuss the US R&D procedures and logistics with more than 20 research institutes, government agencies, and universities from South Korea. Throughout these events, we have contributed to improving the understanding and collaborative effort for the future R&D opportunities between the US and South Korea.
5. ***2019 KOLIS-KESA Joint Conference:*** It is a great mixer among the academia, industry, and national institutes in the Bay Area. Objectives of the meeting are as follows:
   - Contribute to advancement in emerging STEM (Science, Technology, Engineering, and Math) for US and Korea
   - Exchange information in STEM among US and Korea
   - Promote networking among Korean-American scientists and engineers
   - Assist professional career development for young scientists and engineers
   - Promote collaboration among KOLIS, KSEA, and other professional societies
6. ***2013 US-Korea Clean Energy and Clean Tech Forum:*** This forum is to institute a place to understand research and policy trends in the field of clean energy and clean technologies in the U.S. and South Korea and promote collaborative and synergistic efforts between both countries. The participants of this forum will be representatives from governments, research institutes, and relevant industries. The forum was held at Claremont Hotel on November 21st, 2013, and it was covered by a Chinese broadcaster, NTDTV (https://www.ntdtv.com/b5/2013/11/26/a1012168.html).

Challenges, Difficulties, anecdotes, and their significance to KSEA

The biggest challenge to Berkeley Chapter is recruiting paid members, because the main Korean and Korean-American population in Berkeley comes from undergraduate students. Nevertheless, the chapter got the second voting rate winner and the third voting rate winner in the 2018 and 2019 KSEA elections, respectively.

Other information including stat on current and past memberships, unique stories, contributions to local Kor-Am and US communities

Berkeley Chapter has been playing a leading role with other Korean organizations in the Bay area, such as UC Berkeley Korean Graduate Student Association, UC Berkeley Korean Undergraduate Student Association, Consulate General of the Republic of Korea in San Francisco, Korean Life Scientists in the SF Bay Area, KSEA Silicon Valley Chapter, etc. By collaborating with the organizations, we have provided great research seminars, career development and recruiting sessions, and networking chances with talented professionals to all those participants (even non-members).

Membership Drive 2018

Seminar by Prof. Hee Jeung Oh 2019

Lab Tours for Busan National Univ.

Happy Hour 2018

Boise Idaho

Jae Hyeon Ryu
Boise Idaho Chapter President

About

KSEA Boise Idaho Chapter (BIC) has been established at the Grove Hotel located in downtown Boise, November 9, 2012. Members with expertise in various fields, including semiconductor design, water engineering, IT enterprise, and marketing personnel are interacting each other to pursue local collaborations by enhancing networking and information sharing. In addition to industry professionals, many students, faculty and staff from Idaho's public universities, including University of Idaho, Boise State University, and Idaho State University are another avenue to promote BIC's science and engineering activities across the state. Approximately, 38 regular members who are mostly professional engineers at Micron Technology expressed their willingness to involve KSEA activities at national, regional, and local levels in years to come.

Selected Activities

Nov. 19, 2012: Boise Idaho Chapter (BIC) Inauguration

KSEA Boise Idaho Chapter (BIC) has been established at the Grove Hotel located in downtown Boise, November 9, 2012. January 19, 2013 KSEA Boise Idaho Chapter New Year Party KSEA BIC New Year Party was held at Harris Ranch Mill District Club House in January 19, 2013. The event was family-friendly and many members, non-members, and extended family members have attended the meeting. President Hyungmin Chung also visited BIC chapter and celebrated the first New Year party for BIC.

Mar. 8, 2013: BIC Special Seminar

A special seminar was hosted by KSEA BIC in March 8, Friday, 2013. Dr. Hoyoung Kang, ED of KSEA BIC, has made a presentation entitled "*Patent Acquisition Strategy for KSEA Members in Industry and Academia*". He highlighted invention and patent processes based on personal experiences in the field of engineering. His talk provided general information to acquire a patent by learning basic concept, but legal issues were also addressed briefly. His talk was very informative for KSEA members in industry and academia so that they will utilize the opportunity for their long-term career success.

Apr. 13, 2013: KSEA National Math and Science Competition (NMSC)

KSEA BIC hosted KSEA National Math and Science Competition on April 13, 2013 at the Interactive Learning Center located at Boise State University. About 28 students from the State of Idaho have participated in this event. The event was very successful and rewarding. Governor's award will be given to the first place from this competition during 2013 KSEA BIC Summer Retreat and Membership Drive.

May 3, 2013: BIC Educational Seminar

A seminar tailored to parents was made in May 3, 2013. The title of the seminar was "*Strategies to Succeed in K-12 Education from Parents' Perspectives*" and many parents have attended the seminar to understand parental restrictions on unpleasant educational environment, including internet access, technological hazards (e.g., text message, violent

The Inauguration event of Boise Idaho Chapter, the Grove Hotel, Boise Idaho, Nov 19, 2012

The award ceremony of the NMSC at Boise State University, Apr 13, 2013

computer game), and other distractions. The seminar provided useful insights for parents who want their children to succeed in their educational journey.

Jun. 15, 2013: KSEA BIC Summer Retreat and Membership Drive

The summer retreat and membership drive event was held on June 15, 2013. The event was very successful and productive in the sense that many new members were actively engaged to interact with regular members to promote information sharing and knowledge exchange in their field. Members from various expertise, including semiconductor design, water engineering, IT enterprise, and marketing personnel had the opportunity to pursue local collaborations by enhancing networking and information sharing. In addition to industry professionals, many student, faculty and staff from the state university, including University of Idaho, Boise State University, and Idaho State University have participated and celebrated this event. Approximately, 38 regular members who are mostly professional engineers at Micron Technology expressed their willingness to involve KSEA activities at national, regional, and local levels. BIC will plan to organize a series of technical seminars to pursue cohesive collaborations among members.

Sept. 12, 1013: Special Seminar

A special seminar was hosted by KSEA BIC in September 12, 2013 at Idaho Water Center. Prof. Stan Steiner at Boise State University has made a presentation entitled "*What International Partnerships Hold For Universities: Opportunities And Global Perspectives*". He shared his experiences in international collaborations with educators in South Korea.

Sept. 21, 2013: KSEA Northwest Regional Conference (NWRC)

On behalf of KSEA Boise Idaho Chapter, a total of four members have participated in KSEA northwest Regional Conference held in Seattle, September, 21, 2013. Dr. Jae Hyeon Ryu, Dr. Kang-Ryung Uh, Dr. Kyung-Duk Ko, and Mr. Jungjin Kim (Graduate Research Assistant at University of Idaho) made an oral presentation in IT and water session.

Dec. 6, 2013: Annual Meeting

The annual meeting was hosted by KSEA BIC on December 6, 2013 at Legacy Pointe, Idaho Water Center. New Admin for FY2014 was formed. Dr. Gang-Ryung Uh was elected as President of Boise Idaho Chapter term 7/1/2014-6/30/2015.

Jan. 24, 2014: New Year Party and Membership Drive

KSEA BIC New Year Party was held at Harris Ranch Mill District Club House in January 24, 2014. The event was family-friendly and many members, non-members, and extended family members have attended the meeting. Although the event goal was met, the date of the event has been changed from January 18 to January 24, 2014 due to facility availability. A total of 82 people attended this event, including regular members and their family as well as few new members.

Apr. 12, 2014: KSEA NMSC Event

KSEA BIC hosted KSEA National Math and Science Competition on April 12, 2014 at the Interactive Learning Center located at Boise State University. About 30 students from the State of Idaho have participated in this event. The event was very successful and rewarding. Governor's award will be given to the first place from this competition during 2014 KSEA BIC Summer Retreat and Membership Drive.

Oct. 4-5, 2014: KSEA NWRC

Boise Idaho Chapter participated in NWRC 2014 being held at Portland State University. Five regular members, including Drs. Jae Ryu, Kyungduk Ko, Junghoon Lee, ByungIl Kim, and Gangryung Uh have attended and gave a talk at the venue. Additionally, three KSEA undergraduate/graduate student members also participated in the event by presenting their

The 2014 Northwest Regional Conference in University of Idaho, Boise Idaho, Oct 4 -5, 2014

Annual meeting and Year end party of Boise Idaho Chapter, Dec 27, 2014

research findings in poster format. It was a great opportunity to meet people and interact other KSEA members from different regions and different fields. We, Boise Idaho Chapter, are now very much excited to host the upcoming NWRC 2015 conference to be held in our backyard here Boise on October 10, 2015 and pretty much are ready to welcome all as of today (7/1/2015).

Dec. 27, 2014: KSEA BIC Year End Party

KSEA BIC Year End and New Year Party was cohosted with Idaho Korean Association at the Saint Alphonso's Hospital in Boise, Idaho. More than 50 KSEA members as well as Idaho Korean living in Boise metropolitan areas, including Nampa, Caldwell, Eagle, and Meridian attended the meeting and saying goodbye 2014 and welcoming 2015. The meeting went well and KSEA BIC was credited by many people through its valuable activities, such as NMSC and technical seminar series.

Apr. 12, 2015: KSEA NMSC event

KSEA BIC hosted KSEA National Math and Science Competition on April 12, 2015 at the Interactive Learning Center located at Boise State University. About 22 students from the State of Idaho have participated in this event. The event was very successful and rewarding. Governor's award will be given to the first place from this competition during 2015 KSEA BIC Summer Retreat and Membership Drive scheduled this fall (Date will be determined soon).

Oct. 10-11, 2015 KSEA NWRC

Boise Idaho Chapter (BIC) hosted the 10th Northwest Regional Conference. Members in diverse expertise from academia, industry, and government agency participated in the event. Since founded in November 9, 2012, the BIC has organized server KSEA activities locally, including technical seminars, membership drive, networking and information sharing amongst members, as well as the National Mathematics, Science, and physics Contest every year. Most of all, hosting the NWRC this year is very exciting and rewarding in the sense that we, BIC, can promote our chapter accomplishments broadly, especially in the northwest regions, including Washington, Oregon, and California.

The NWRC also included special guest talks during plenary sessions. For example, on behalf of KSEA HQ and Consulate General of Republic of Korea-Seattle, Vice President Eun-Suk Seo and Consul Byungkwon Kim gave us a congratulatory remark, respectively. As a keynote speaker, Jay Larson, CEO and Founder from Idaho Technology Council made a presentation to address current issues/challenges/opportunities that Idaho faces to advance IT technology and science for the future generation. Additionally, NWRC also highlighted Young Generation Forum (YGF) for undergraduate and graduate students to brainstorm ideas for a better tomorrow.

In the second day of the conference, a leadership group of the NWRC has gathers to discuss about the future directions of NWRC, specially focusing on membership drive and collaborations within KSEA and beyond. Also, a series of discussion was made to galvanize STEM pipelines to benefit society in general by empowering young generations to build a better technically savvy community in the years to come.

Overall, the meeting was a big success and rewarding in that all the participants take a clear message home in their own ways. On behalf of the organizing committee, we, Boise Idaho Chapter, would like to thank you all for your strong support and participation and hope to see many of you at the 2015 NWRC to be held in Silicon Valley, California.

Jan. 10, 2016: New Year Party and Membership Drive

KSEA BIC Year End Year Party was held at Mills Creek Community Center in Boise, Idaho. More than 60 KSEA members as well as Idaho Korean living in Boise metropolitan areas, including Nampa, Caldwell, Eagle, and Meridian attended the meeting and welcoming New Year 2016. The meeting went well and KSEA BIC was credited by many people through its valuable activities, such as NMSC and technical seminar series.

Apr. 9, 2016: KSEA NMSC event

KSEA BIC hosted KSEA National Math and Science Competition on April 9, 2016 at the Interactive Learning Center located at Boise State University. About 20 students from the State of Idaho have participated in this event. The event was very successful and rewarding. Governor's award will be given to the first place from this competition during 2016 KSEA BIC Summer Retreat and Membership Drive scheduled this fall (Date will be determined soon) or 2017 New Year Party.

Jan. 10, 2018: New Year Meeting

KSEA BIC Year End Year Party was held at Mills Creek Community Center in Boise, Idaho. More than 60 KSEA members as well as Idaho Korean living in Boise metropolitan

areas, including Nampa, Caldwell, Eagle, and Meridian attended the meeting and welcoming New Year 2018. The meeting went well and KSEA BIC was credited by many people through its valuable activities, such as NMSC and technical seminar series.

Nov. 2, 2019: KSEA Northwest Regional Conference (NWRC)

On behalf of KSEA Idaho Chapter, a total of four members have participated in KSEA northwest Regional Conference held in Seattle, November 2, 2019. Dr. Jae Hyeon Ryu, Dr. Kyungsik Park, Dr. Suengjae Lee from University of Idaho and Dr. Jeunghoon Lee at Boise State University made an oral presentation in IT and smart technology session.

Nov. 21, 2019: Fall Seminar

A special seminar was hosted by KSEA Idaho in November 21, 2019 at Idaho Water Center. Dr. Yudong Kim at Perkins Coie, LLP has made a presentation entitled "*Introduction to patent protection*". He shared his experiences in patent development and legal processes with scientist and engineers in Boise areas.

Jan. 25, 2020: KSEA New Year Party and Membership Drive

KSEA Idaho New Year Party is scheduled for January 25, 2020 at Harris Ranch Mill District Club House. The event will be family-friendly and invite many members, non-members, and extended family members in the Treasure Valley, Idaho. It is expected that a total of 82 people will attend this event, including regular members and their family as well as few new members.

Mar. 1, 2020 onward: Scheduled events

All scheduled events have been cancelled due to the global pandemic (COVID-19)

KSEA Boise Idaho Chapter's Membership Drive event at Micron Sports Complex, Summer, 2016

KSEA Boise Idaho Chapter's New Year Party and Membership Drive, Jan 25, 2019

Central Virginia

Byungkyu Brian Park
The 50th President, former Central Virginia Chapter President

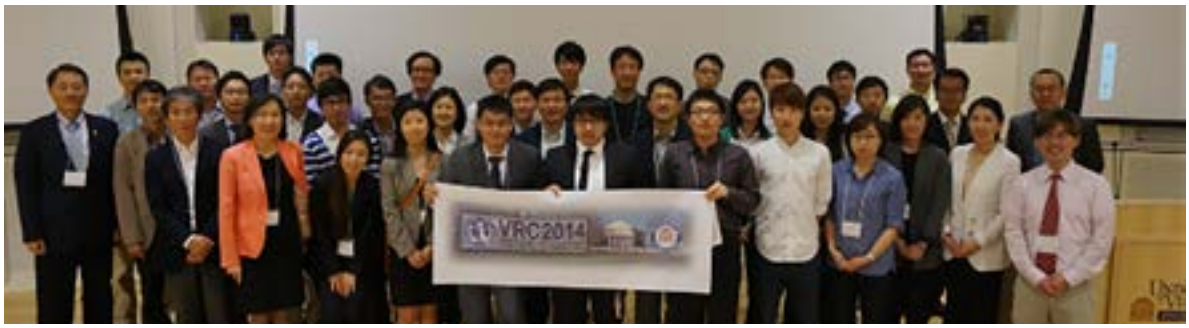
List of former Chapter Presidents

Dr. Byungkyu Brian Park (2009-10, University of Virginia), Dr. Inchan Kwon (2010-11, University of Virginia, now with GIST), Dr. Jungwook Jun (2011-12, Virginia Department of Transportation), Dr. Seung-Hun Lee (2012-13, University of Virginia), Dr. Young S. Hahn (2013-14, University of Virginia), Dr. Jaesup Lee (2014-15, Virginia Department of Transportation, now with Maryland-National Capital Park and Planning Commission), Dr. Saerona Choi (2015-16, University of Virginia, now with Korea Transportation Safety Authority), Dr. Jong Min Lee (2016-17, University of Virginia, now with University of Science and Technology), Dr. Byungkyu Brian Park (2017-20, University of Virginia), Dr. Wookjin Choi (2020-21, Virginia State University).

Highlights of notable achievements, events, and relevance to the mission of KSEA

One of notable achievements was a project conducted for Korea Institute of Science and Technology Information (KISTI) in 2013-14 that developed two trend reports: one in Biomedical and the other in Intelligent Transportation Systems. These reports were widely distributed to agencies and researchers who would benefit from them. This project certainly helped the finance status of our Chapter, in which supported various activities including seminar series.

The second notable achievement is seminar series that started back in 2013. It started with two areas: one in biomedical, initiated by Prof. Young S. Hahn, and the other in infrastructure by Prof. B. Brian Park. While the biomedical



Virginia Regional Conference at UVA, 2014

Central VA Chapter Seminar Series, 2019

seminar series discontinued, the infrastructure seminar series has been sustained. In order to encourage more members to participate in the seminar, our seminar series started hybrid mode including face-to-face meeting and online zoom meeting starting in 2018. This made our seminar series attractive to the members even under the novel coronavirus (COVID-19). In addition, the seminar series expanded to general science and engineering such that any members can come and enjoy the seminar.

The third notable achievement is the establishment of awards given to faculty, researchers and students. Since 2010, we have selected faculty of the year award and student of the year award, and later in 2014, we have added researcher of the year award. The awards were given at the Annual meeting typically in May, and followed by networking picnic. The 2020 Student of the Year awardees include Hyunglok Kim (University of Virginia) and Yena Kristin Son (Virginia Commonwealth University).

The fourth notable achievement is the 2nd Virginia Regional Conference (VRC) we hosted back in 2014 at the University of Virginia. The first VRC was held at Virginia Tech in 2013. The 2nd VRC provided KSEA members in Central, Southern and South East areas with an unprecedented networking and collaboration opportunities. The participants, especially undergraduate students, graduate students and young professionals, enjoyed career workshops, and they showcased their research via oral and poster presentations. In 2015, the Virginia Regional Conference included Washington Metro chapter, and was renamed as Virginia Washington Metro Regional Conference (VWMRC) in which was held at the KSEA HQ in Vienna, VA. In 2020, the VWMRC was held in May 9, 2020 completely virtually due to COVID-19.

Challenges, difficulties, anecdotes and their significance to KSEA

Sustaining and encouraging YG chapter at UVA has been a major challenge for our chapter. Our YG chapter started from Han Sang "*Hans*" Kim (University of Virginia Class of 2010). He was a student at UVA and agreed to start our YG Chapter in 2009, and organized inaugural YG meeting in January 2010. Since then, our YG chapter at UVA has been quite active.

The most fun social event ever happened to our chapter was "*random row, a local micro-brewery*" networking event held in April 2018. This event brought undergraduate students, graduate students, researchers, professionals and faculty members. The key reason for this event was YGs desire to meet with Korean faculty members and professionals at informal setting. We were able to secure our own space at the brewery, and everyone enjoyed free beers and drinks along with lots of wings and pizzas. Everyone, especially YG members, had great time mingling with professionals. After the event, most attendees went to Dr. BD Kim's house to play pool and drink more beers. This was a great event for fun and more importantly allowed our members getting closer each other than ever.

Other information including statistics on current and past membership, unique stories of the chapter/branch and contributions to your local Korean-American and U.S. communities.

It is noted that Central Virginia Branch has been around for decades thanks to Prof. Young I. Kim (University of Virginia) who served as Branch President. In 2009, Prof. Brian Park established Chapter by recruiting faculty members, researchers and graduate students at the University of Virginia as well as professionals from the Virginia Department of Transportation and other industries. Since then, we have maintained "*chapter status*" currently with over 60 paid members.

University of Virginia YG Members

National Mathematics and Science Competition, 2017

Chicagoland

Seungwon Chung
Chicagoland Chapter President

List of former Chapter Presidents
김제현(1973), 이용락(1974), 정기섭(1975), 김병욱(1976), 정지희(1977), 문병훈(1978), 강형환(1979), 김영기(1980), 송일환(1981), 전경철(1982), 이창환(1983), 박만희(1984), 서병인(1985), 이인영(1986), 국치영(1987), 최철(1988), 송윤수(1989), 이장윤(1990), 조대현(1991), 한의일(1992), 이철주(1993), 김규일(1994), 강영구(1995), 신태량(1996-1997), 김동희(1998), Hoydoo You(1999-2000), 윤호섭(2001), 정승영(2002), 형유업(2003), 이경욱(2004-2005), Yonshik Choi(2006-2007), Youngsoo Park(2008), Dongwook Jang(2009-2010), Duckyoung Chung(2011), Taeok Bae(2012), Ken Choi(2013-2014), Chong Shik Park(2015-2016), Gloria Kim(2017-2018), Dong-Hyun Kim(2018-2019), Seungwon Chung(2020-2021)

Highlights of Notable Achievements, Events, and Relevance to mission of KSEA

a. In 1973, Over 100 Science and Engineering field scientists from the Midwest area had the first organization meeting at the Illinois Institute of Technology (IIT). Over 45 years Chicagoland led many activities in the Midwest area, especially, Chicago, Chicago suburb areas.

b. The activities are including, public Open Seminar, NMSC, Summer Science Camp, Career Development day, Summer Picnic and Membership Drive, Mentoring Program for High school students, Collaboration meeting with Korean American Society on Biotech and Pharmaceuticals (KASBP) Illinois chapter, Mentoring with YG, Year-End Party, and Scholarship program for High School Seniors and Undergraduate Students, Midwest conference, UKC, etc.

- Scholarship for High School Students and Undergraduate Students: Since 1984, the scholarship program has supported local Chicago area students who were interested in studying in the science and engineering field for their career. The 12th chapter president 박만희 initiated the program, and it has supported by many members of the chapter. There are scholarship committee members to review and select the awardees. Currently, over 250 students have received this scholarship and they have come back to the KSEA Chicagoland chapter to support.
- US Korean Conference (UKC): Chicagoland is one of the few chapters that held UKC multiple times. The origin of UKC, which Technology and Science symposium was held in 1998 under 26th chapter president 김동희. Two years after supporting the 27-28th chapter president Hoydoo You, UKC 2000 was held with the theme of "*Leading the New Millennium to Global Prosperity*" in downtown Chicago. It gave tremendous opportunities for meeting all areas of Korean scientists from the U.S., Korea, Europe, Japan, China, Australia, etc. Recently, Chicagoland had another opportunity to support UKC 2019. The 48th chapter president Dong-Hyun Kim supported the KSEA president Jun Seok Oh. The theme of UKC 2019 was "*Smart Science, Engineering, and Health for Livable Communities*", held in Rosemont, IL (Suburb of Chicago). In addition, the 47th chapter president Gloria Kim served in KSEA HQ after her term. She took the charge of KOFST YG - Science, Technology, and Entrepreneurship program to bring Korean high school students and undergraduate students for visiting the local U.S. schools, meeting with the Nobel Prize awardee, visiting local national labs and Universities. After these supporting works, Chicagoland received the "*Volunteer Service Award*".

UKC 2019 Volunteers

- Origin of SEED program: 34-35th chapter president Yeonshik Choi initiated the Professional Development Workshop (ProDeW), which became the SEED program in KSEA HQ. It was not only the Midwest area but also the US national-wide workshop. It was a big success and a lot of good feedback led us to get the "*Outstanding Chapter President award*" in 2015.
- Midwest Conference: In 2009, 37-38th chapter president Dongwook Jang hosted the Midwest conference, with the participation of Chicagoland, Central Illinois, Indiana, Iowa, Ohio, and Wisconsin. More than 200 scientists were got together to discuss under the theme of "*Broaden the Horizon of Scientists and Engineers in the USA*". At the closing remark, Esther Yang who served as

the vice president of KSEA HQ, as well as a Chicagoland member, was emphasized that Scientists should have not only technology and science knowledge but also soft skills such as Communication, Leadership, and Management skill.

- Open Seminar: 39th chapter president Duckyoung Chung organized an open seminar for the public. It bought more people's attention to the science field and a broad understanding of what scientists did. From 2001 to 2014, Chicagoland organized more than 20 open seminars. It is still part of the annual plan in Chicagoland, it gives a lot of attention to the local community who are interested in learning the science and engineering field.
- Career Day: For supporting local under/graduate students of their career development, Chicagoland organize an annual career day. From academia to industry experts join the meeting. Over 50 students share their difficulties as foreign students and get an idea of how to get over the difficulties. It has collaborated work among industry professional members (KASBP) as well as local Korean organizations such as the General Consulate of Korea and KOTRA.
- Science Camp: in 2012 40th chapter president Taeok Bae worked closely with the General Consulate of Korea, and Hanul Family Alliance to initiate the Summer Camp the theme of "Building Korean Networking for Next Generation". Participants were from local middle school up to high school. They have learned more practical experiments that are not easy to experience in school. They were able to visit Argonne National Lab with support of the 36th chapter president Youngsoo Park as a field trip. It is still continuously ongoing in the annual plan in the chapter.
- Mentoring Program for High School students: 46-47th chapter president Gloria Kim and Dongwook Jang worked together to initiate the mentoring program for high school students. Each student brings their curiosity in the science field and works together with a mentor who has more experience to share. This program is driven by students who are willing to commit long term research work. At the end of the program, Chicagoland publishes the work, so more closely experience real research work as well as each student sees others' study. This program provides more research environments to high school students that they can maintain their interest in the field. We provide areas of computer science, data science, physics, chemistry, and pharmaceutical areas.
- Membership, public support: YG group initiated 2019 with Dongsub Kim and Suna Choi. They are working more closely with other undergraduate/graduate students around Chicagoland school such as, Northwestern, UIC, Loyola, UChicago, Rush University, IIT, etc. They are helping new students to settle in new areas and membership drives. Annually, Chicagoland offered a summer picnic and Year-end party to meet more people. We also organized a benefit dinner to raise a scholarship fund of $10,000 in 2014. With these efforts, Chicagoland received "*Outstanding Membership Drive*" in 2014.
- New era in 2020: Due to global pandemic, 49-50th Seungwon Chung Chapter president facing a difficult situation, where no more person to person meeting available. Instead of a face to face meeting, a planned online meeting for Open Seminars, Mentoring Program, and Scholarship program to mitigate contact of people. In addition, raising chapter funds to support many other activities and programs continuously.

2020 Year-End Party (above) and UKC 2019 KOFST-YG (top right) and Chapter picnic in 2015 (bottom right)

Eastern Carolina

Myon Hee Lee
Eastern Carolina Chapter President

Eastern Carolina Chapter (ECC) was initially kicked off as a local branch of the North Carolina (NC) Chapter in 2012 and the first official foundation meeting was held February 2016 as seen in the local newspaper (**Photo a**). The formation of the chapter with 31 KSEA members was approved in Spring 2018 and KSEA ECC membership increased to 45 in spring 2019.

ECC is mainly located in Eastern Carolina, which is the region eastwards of Highway I-95 in North Carolina. Dr. Younhee Kim and Dr. Borim Song played a leading role in the initiation of the branch, Dr. Jae Won Jung (Physics, East Carolina University (ECU)) was the founding president of the chapter, and Dr. Myon Hee Lee (Internal Medicine, ECU-Medical School) is the current president.

ECC was registered as a non-profit organization in 2018. Most of the members are from East Carolina University (ECU, Greenville, NC) and others consist of residents in Eastern Carolina. ECC has hosted the National Math & Science Competition (NMSC), which was led by Dr. Jungmin Choi (Mathematics, ECU) as NMSC chair beginning 2012 and Dr. Sungwoo Ahn (Mathematics, ECU) led by since 2018 (Math Director: Sungwoo Ahn, Physics Director: Jae Won Jung). Since 2012, more than 100 students have participated in the competition (**Photo b**). Among them, Sean Jung, Nicolas Ahn, Jiwoo Lee, and Jiah Lee have won first place several times in the NC State for the math section. Jiah Lee has also won first place (2019) and second place (2017) in the US National Competition for the math section.

a

KSEA Eastern Carolina 지부 창립총회
그린빌에서 열려

ECC members have participated in several KSEA activities. Some of them have participated as co-authors of the annual Korea Evaluation Institute of Industrial Technology (KEIT) trend reports and have attended the Scientists and Engineers Early Career Development (SEED) Workshop. The chapter has supported 4 seminar series per year hosted by KFIG (Korean Faculty Interest Group in ECU) since 2013 to promote members' activities in teaching, research, and service. ECC has hosted East-Coastal Science and Education Symposium in 2018 (Organized by Dr. Jae Won Jung; see **Photo c**) and College-Career Development Symposium for Medical Science and Engineering Education in 2019 (Organized by Dr. Myon Hee Lee; see **Photo d**). These ECC Annual Symposia, partially supported by KUSCO, have provide an excellent scientific and educational opportunity for young generations.

Finally, on behalf of the KSEA ECC members, we would like to thank KSEA HQ for their continuous and considerable supports and congratulate on the 50th years of KSEA.

Former and Current ECC Presidents

2016-2018 Dr. Jae Won Jung
(Associate Prof. of Physics, ECU)
2018-2020 Dr. Myon Hee Lee (Associate Prof. of Internal Medicine, ECU-Medical School)

b

c

d

Gainesville FL

Seungkoo Kang

Gainesville FL Chapter President

List of Former Chapter Presidents
Yoonseok Lee, PhD (2014-2017), Yongkyu Yoon PhD (2017-2019)

Highlights of Notable Achievement, events, and relevance to mission of KSEA

Membership Drive
invited all members including new comers and provided a brief introduction of KSEA and KSEA-GFC organizations with the benefits that offers to members.

Scholarships for undergraduate, graduate students and Post-doc Researchers.
Announced multiple scholarships for our chapter members who are of excellency in service for our community and the accomplishment in their research. Their research outcome will be presented at the spring meeting.

Halloween party and food contest
In order to make an active participation of our members, we have had food contest and Halloween costume party at our fall meeting. The variety of foods prepared by contestants is tasted by all participants and voted for the winners.

Challenges, Difficulties, anecdotes, and their significance to KSEA
One of the biggest challenges is not easy to expand our membership since Gainesville is kind of isolated, a typical college town without any industrial institutions surrounding the city. We are trying to invite lecturers who are working at industrial area so that our members would be able to get connected with them and build up the mentorship as well.

Math Competition Event, 2019

Membership Drive, 2019 Fall

Georgia

Hyo-Joo Han
Georgia Chapter President

Chapter Presidents

2019-2021	Hyo-Joo Han
2018-2019	Junkoo Park
2016-2018	Dong-gook Kim
2015-2016	Bongkyoung Kwon
2014-2015	ChongWoo Park
2013-2014	Sang Hyuck Park
2012-2013	Byeong Uk Kim
2011-2012	Chulsung Kim
2010-2011	Bosoon Park
2008-2010	Cathy Lee
2007-2008	Myung Hoon Kim

Annual Meetings and Activities

We have active Young Generation (Georgia Tech and Emory) and KWiSE members working with KSEA-GA. We have organized and facilitated a wide variety of activities and events to further our mission to promote the various objectives of Korean-American scientists in the context of improving the general welfare of our society. The following is the list of annual meetings and activities by the three main groups, KSEA-GA, KWiSE Southeastern Chapter, and KSEA-GA YG.

KSEA-GA

- Officers' Transition Meeting
- Local Seminars
- Membership Drive
- National Math and Science Competition (NMSC)
- Southeast Regional Conference
- Year-end Officers' meeting

KWISE Southeastern Chapter

- Found in 2011
- Cathy Lee- 1st President
- Monthly Networking Lunch
- Annual Conference
- Spring and Fall Meeting
- Seminars and Ad-hoc Meetings
- Mentoring Meetings

KSEA-GA YG

- Found in 2010
- First President: Sohyun Park
- Welcoming Party (YG)
- Meeting with YG officers
- General Body Meeting & Major Meet-up
- YG Seminars (Bigger Future Series)
- YG Networking (GT & Emory)
- Young Generation Christmas and Year-end Party
- Dr. Seung Soon Jang has been the supervisor since 2010

말하는대로 Series

Bigger Future Series 3: Into Academia, March 13, 2017 at GA Tech

Highlights of Chapter Events

KSEA Southeastern Regional Conference (KSEASRC)

KSEA Georgia Chapter is the first chapter started the Southeast Regional Conference among all KSEA chapters and branches. It had its first conference in April, 2011 with Dr. Bosoon Park's leadership inviting keynote speakers and KSEA members from neighboring states including Alabama, Florida, South Carolina, Kentucky, and Tennessee. Each year, over 200 attendees participated in and many keynote speeches from renowned speakers in diverse areas of expertise visited Atlanta supporting KSEA-SRCs.

KSEA-SRC, April 22-23, 2011
Hyatt Place, Duluth, GA - President Dr. Bosoon Park
The conference offered two sessions, "*Environmental Sustainability*," and "*Green Manufacturing Technologies*", in addition to the Young Generation Forum that served as the foundation to that year's Young Generation Technical and Leadership Conference (YGTLC) as well as first Korean Women in Science and Engineering (KWiSE) Forum. This conference provided KSEA members an opportunity to build new friendships expanding their networks, and a venue to learn valuable knowledge and skills.

KSEA-SRC, April 6-7, 2012
Hyatt Place, Duluth, GA - President Dr. Chulsung Kim
There were two technical sessions, "*Science for 2020*" and "*Engineering for 2020*," and KESA-GA was fortunate to have many supports from organizations such as KUSCO, KITECH, and SKC in addition to KSEA-HQ.

KSEA-SRC, February, 23, 2013
Melia Hotel, Atlanta, GA - President Dr. Byeong-Uk Kim
SEA-GA believed in "*Science and Technology for Better Life*" and it could enhance the quality of our good work further by sharing and exchanging research results and collaboration ideas. Two technical sessions, this year it had two sessions, "*Physical Science and Biology for Better Life*" and "*Geospatial Technology for the Betterment of Our Vulnerable Society*."

KSEA-SRC, March 8, 2014
Sonesta Gwinnett Place Hotel, Duluth, GA - President Dr. Sang Hyuck Park
The theme of year 2014 was "*Future Preparedness: Smart Technologies and Science*" and the presentation topics include current status and future directions of our preparedness efforts as we face global crises such as environmental pollution and climate change.

It has four technical sessions (biology, civil and environmental engineering, mechanical engineering and materials science, and physics), one KW*i*SE (Korea Women in Science and Engineering) session, two YG sessions, general poster session, and job fair.

UKC 2015, July 29-August 1, 2015
Hyatt Regency, Atlanta, GA - President Dr. Sang Hyuck Park
Without their dedicated volunteering and support by KESA-GA officers serving as the committee members (Hyo-Joo Han, Phillip Han, Seung Soon Jang, Hanjoong Jo, Dong-gook Kim, Bongkyoung Kwon, ChongWoo Park, Sang Hyuck Park, Jeong Chang Seong for UKC 2015, this conference would not be possible. Georgia Chapter became one of the six big chapters since 2015 and holds that status currently.

AC/DC & ELECTED COUNCILORS

Hyo-Joo Han	Digital Publication Director - 41st
	Membership Director - 44th
	Group M - 47th-49th
Kyu Hwan Han	Publication Director - 47th
Byeong Uk Kim	General Publication Director - 41st
	Membership Director - 42nd
	Publication Director - 43th
Sang Hyuck Park	Membership Director - 44th

KSEA-SRC, March 8, 2014 at Sonesta Gwinnett Place Hotel, Duluth, GA

9th KWiSE Southeastern Chapter Annual Conference May 18, 2019 at Gwinnett Convention & Visitors

Nebraska

Sangjin Ryu

Nebraska Chapter President

List of former Chapter/Branch presidents

Sang M. Lee (1984-1991), Joon Hong Paek (1991-1994), Joon Kim (1994-1995), Sangsup Han (1995-1996), Jai-Heon Lee (1996-1997), Jin Seog Seo (1997-1998), Wanjin Chang (1998-2000), Sangjin Ryu (2017-2020)

Highlights of notable achievements, events, and relevance to the mission of KSEA

- Nebraska Chapter was re-established in 2017.
- Nebraska Chapter Research Symposiums and Annual Meetings were held to promote collaboration and friendship among the chapter members.
- Nebraska Chapter held several Career Information Sessions for undergraduate and graduate members. Through these events, students could learn research and job opportunities of local companies and universities, and tips for career preparation in the US.
- Nebraska Chapter participated in the Math Competition of KSEA NMSC to promote local students' interest in math.
- Nebraska Chapter supported social and cultural events of Korean student organizations in the Nebraska University system. One of them was Hangeul Night that promoted public awareness of Korean culture and Hangeul in Lincoln, Nebraska.
- Membership drive was actively done through all these events, and as a result, the number of chapter members has increased consistently.

Challenges, difficulties, anecdotes and their significance to KSEA

- Nebraska Chapter has been able to grow due to the support from KSEA and chapter members, and chapter members could get benefits through various events organized by Nebraska Chapter. However, local Korean communities in Nebraska are relatively small, so we have a challenge in recruiting more members to sustain the chapter.
- Nebraska Chapter actively supports Korean cultural events organized by Korean student organizations to promote public awareness of Korea, Korean culture and Korean communities in Nebraska.

Career information session for students

Annual gathering of Nebraska Chapter members

Research symposium of Nebraska Chapter

Hangeul Night event of undergraduate students

New England

Dwight Roh
New England Chapter President

List of former Chapter/Branch presidents

No.	Year	Names
1	1972-1973	강홍렬
2	1973-1974	김영호
3	1974-1975	변종화
4	1975-1976	강경식
5	1976-1977	박원춘
6	1977-1978	김광수
7	1978-1979	성낙호
8	1979-1980	김정완
9	1980-1981	김기홍
10	1981-1982	이장규
11	1982-1983	김경일
12	1983-1984	김기협
13	1984-1985	도운회
14	1985-1986	김 영
15	1986-1987	이기용
16	1987-1988	변창연
17	1988-1989	김우형
18	1989-1990	이강원
19	1990-1991	김정선
20	1991-1992	김희준
21	1992-1993	최도철
22	1993-1994	원덕수
23	1994-1995	김병국
24	1995-1996	이충시
25	1996-1997	신재균
26	1997-1998	조차희
27	1998-1999	신상철
28	1999-2000	오순신
29	2000-2001	김동우
30	2001-2002	김동환
31	2002-2003	최언집
32	2003-2004	김경돈
33	2004-2005	조재현
34	2005-2006	도삼주
35	2006-2007	최용택
36	2007-2008	이치완
37	2008-2009	김도영
38	2009-2010	윤정호
39	2010-2011	김제성
40	2011-2012	이상운
41	2012-2013	최준영
42	2013-2014	이재형
43	2014-2015	조진행
44-45	2015-2017	이현희
46-47	2017-2019	정유진
48-49	2019-2021	노동완

Highlights of notable achievements, events, and relevance to the mission of KSEA

New England chapter has been participated Math Competition since it commenced as main chapter in terms of participants. Various prestigious schools in New England have provided environments of Science, Technology and Engineering. Recently this traditions have evolved to local high school to create own math completion team and participate nationwide match and science competitions. New England Chapter also actively host Annual symposium and monthly seminar to encourage networking and exchange of technology as one of important technology hub in US. This forum has provided benefit of introduction of new member, especially from other area including Korea and mentoring from senior, eventually helped them to take advantages of technical resources. With more 100 universities and colleges in metropolitan Boston area and few thousands of post-doc, New England Chapter has provided Career Development workshop that has motivation of resource transfer for better job search. All events mentioned above has been updated and shared at www.kseane.org.

Challenges, difficulties, anecdotes and their significance to KSEA

While we are proud of 50 year tradition of excellence of KSEA mission that has benefited local Korean-American and U.S. communities, we need to develop and pave a path to maximize YG and YP's evolvement in upcoming decades. New England Chapter has shifted gears to motivate YG/YP to create own chapter/branches at university and colleges and sponsored several local activities. Another challenges was to find a way to cooperate with several local APS groups. Boston area has been nationwide famous hub of Bio research and industry, so KSEA's bandwidth has been limited from local APS activities, since members had put out higher priorities on local APS.

New Jersey

Kyeong Ho Yang* and John K. Ahn**

**The 32nd New Jersey Chapter President and **the 25th New Jersey Chapter President*

Introduction

The KSEA New Jersey Chapter (KSEA-NJ) was inaugurated on April 22, 1972 (See **Fig. 1**(a)), as one of the few chapters that were established right after the KSEA was formed. The first chapter president was Dr. Do Won Hahn who worked at Johnson and Johnson's Ortho Research Center at that time (**Fig. 1**(b)). For the last 50 years, KSEA-NJ has been led by members from various industrial fields including information technology (IT) and pharmaceutics and has lived a life of extreme ups and downs following the ups and downs of such industrial fields in the area. During the IT boom from mid-1990s to early 2000s, KSEA-NJ was most active with more than 300 members including about 200 members from AT&T and Lucent Technologies. When the IT companies in NJ experienced the difficult times in mid-2000s, researchers from pharmaceutical companies such as Merck, Novartis, and Johnson & Johnson became dominant in the chapter and continued to do so until mid-2010s. Nowadays the pharmaceutical companies also closed or reduced their R&D organizations in the state of NJ, and KSEA-NJ has been shrunken to a chapter of less than 50 members as of June 2021 and its leadership is trying hard to revive the chapter. **Fig. 1**(c) and **Fig. 1**(d) are photos of Dr. Kun E. Park (17th president) and Dr. Dong Sung Suk (20th president), respectively, who have led the chapter for the past 30 years. **Table 1** shows former chapter presidents of KSEA-NJ.

Fig. 1 (a) Article in the KSEA Letters Vol. 2, No. 1 on the inauguration of the KSEA NJ Chapter in 1972, (b) the 1st President of KSEA-NJ, Dr. Do Won Hahn, (c) the 17th President, Dr. Kun E. Park, and (d) the 20th President, Dr. Dong Sung Suk

The NJ chapter gave birth to two highly active Affiliated Professional Societies (APS) of KSEA - Korean American Society in Biotech and Pharmaceuticals (KASBP) and Korean-American Innovative Technology Engineers and Entrepreneurs (KITEE) and has been closely collaborating with them as well as a few northeastern chapters of KSEA including the New York Metropolitan Chapter and the Philadelphia Chapter. From mid-2000s to mid-2010s, KSEA-NJ co-hosted many events together with KASBP including fall picnics, math and science competitions, golf outings, new year parties, and year-end parties. For 4 years from 2003, KSEA-NJ co-hosted the KSEA Math and Science Symposium together with the New York Metropolitan Chapter. In addition, the chapter co-hosted the KSEA Northeast Regional Conference (NRC) with the New York Metropolitan, Lehigh, and Philadelphia Chapters for more than 30 years.

Table 1. List of Former Chapter Presidents (CPs) of KSEA-NJ

No.	Period	Name (English)	한글이름
1	1972-1973	Do Won Hahn	한도원
2	1973-1974	Hyo-Gun Kim	김효근
3	1974-1975	Kon Ho Cho	조건호
4	1975-1976	Mahn-Jick Lim	임만직
5	1976-1977	Joon Taek Kwon	권준태
6	1977-1978	Dong Keun Kim	김동근
7	1978-1979	Choong Gook Jang	장충국
8	1979-1980	Un Chul Paek	백운철
9	1980-1981	Dong Soo Whang	황동수
10	1981-1982	Tae Bang Min	민태방
11	1982-1983	Byung Sung Kim	김병성
12	1983-1984	Joon Hong Min	민준홍
13	1984-1985	Bong Hyun Chang	장봉현
14	1985-1986	David Seong-Jung Choi	최승정
15	1986-1987	Yong Moon Choi	최용문
16	1987-1988	Jay Young Koo	구자영
17	1988-1989	Kun E. Park	박건이
18	1989-1990	Kun E. Park	박건이
19	1990-1991	Kwang Seok Kim	김광석
20	1991-1992	Dong Sung Suk	석동성

No.	Period	Name (English)	한글이름
21	1992-1993	Yang Chang	장양
22	1993-1994	Keon Moo Lee	이건무
23	1994-1995	Joongbin Lee	이중빈
24	1995-1996	Chee Hark Harn	한지학
25	1996-1997	John K. Ahn	안광호
26	1997-1998	Seong Cheol Kim	김성철
27	1998-1999	Hong-Yang Chung	정홍량
28	1999-2000	Jae Soo Kim	김재수
29	2000-2001	Yong Seok Park	박용석
30	2001-2002	Jun S. Hong	홍준식
31	2002-2003	Jae Hong Kim	김재홍
32	2003-2004	Kyeong Ho Yang	양경호
33	2004-2005	Chang Heung Kim	김창흥
34	2005-2006	Young-Whan Park	박영환
35	2006-2007	Yong-Seok Yoon	윤용석
36	2007-2008	Young-Choon Moon	문영춘
37	2008-2009	Minkyu Lee	이민규
38	2009-2010	Hak-Myung Lee	이학명
39	2010-2011	Heechang Kim	김희창
40	2011-2012	Hong-Yong Kim	김홍룡
41	2012-2013	Jaesik Lee	이재식
42	2013-2014	Yun H. Choe	최윤
43	2014-2015	Jaeyoung Kwak	곽재영
44	2015-2016	Youngsun Kim	김영선
45	2016-2017	Jaewon Kang	강재원
46	2017-2018	Young-Jin Kim	김영진
47	2018-2019	Nakjung Choi	최낙중
48	2019-2020	Kooksang Moon	문국상
49	2020-2021	Kooksang Moon	문국상

Leisure and Family Activities

KSEA-NJ have held many activities for its members and their families.

Annual Fall Picnic

Fig. 2(a) shows the annual (fall) picnic that KSEA-NJ held together with KASBP and the Rutgers Korean Graduate Student Association (RKGSA) on September 29, 2007, at Cheesequake State Park in Matawan, NJ.

Family Bowling

KSEA NJ Chapter and KASBP have co-hosted annual Family Bowling from 2002 to 2007 to promote friendship among member families where we had about 30 families at each event. At the end of each event, we gave awards to a few families according to the scores, and a few prizes through lottery.

KSEA-NJ Soccer Club

The KSEA-NJ soccer club was formed in March 2002 by Dr. Kyeong Ho Yang and grown to a team of about 20 active players who were not only from KSEA-NJ but also from Rutgers University, Princeton University, and other Korean-American organizations in the area, and continued for about 10 years. Rain or shine, the club members got together every Sunday morning in the Edison area. They often had matches with other Korean teams or Chinese teams in central NJ, showing great achievements in growth of the number of members and athletic capability.

Fig. 2 Photos from the KSEA activities: (a) Group photo of the KSEA-NJ & KASBP 2007 Fall Picnic, (b) A photo from the 2nd KSEA-NJ Family Bowling on March 8, 2003, and (c) a photo of the KSEA-NJ Soccer Club taken in the 2004 summer

Professional Activities

Technical seminars

KSEA-NJ had held quarterly technical seminars from late 1990s till early 2010s and then bi-annually to exchange technical knowledges and discuss new technologies. Speakers were from the members and their networks (See **Fig. 3(a)**). This has been discontinued during the COVID-19 pandemic.

Quarterly Newsletters, ECHOES

Dr. Jun S. Hong, the 30th president of KSEA-NJ, initiated the effort to publish quarterly newsletters, named ECHOES, in February 2002 to share information with the chapter members. ECHOES stands for "*Electronic Chronicles of Engineers and Scientists*" and was published on the web (http://www.kseanj.org) until 2008.

Epilogue

KSEA-NJ has lived a life of extreme ups and downs for the past 20 years, following the ups and downs of the major industrial fields in the NJ area, and has been shrunken to a chapter with less than 50 members. Many of the programs that the chapter had offered were also discontinued recently, failing to attract potential KSEA-NJ members to join the chapter. The Council, consisting of 14 members, and the leadership of the 50th term should try hard to revive the chapter by recruiting more KSEA-NJ members and re-offering the good programs to its members.

a

b

Fig. 3 (a) A photo of the audience in the 15th KSEA-NJ Technical Seminar on January 30, 2003, and (b) the first issue of the KSEA ECHOES published in February 2002

New York Metro

Eunju Im* and Kang-Wook Lee**

Reviewed by Sung-Kwon Kang[1], Myung Jong Lee[2], Jeong Seop Shim[3], and Sae Woong Park[4]

**New York Chapter President and **the 37th President*

[1]The 35th President, [2]the 42nd President, [3]the 31st NY Metro Chapter President, and [4]the 41st NY Metro Chapter President

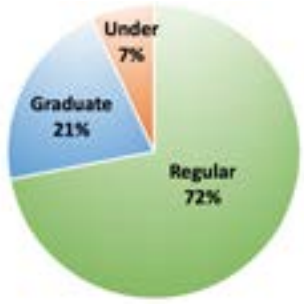
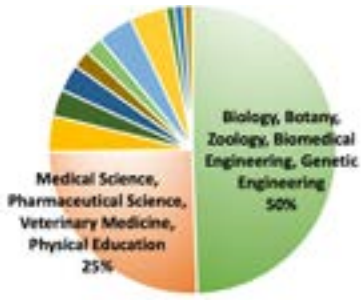
Introduction

The New York Metropolitan (NY Metro) Chapter was founded in 1977, five years after KSEA was founded. 52 scientists and engineers attended the inaugural meeting at SamBogJeong Korean restaurant in Manhattan, NY on March 5, 1977. During the last 50 years, the chapter has grown to be the most active and the largest chapter of the KSEA, with more than 300 members ranging from college students to senior scientists and engineers and experts in diverse fields as shown in the below graph. The first chapter president was late Dr. Chong Whan Kim who worked at Schering at that time. The Council consisted of 10 councilors at the beginning and later expanded to have 22-27. The chapter gave birth to five KSEA Headquarters (HQ) presidents as of 2021; namely, Drs. Chin Ok Lee (1989-1990), Sung-Kwon Kang (2006-2007), Kang-Wook Lee (2008-2009), Myung Jong Lee (2013-2014), and K. Stephen Suh (2018-2019). The chapter has been collaborating with a variety of organizations and local communities based on the New York Metropolitan area, including the Consulate General of the Republic of Korea in New York, Korea Trade-Investment Promotion Agency (KOTRA) New York, New York Korean Biologists (NYKB), Korean American Society in Biotech and Pharmaceuticals (KASBP), Korean-American Innovative Technology Engineers and Entrepreneurs (KITEE), and Korean-American Women in Science and Engineering (KWiSE).

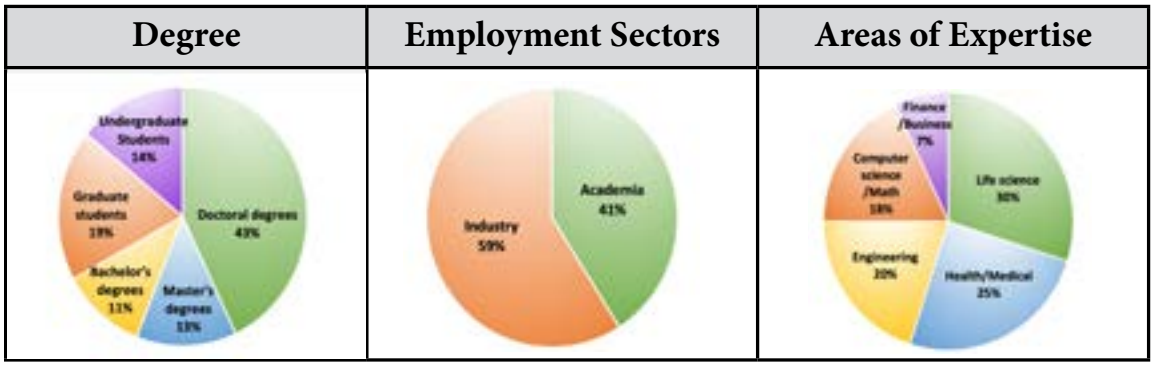
List of Former Chapter Presidents (CPs)

No.	President	No.	President
1st (1976-77)	Chong Whan Kim	2nd (1977-78)	Jong Jin Lim
3rd (1978-79)	Induk D. Moon	4th (1979-80)	Menger Chung
5th (1980-81)	Chin Ok Lee	6th (1981-82)	Sung-Kwon Kang
7th (1982-83)	Je Chul Kim	8th (1983-84)	Ho Sam Ahn
9th (1984-85)*	Jong Won Lee	10th (1985-86)*	Change Rae Lee
11th (1986-87)	Soon Mok Kang	12th (1987-88)	Dong Joon Lee
13th (1988-89)	Hoon Ahn	14th (1989-90)	Dae Suk Song
15th (1990-91)	Sang-Keun Park	16th (1991-92)	Tea-Sam Yoo
17th (1992-93)	Byung Joon Han	18th (1993-94)	Yeon Tae Jung
19th (1994-95)	Myung Jong Lee	20th (1995-96)	Kang-Wook Lee
21st (1996-97)	Ki Won Lee	22nd (1997-98)	Seung Pil Kim
23rd (1998-99)	Daniel Yu	24th (1999-00)	Jong-Deok Choi
25th (2000-01)	Seong In Kim	26th (2001-02)	Hyun Park
27th (2002-03)	Young Lok Kim	28th (2003-04)	Kang-Il Choe
29th (2004-05)	Sunghoon Kim	30th (2005-06)	Sunghoon Choi
31st (2006-07)	Jeong Seop Shim	32nd (2007-08)	Sung Hyuk Cha
33rd (2008-09)	Seongwon Kim	34th (2009-10)	SeungHyuk Shin
35th (2010-11)	Il Park	36th (2011-12)	Seongjoo Jang
37th (2012-13)	Jun Ho Shin	38th (2013-14)	Bongjun Ko
39th (2013-14)	Grace Park	40th (2014-15)	K. Stephen Suh
41st (2015-16)	Sae Woong Park	42nd (2016-17)	Eon Soo Lee
43rd (2017-18)	Min Suk Kang	44th (2018-19)	Ohbong Kwon
45th (2019-20)	Ju-Hyun Lee	46th (2020-21)	Eunju Im

*The 9th and 10th CPs served the 9th admin as the 9th CP left the town in the middle of the 9th admin. Thus the 11th CP served the 10th admin and the 46th CP is serving the 45th admin

Membership Status	Employment Sectors	Areas of Expertise
		

These graphs show the distribution of our chapter members in terms of membership status, employment, and expertise as of 2021



These graphs show the degrees, the employment sectors, and the expertise of the YSN participants as of 2019

Major Chapter Activities

1. KSEA NY Metro Math and Science Olympiad (KMSO)

Since 1994, the NY Metro chapter has been hosting KMSO, the annual competition for the second generation Korean-American and non-ethnic Korean students in the 3rd-12th grades residing in the New York Metropolitan area, to promote science and mathematics for the young generation. The additional objectives are (i) to promote and nurture the curious young minds in their pursuit of challenges, (ii) to help them discover the joy of science and mathematics, (iii) to provide mentoring and sense of community, and (iv) to serve the Korean-American Community. In addition to a math exam, a student typically participates in his or her choice of a science competition out of a written exam, an experiment, a student-parents collaborative project, and a research poster presentation, depending on his or her interest, level, and age. A parents program has been always offered in a form of invited speeches and/or panel discussions to share experiences, knowledges, and career paths in the STEM field for their children. This KMSO history is elaborated in a separate section of the KSEA History.

Northeast Regional Conference (NRC)

In 1988-1991, the NY Metro chapter organized its first technical and career symposiums while the neighboring chapters of New Jersey, Lehigh Valley and Philadelphia held their first regional conference in 1988. In 1992, the four chapters had jointly organized a conference which was named "*The 3rd Northeast Regional Conference (NRC)*", the abbreviation of which was made "*NRC*" in 1995 when it was expanded to a 2-day event. From 2005 to 2015, the three organizations of NY Metro, NJ, and KASBP co-hosted it. Since 2016, three chapters (NY Metro, NJ, and Philadelphia) have co-organized it. This conference offers a community space for KSEA members to present their research finding and exchange research ideas as well as to promote interdisciplinary collaborations. The program covered a variety of fields including IT, engineering, biotechnology, as well as entrepreneurship. For the young generation (graduate students and young professionals) and the women members, their own career and networking sessions were organized by themselves. The NRC has also contributed greatly to the advancement of research and development in both the US and Korea. In addition, the NRC has provided an opportunity for members and other experts to establish professional networks, as well as to explore career opportunities. This NRC history is elaborated in a separate section of the KSEA History.

28th NRC: Mar. 23rd, 2019 @Montclair State Univ.

Young Scientists' Night (YSN)

YSN is an annual networking event to promote young generation professionals and students in the greater NYC area to meet with a diverse group of like-minded intellectuals across different disciplines and age-groups. The program consists of cocktail hour, dinner, short presentations and networking sessions. Many attendees are composed of undergraduates, graduates, as well as professionals in the field of academia, pharmaceuticals, consulting, IT, and others as shown in the below graph. Through the event many new members have joined the NY Metro chapter.

3rd YSN: Oct. 11th, 2019 @KAAGNY

Annual Fall Picnic

Fall picnic with undergraduate and graduate students started in 1981 under the leadership of the 6th CP Dr. Sung-Kwon Kang. It served as a good networking opportunity among regular members, students and young professionals. At this fall picnic, many regular and student members and their families and friends had gathered together in NY or NJ parks to enjoy BBQ and a variety of games and sports like soccer, baseball and volleyball often in a form of group competition. Networking and friendship were promoted. This activity had been held for 36 years from the 6th admin (1981-1982) to the 41st admin (2016-2017).

Fall picnic: Sep. 24th, 2016 at Rockland Lake State Park

Trivia Night

The Trivia Night is planned to promote fellowship among members and to invite potential new members especially when in-person meeting is not possible due to the pandemic. Through the event, many existing members renewed their membership, and the invited friends joined the KSEA membership. The trivia night has been held with regular cadence with different topic such as General Science, Chemistry, Physics, and Biology.

1st Trivia Night: Nov. 12th, 2020 (Left) Group photo (Right) Winners of the 1st Trivia Night

Publication of Newsletters, Lunar New Year Party and Annual Award Banquet

Newsletters had been published as hard copies for 23 years from the 1st term (1976-1977) to the 23rd term (1998-1999). A typical issue included activity reports and annual plans with photos, member news, list of officers and councilors, Bylaws and Rules, essays, and/or member addresses.

1995 Annual Award Banquet (9 out of the 10 members here are former CPs)

Probably the last hard copy of NY Metro Newsletters published in Dec 1998

The Lunar New Year Party is one of the first chapter activities in which members and their spouses participated. From 1992 (the 16th term) an annual award was given to a member with an excellent career and outstanding contribution to the Chapter. The name of this award and social activity had been changed to "*Annual Award Banquet*" from 1995 (the 19th admin). To further formalize the award, an annual award guideline was established. The annual awards were given from 1992 to early 2000's and then discontinued as the KSEA HQ awards were formalized. When Dr. Sung-Kwon Kang was the HQ VP in 1999-2000, he has proposed the current award system at the 28th HQ Council meeting to establish the KSEA Award system.

Summary

Chapter Status in the Headquarters (HQ) Level

For the last 40 years, the NY Metro chapter has been the largest and most active chapter among all KSEA chapters in terms of the number of due-paid members and the quality/quantity of activities. KMSO, NRC, fall picnic, YSN, a harmonious relationship with NYKB, the sound & consistent governing structure, and a long and good tradition are believed to the factors why the chapter has been successful and active year-after-year without a year of exception.

New York Korean Biologists (NYKB)

NYKB (a KSEA Affiliated Professional Society) and NY Metro chapter have been the most symbiotic partners since 2008. The relationship has been mutually beneficial and helpful. KSEA HQ also helped NYKB's fund-raising to organize and hold its first annual conference in early 2009 and the subsequent conferences. KSEA and NY Metro chapter have invited the Presidents of NYKB to their council meetings. Recently, many NYKB presidents became the presidents of NY Metro chapter. The large membership of NYKB has been a significant factor such that the NY Metro chapter could have maintained the status of the largest super chapter.

Chapter's Contribution to KSEA HQ Activities

- Award System: The chapter's successful annual award and its system in the 1990's was the key idea that the HQ adopted to establish the current award system, mostly thanks to Dr. Sung-Kwon Kang's efforts when he was a VP. Dr. Kang was also involved in upgrading the award-related policies when he was the chair of the Honors and Awards Committee.
- NMSC: The huge success in KMSO in the 1990's was the motivation for the HQ to start its NMC (National Math Competition) in 2002. The NMC was expanded to the current NMSC in 2007 when Dr. Sung-Kwon Kang was the President and Dr. Kang-Wook Lee was the VP and Chair of the NMSC with the dedicated help of NY Metro members such as Dr. Jeong Seop Shim. Most other chapters also adopted the NY Metro's format by including a parents program.
- YGTLC (Ygnite): The NRC had successfully launched and continued YG programs from 1996 to 1998 with 60-150 YG participants and 14 technical posters were presented in 1997. A few NY Metro members were part of the key organizers. KUSCO granted $5,000 for the 1997 YG program upon evaluating a hand-written proposal which was prepared by Dr. Kang-Wook Lee while traveling (in the age of no portable computers). This grant was the KUSCO's first support for any YG activity in their history. In 1998, KSEA HQ (President Kyong Chul Chun) with Dr. Kang-Wook Lee's help submitted a proposal of a similar YG activity to KUSCO. Since then, KUSCO decided to support only the KSEA HQ with a larger fund. This move made HQ's YG activities possible in 1999 which was called YG Leadership Forum (YGLF). YGLF was further developed to YGTLC (YG Technical Leadership Conference) in 2005.

North Carolina

Minyoung Suh
North Carolina Chapter President

North Carolina Chapter was founded by 20 local scientists and engineers as one of the earliest chapters of KSEA in late January, 1972. Thanks to active chapter activities, such as seminars with external speakers, the number of chapter members exploded and reached as many as 95 by 1984. In the past 50 years, the chapter was led by 34 chapter presidents (**Table 1**) and many executive board members. The East Carolina Branch was newly established in 2013 and later was separated from the North Carolina Chapter in 2017. There are the records of 1,363 members registered through the NC Chapter in the past 20 years. Among them, 32% were regular, 39% were graduates, and 28% were undergraduates (**Fig. 1**).

Fig. 1 Chapter member type between 2001-2021

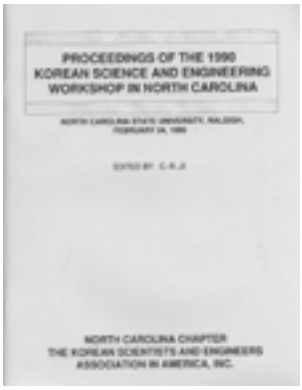


Fig. 2 Conference 1990 Proceeding Cover

The very first local symposium was hosted in the University of North Carolina at Chapel Hill on January 5th, 1980. Another successful local symposium was held in North Carolina State University on February 24th, 1990 (**Fig. 2**). A series of Southeast Regional Conferences was hosted by the chapter in North Carolina State University from 1991, and since then, these scholarly events have continued regularly (**Fig. 3**). The most recent local conference was held on February 28th, 2020 in North Carolina State University and focused on the human and social sciences.

Fig. 3 South-Atlantic Regional Conference 2011

Table 1. List of chapter presidents

Year	President Name	Year	President Name
1972-1973	Sang-Il Choi	1997-1997	Ki Wook Kim
1973-1974	Jae-Young Park	1998-1999	Man-Sung Yim
1974-1975	Ki-Hyon Kim	1999-2000	In-Jong Rhee
1975-1976	Moon-Won Suh	2000-2002	Hoon Hong
1976-1977	Ho-Keun Kim	2002-2003	Dean Lee
1977-1980	Ki-Hyon Kim	2003-2004	Hea Kyoung Lee
1980-1981	Chi-Bom Chae	2004-2005	Sung Ho Yoon
1981-1982	Myung W. Whangbo	2005-2007	Sung-Sik Kwon
1982-1983	Moo-Young Han	2007-2009	Gail-Joon Ahn
1983-1984	Kun Chae	2009-2010	Richard Kim
1984-1986	Sangwoo Lee	2010-2011	Yongbaek Kim
1986-1987	Siduk Lee	2011-2014	Sung Woo Kim
1987-1990	Byung-Yup Min	2014-2015	Soolyeon Cho
1990-1991	Seik Oh	2015-2016	Chang S. Nam
1991-1992	Jai-Hong Eu	2016-2017	Do-Young Eun
1992-1994	Chueng-Ryong Ji	2017-2018	Soolyeon Cho
1994-1995	Heesun Park	2018-2020	Sunkyu Park
1995-1996	Daewon Byun	2020-2021	Minyoung Suh

Other significant chapter activities include going on a tour of R&D centers located in Research Triangle Park (RTP). Many renowned companies and research institutes unlocked their campus for the visitors of a curious disposition, such as GlaxoSmithKline, Syngenta, SAS Institute, and IBM (**Fig. 4**). The RTP tours were regularized from 1993 and have been loved by many local members and visitors. Later on, this effort evolved to build up professional networks between potential and current Korean employees.

Being the largest chapter in KSEA with the record of 288 voting members in 2011, NC Chapter was awarded as Outstanding Chapter by KSEA. Younger and more diverse members became a part of the chapter by establishing three local YG Chapters at Duke University, University of North Carolina at Chapel Hill, and North Carolina State University. For the younger generations, math and science competitions are held every year and supported by the students and parents of great interests (**Fig. 5**). In the past multiple years, NC elementary,

middle and high schoolers were recognized as national winners in the National Math and Science Competition. NC chapter was recognized again as the outstanding chapter in 2020.

As one of the founding chapters, NC Chapter has kept a close relationship with the KSEA headquarter. Back in the early days, several former KSEA presidents visited North Carolina and interacted with the chapter members. UKC was held in Raleigh, NC from July 16 to 19, 2009 under the theme of "*Creative Minds for Global Sustainability*" (**Fig. 6-7**). More than 937 participants and 540 speakers attended UKC 2009. Seven KSEA presidents have been elected from the NC Chapter so far: Sang-il Choi (7th), Jae-Young Park (12th), Ki-Hyon Kim (15th), Moon Won Suh (23rd), Chueng-Ryong Ji (38th), Richard Kim (44th), and Soolyeon Cho (49th).

Fig. 4 Seminar 2012 at Syngenta

Fig. 5 NMSC 2017 Award Ceremony

Fig. 6 UKC 2009 Proceeding Cover

Fig. 7 Organizers and Volunteers for UKC 2009

Ohio

Ji-Eun Kim
Ohio Chapter President

List of chapter president in Ohio (1st- 25th) *from the 25th year history book
박윤수 (73-74) 박원준 (74-75) 윤성수 (76) 최소광 (77) 한홍택 (78) 김란영 (79-80) 노원병 (81) 박정부 (81-82) 여영기 (82-83) 조현삼 (83-84) 정인영 (84-85) 김용원 (85-86) 오수익 (86-87) 남홍 (87-88) 박우공 (88-89) 이규원 (89-90) 이관영 (90-91) 김광일 (91-92) 박준철 (92-93) 정기영 (93-94) 마태일 (94-95) 이재윤 (95-96) 이천동 (96-97)

List of chapter president in Ohio (26th- 48th)
Peter Woo (2000 to 2002), Kyunghoon Lee (2003), B.K. Chun (2004 to 2005), Sang Soo Kim (2006 to 2008), Peter Seongwon Hong (2009, 2012), Jiyoung Lee (2010), Bomjun Kwon (2011), Jung-Kyu Park (2013 to 2014), Do-Gyoon Kim (2015 to 2018), Yune Sang Lee (2019), Ji-Eun Kim (2020)

Highlights of notable achievement, events, and relevance to mission of KSEA
- Ohio chapter is playing an active role in promoting networking for members in the Ohio region, especially those residing at The Ohio State University (OSU) in Columbus. The networking events include annual to monthly seminars and an annual conference in collaboration with Korean Engineering Graduate Student Association. The chapter not only holds seminar with faculties in school but are reaching out to national labs/industries/government agencies in Korea and US to invite speakers with various backgrounds.
- Casual events such as barbeque picnics or New Year gatherings are also hosted to promote a laid-back environment where faculties and students can mingle.
- Ohio chapter has increased in size and has reachd deeper into the Korean STEM and undergraduate community since 2019.

Challenges, difficulties, anecdotes, and their significance to KSEA
- One of the challenges with Ohio chapter was and will be the inclusion of other universities in Ohio. Due to the distance with nearby universities such as Miami University, Ohio University, and Case Western Reserve, KSEA Ohio chapter membership and events are still limited to those in OSU. We hope the virtual meeting formats that started recently could push the chapter to come up with future plans of better engaging KSEA members throughout Ohio.

Other information including stat on current and past memberships, unique stories, contributions to local Korean-American and US communities
- KESA Ohio chapter is an active chapter that collaborates not only with graduate students but also with undergraduate students of OSU. We believe networking is important for student development and research collaborations and focus heavily on providing a safe environment for members to interact with each other by hosting monthly seminars and casual events.
- Before COVID-19 pandemic, Ohio chapter offered NMSC annually to Korean-American and US communities.

Sacramento Valley

Steve Lee
Sacramento Valley Chapter President

List of chapter president

2007-present: Held the NMSC
2007-present: Participated in the NWRC (now WRC) and hosted the event in 2008, 2012, and 2018
2008, 2009, and 2010: Participated in the SWRTC
2007-present: Participated in the Caltrans Diversity Disability Awareness Day
2012-present: Hosted the Yongsan Honor Student Delegation
2006-present: Participated as judges at the Sacramento STEM Fair
2007-present: Sponsor, Sierra Lions Club & the Sacramento Korean Catholic Church Health Fair

The 1st President

November 1, 1995 to June 1996 Chang Rae Lee (이창래)

- Chang Rae Lee recruited 24 new members (total 45 members) as an official KSEA chapter.
- Dewey Doo-Young Ryu served as 24th President of KSEA
- 01/19/96 First chapter meeting, Coloma Café, Gold River
- 03/29/96 KSEA-Sierra Lions Club Joint Meeting, Seoul Korean Restaurant

The 2nd President

July 1, 1996 to June 30, 1997 Francis I Chung (정일환)

The 3rd President

July 1, 1997 to June 30, 1998 Sung Min Kim (김성민)

The 4th President

July 1, 1998 to March 1999 Hosup Shim (심호섭)
Back to Korea after completing his studies.

The 5th President

April 1999 to November 30, 1999 Jae Hoon Chung (정재훈)
He finished out the 1998-1999 term.

- Change Rae Lee served as Group E Councilor 7/1999-6/2002

The 6th President

December 1, 1999 to December 8, 2006
Francis I. Chung (정일환)

- Change Rae Lee served in HQ Young Generation Committee 10/2005-6/2006
- Francis Chung recruited new members from the Civil Engineers Group in late 2006.
- Change Rae Lee appointed as HQ Executive Director for the 35th Term 7/2006-6/2007

The 7th President

December 8, 2006 to December 31, 2007 Kookjoon Ahn (안국준)

- 12/08/06 Organized (with Francis Chung) General Meeting to revive chapter
- Celebrated 10th Anniversary of sister city between Sacramento and Yongsan-Gu, October 2007. Special Guests: Mayor Jang Kyu Park, Yongsan-Gu, Seoul, Korea and his Staff
- Change Rae Lee served as chair of HQ Election Committee (Chair) 7/2007-6/2010

DDAD 2007: Diversity Disability Awareness Day at Caltrans. Korean dancers with KSEA officers. DDAD celebrates the diversity of various cultures in Caltrans

The 8th President

January 1, 2008 to December 31, 2008 Steve J. Lee (이신재)

- Kookjoon Ahn elected in 2008 as Technical Group Councilor for Group J, Term 2008-2011
- Hosted delegation from Incheon Jung-Gu, July 2008. Delegates: Mayor Seung Sook Park and her Staff
- Mayor Park Welcome Address: CA State Capitol Assembly Session and Sacramento City Council Meeting.
- Meetings with: California Department of Transportation Director Will Kempton, City of Sacramento Mayor Heather Fargo, City of Rancho Cordova Mayor Linda

Budge, CA Assemblymembers Dave Jones and Mary Hayashi. Thank you dinner hosted by Mayor Park and organized by KSEA-SVC
- Formed MOU with KSEA-SVC and Kook Min University, Sep11/01/08 Hosted NWRC 2008: University of Phoenix, Sacramento. Keynote speakers: CA Department of Transportation Director Will Kempton and UC Merced Chancellor Sung Mo (Steve) Kang
- Started KSEA Student Chapter at University of CA, Davis, November 2008
- Steve Lee appointed to Young Generation (YG) Committee, Term 2007-2010
- Change Rae Lee served in HQ Long Range Planning Committee, 7/2008-8/2011

NMSC 2008 Award Ceremony

The 9th President

January 1, 2009 to June 30, 2010 Steve J. Lee (이신재)
- Kookjoon Ahn served as HQ Membership Director 2008-2010
- Kookjoon Ahn and KSEA-SVC helped form Silicon Valley Chapter, March 2009
- Helped form student chapter at University of Washington at Tacoma, March 2009
- Chang-Rae Lee (chair) served in the HQ Task Force, 37th Term
- Steve Lee (editor) served in the HQ Task Force, 37th Term
- Hosted reporters from MBC Andong and assisted with documentary, July 2009
- Formed MOU with KSEA HQ and Korea Expressway Corporation (KEC), Kookjoon Ahn and Chueng-Ryong Ji
- Formed MOU with KSEA-SVC and KEC International Relationship Division, Steve J. Lee
- Sacramento Delegation to Korea, September 2009
- Awarded Chapter President and Chapter of the Year at UKC 2010
- Steve Lee served as HQ Publication Director 2009-2011

The 10th President

July 1, 2010 to June 30, 2011 Sung Kwon Moon (문성권)
- 10/03/10 Hosted dinner for Special Guest: Incheon Jung-Gu Mayor Seung Sook Park
- 12/08/10 Hosted FTA Forum Sacramento for Consul General Jeong Gwan Lee
- Sung Moon served in HQ Nomination Committee, 2010-2011
- Steve Lee served in HQ Contest Committee, 2010-2013
- Steve Lee served KSEA NMSC Science Committee Chair, 2010 and 2011

The 11th President

July 1, 2011 to June 30, 2012 Young G. Lee (이영길)
- Kookjoon Ahn elected KSEA HQ Vice President (VP1) and served during 40th Term, July 2011 to June 2012.
- Kookjoon Ahn and KSEA-SVC helped form Idaho and Berkeley Chapters
- Francis Chung awarded KSEA Engineer of the Year at UKC 2011
- 09/18/11 Hosted APEC dignitaries
- 10/05/11 Participated in Caltrans Diversity Day. Special Guest: Consul General Jeong Gwan Lee
- 10/25/11 Co-organizer Korean Traditional Dance Performances (Dal-Ha)
- 11/05/11 Student membership meeting, University of Pacific (UOP)
- 11/14/11 High Speed Rail Seminar and Tutorial Meetings: Organized by KSEA-SVC
- Attendees: CA Department of Transportation Railroad Division Chief Bill Bronte and Caltrans Railroad Division Representatives, CEO California High-Speed Rail Authority (CHSRA) Roelof van Ark and CHSRA Representatives, Seminar Participants: KSEA-SVC members and High-Speed Rail Consortium of Korea
- 11/15/11 Attended High-Speed Rail Forum, San Francisco organized by Consul General Jeong Gwan Lee
- 03/16/12 Hosted Yongsan Honor Student Delegation. Yongsan Honor Students Mentoring Luncheon with KSEA-SVC and YSSCC (Yongsan Sacramento Sister City Committee) members. Special Meetings with City of Sacramento Mayor Kevin Johnson, CA State Senator Tom Harmon, CA State Assemblymember Roger Dickinson
- Awards from CA Senator Leland Yee: KSEA-SVC President and NMSC Chair Young Lee, NMSC Math Committee Chair Seungwook Lim, NMSC Science Committee Chair Jeff Olson

- 06/26/12 Attended President's Luncheon: Fairmont Hotel, San Francisco. Hosted by Republic of Korea President Myoung Bak Lee. Organized by Consul General Jeong Gwan Lee
- Chang-Rae Lee served as HQ Rules Committee Chair 7/2010-8/2011

Nam Dae Mun 2012: 15 ft replica of the structure in Korea displayed for DDAD 2012. Built by Korean Caltrans engineers

The 12th President

July 1, 2012 to June 30, 2013 Seungwook David Lim (임승욱)

- 09/18/12 Participated in Caltrans Diversity Day. Special Guest: Deputy General Consul Sung Wook Hong, Sacramento Korean American Community Association VP Grace Kim
- 11/03/12 Hosted NWRC, Rancho Cordova Marriott, CA. Keynote speakers: Caltrans Acting Chief Engineer Bob Pieplow, Professional Engineers in CA Government President Steve Lee

The 13th President

July 1, 2013 to June 30, 2014 Sungho Lee

The 14th President

July 1, 2014 to June 30, 2015 Chang Hwan Park

- Kookjoon Ahn served as 43rd KSEA President. UKC2014 held in San Francisco, CA. Speakers: CA State Controller John Chiang, CA Assemblymember Ken Cooley, and 13 members of the Korea General Assembly
- Kookjoon Ahn helped form Kentucky and Tennessee Chapters and others
- Steve Lee served as First Vice President, Contest Committee Chair, NMSC Chair.

The 15th President

July 1, 2015 to June 30, 2016 Changmo Kim

The 16th President

July 1, 2016 to June 30, 2017 Jae Hyuk (Jason) Lee

The 17th President

July 1, 2017 to June 30, 2018 Steve J. Lee

- Hosted NWRC, May 18, 2018, Hyatt Place Rancho Cordova. Keynote speaker: Assemblymember Ken Cooley

The 18th Presiden

July 1, 2018 to June 30, 2019 Jeff Olson served as Chapter President Councilor.

NWRC 2018 by the Sacramento Valley Chapter

The 19th President

July 1, 2019 to June 30, 2020 Steve J. Lee

NMSC 2019: Students compete in archery as part of the science competition

- 07/20/19 Leadership Forum: Keynote speakers: CA Assemblymember Steven Choi and Rancho Cordova Vice Mayor David Sander. This event was co-organized with the Sacramento Valley Korean American Community (SVKAC). SVKAC President David Yunkoo Lee (also KSEA member) presided over this event. Kookjoon Ahn was the general chair and moderated this event.
- 10/26/19 Census 2020 Seminar. Young Lee was the general chair and Steve Lee moderated this event. Partnership Specialists David Banuelos Jr. and Erin Choi were keynote speakers. Congratulatory remarks by Consul General Joon-yong Park and SVKAC President Yunkoo Lee.
- Changmo Kim served as Group J Councilor
- 12/07/19 Special Meeting hosted by Consul General Joon-yong Park, Foster City Crown Plaza Hotel. On behalf of the late Kang Duk Lee, his son Steve Lee received the Republic of Korea Presidential Award. Young Lee also attended.

Yongsan-Gu students visit CA state Capital in Sacramento. Yongsan-Gu Has been Sacramento's sister city since 1997.

Leadership Forum 2019

Installation of CA Transportation Agency Secretary David Kim, July, 2019

Korean War Memorial at Maidu Park: War veterans and Korean American Community Leaders

Seattle

Jae Hoon Kim

The 39th President

Chapter Summary

- Found Pacific Northwest Chapter (Seattle, WA-based) as the Chapter 15 (15th Chapter of KSEA) in 1975
- Revitalize the Chapter in 1996/1997
- Found Chapter Mathematics Competition in 1998
- Found Northwest Regional Conference (NWRC) in 2006
- Host UKC 2010 in Bellevue, WA in 2010
- Found Young Generation Chapter in 2010
- Rename to Seattle Washington Chapter in 2011
- Found West Regional Conference (WRC) in 2019

Chapter Leadership

Advisory Board Chair: Dr. Jae Hoon Kim (Boeing)

President: Mr. Sun Min Jung (Boeing)

- VP1 Academics: Dr. Brian Maeng (CityU)
- VP2 Young Professional: Ms. Hailey Bae (Amazon)
- VP3 Industry: Ms. Haena Kim (U. Washington)
- Secretary: Jin Kim (Microsoft)
- NMSC Organizing Director: Heonmin Lim. (Microsoft)
- Members-at-Large: Dr. Sam Chung (City U)
- Members-at-Large: Dr. Jong Yoon (U. Washington)
- Young Generation President: Terry Kim (Boeing)

Former Chapter Presidents

1st (1974- 1976): Dr. Mansop Hahn (Boeing)
2nd (1977-1978): Dr. Young Deok Woo
3rd (1978-1985): Dr. Ki-Dong Lee (Boeing)
4th (1985- 1987): Dr. Mansop Hahn (Boeing)
5th (1987-1990): Dr. Yongmin Kim (UW)
6th (1990-1996): Dr. Sungyul Yoo
7th (1996-1997): Dr. Jaesoo Lee (Boeing)
8th (1997-1998): Dr. Jae Hoon Kim (Boeing)
9th (1998-1999): Mr. Steve Jang (Microsoft)
10th (1999-2000): Dr. Jae Hoon Kim (Boeing)
11th (2000-2001): Dr. Jai Joon Choi (Boeing)
12th (2001-2002): Dr. Woobin Lee (Micron)
13th (2002-2003): Mr. Ji-Hae Yea (Meta Comm)
14th (2003-2004): Dr. Jae-Byung Jung (SciFish)
15th (2004-2005): Mr. Alex Choe (GuppyGame)
16th (2006-2007): Dr. Sam Chung (UW Tacoma)
17th (2007-2009): Dr. Junho Cha (Intel)
18th (2009-2011): Mr. Heonmin Lim (Microsoft)
19th (2011-2012): Dr. Wookeun Shin
20th (2013-2014): Dr. Sooyeun Kim (UW)
21st (2014-2016): Dr. Junho Cha
22nd (2016-2019): Dr. Woonjong Yoon (UW Bothell)
23rd (2019-Present): Mr. Sun Min Jung (Boeing)

Chapter Events and Activities

Local Chapter activities are generally grouped into the following categories;

- Regular and Ad-hoc Staff Meeting
- Chapter Seminar Series
  - Topical Seminar (Quarterly)
  - Technical Seminar (Yearly)
- Local Chapter Mathematics Competition
- National Math and Science Competition (NMSC)
- Northwest Regional Conference (NWRC)
- West Regional Conference (WRC)
- Young Generation Chapter Activities
- Young Professional Networking Activities
- Industry Mentoring Sessions with Microsoft

- Summer Picnic (August)
- Membership Drive (March in Spring, Sep. in Fall)
- Christmas and Year-end Party (December)
- General Election Meeting

The highlight of Seattle Chapter events and activities is summarized below;

Chapter Topical Seminar Series

KSEA Seattle Washington Chapter (President: Dr. Jae Hoon Kim) has started the Topical Seminar Series as one of the main Chapter activities in 1997. The Topical Seminar was held quarterly in the Public Library Conference Room (Bellevue Newport Way Library, later Mercer Island Library). The first topical seminar meeting was held on Friday, February 28, 1997 at the Newport Way Library, Bellevue.

1st Topical Meeting, 2/28/1997 (Friday), 6:00-9:00 pm
Newport Way Library, 14250 SE Newport Way, Bellevue

- Isabella Kim (Lawyer): Will Preparation
- Jai Joon Choi (Boeing): Wavelet to Signal Processing
- Alex Choe (Microsoft): Internet and Intranet
- Jae Hoon Kim (Boeing): Fiber-Optic Transceiver

2nd Topical Meeting, 5/2/1997 (Friday), 6:00-9:00 pm

- Duk Hwang Kim (Boeing): Career Development in Boeing
- Shinhak Lee (UW): Signal Processing for Medical Apps
- Young Woo Kim (AT&T): Cellular Fraud Detection

3rd Topical Meeting 6/27/1997 (Friday), 6:00-9:00 pm

- Yongmin Kim (UW): Telemedicine and Picture Archiving
- Jae Hoon Kim (Boeing): Satellite Communications
- Hang Jin Kim (Infinite D.): Recent MODEM Development

4th Topical Meeting 8/29/1997 (Friday), 6:00-9:00 pm

- Ian H. Chang (Boeing): Career Development in Avionics
- Ji-Hae Yea (UW): 3-D Topographic Mapping by Radar
- Bong Gee Song (UW): Spatial Diversity Equalization

5th Topical Meeting, 10/31/1997 (Friday), 6:00-9:00 pm

- James S. Lee (Boeing): Natural Diet
- Namsoo Kim (Boeing): Electronic Materials for Aircraft
- Jaesoo Lee (Boeing): Airport Jet Wake Danger Zone

6th Topical Meeting, 12/19/1997 (Friday), 6:00-9:00 pm

- Isabella Kim (Lawyer): Small Business Operation
- Yongmin Kim (UW): Multimedia and Image Processing
- Seho Oh (Neopath): Neural Network Implementation

14th Topical Meeting, 10/29/1999 (Friday), 6:00-9:00 pm

- Brian Lee (UW): YG organization report - UW Section
- Cheryl Lee (Boeing): Professionals Role for Community
- Ji-Hae Yea (Metawave): Cellular Base Station Antenna

15th Topical Meeting, 12/17/1999 (Friday), 6:00-9:00 pm

- James Lee (Boeing): Natural Diet II
- Eileen Chun (Merryl Lynch): Estate Planning
- Jeongnam Youn (UW): Video Transcoder Architecture

16th Topical Meeting, 2/25/2000 (Friday), 6:00-9:00 pm

- Shari Song (KAPS): About K-A Professional Society (KAPS)
- Jongtae Yuk (UW): Hemorrhage Detection in Abdomen

17th Topical Meeting, 4/28/2000 (Friday), 6:00-9:00 pm
Mercer Island Library, Mercer Island

- Taek Chong (Fund Manager): Stock Investment Strategy
- Hwa-Jong Kim (UW): Java Technology Overview
- Jonghee Kang (UW): Introduction to CORBA and JINI

18th Topical Meeting, 6/30/2000 (Friday), 6:00-9:00 pm

- Korean Consulate: Military Duty for Students, US Citizens
- Duk-Su Koh (UW): Information Processing in Neurons
- Arun Ayyagari (Microsoft): Product Strategy in Microsoft

Chapter Technical Seminar
2011 Technical Seminars, 1/29/2011 and 5/21/2011
Hyatt Regency Hotel, Bellevue

John Spady as a keynote speaker, co-owner of famous Dick's Drive-in; sponsor of a civic engagement program.

2012 Bio/Medical Technical Seminar, 11/12/2012
University of Washington, Seattle

- 6 Invited Speakers from academia and industry in Bio/Medial related fields.
- Attended by 40 KSEA members

2013 Technical Seminar, 5/4/2013
Hyatt Regency Hotel, Bellevue

- 9 Invited Speakers from various fields
- Attended by 50 KSEA members and 20 new members from academia (UW) and industry (Boeing, Microsoft, RealNetworks)

UKC 2010 by KSEA and KOFST

Seattle Washington Chapter hosted 2010 US-Korea Conference (UKC 2010) on Science, Technology and Entrepreneurship at Hyatt Regency Hotel in Bellevue, WA on August 11-15, 2010. UKC 2010 was organized by Dr. Jae Hoon Kim (KSEA 39th President) with full support from Seattle Chapter Local Arrangements Committee (Chair: Dr. Junho Cha). Under the theme of "*Green Technology for A New World*," the UKC 2010 was organized into 10 Symposiums in 5 major technology domains: Energy Technology, Fundamental Science, Information Technology, Life Science, and Transportation Technology Domain.

YGTLC 2011 & YGNITE 2020

Seattle Washington Chapter hosted 2011 KSEA Young Generation Technical and Leadership Conference (YGTLC 2011) on January 7-9, 2011 at Hyatt Regency Hotel in Bellevue, WA. Bellevue. Seattle Washington Chapter once again hosted what used to be known as YGTLC but renamed to YGNITE 2020 on January 10-12, 2020 at Marriot Seattle-Tacoma (Sea-Tac) Airport.

National Mathematics and Science Competition (NMSC)

K***SEA Seattle Chapter Mathematics Competition***: KSEA Seattle Washington Chapter (President: Dr. Jae Hoon Kim) has started the first KSEA Mathematics Competition in 1998 with a sponsorship from The Microsoft Corporation. We submitted a proposal for an annual event of "*KSEA Mathematics Competition*" to Microsoft Diversity programs. The key KSEA staff members were Alex (Doo-Hwan) Choe, Dr. Donglok Kim, and Dr. Jai Joon Choi and Dr. Woobin Lee. Alex Choe (then, an employee of Microsoft as Program Manager) played a key role in exploring a sponsorship from Diversity programs within Microsoft.

KSEA National Mathematics Competition (NMC): KSEA HQ Ad-hoc Committee (Chair: Dr. Quisup Kim, then KSEA VP) has decided to expand the local chapter events to a national-level event as "*KSEA National Mathematics Competition (NMC)*" in 2002, which was further expanded to National Mathematics and Science Competition (NMSC) in 2007. Since 1998, Microsoft Corporation has been a strong supporter and sponsor for 16 consecutive years. We have been very proud and privileged to witness that this annual event has become one of the most successful academic events among the Korean-American communities nationwide, and not only boosts students' scholastic achievements but motivates them to work with other community members. YG Seattle chapter played crucial roles in planning the National Math and Science Competition. YG group took charge of science sections, a college mentoring session, and volunteers recruitment.

Northwest Regional Conference (NWRC) on BNCIT (Bio-Nano, Communications-Information, Transportation)

KSEA Seattle Washington Chapter (President: Dr. Jae Hoon Kim) has founded the KSEA Northwest Regional Conference (NWRC) in 2006. Since 2006, the following five chapters - Pacific Northwest WA (now, Seattle WA), Portland OR, Sacramento CA, Silicon Valley CA and Boise ID – have been jointly organizing NWRC under KSEA HQ and KUSCO sponsorship.

1st (2006) – Seattle, WA Chapter
2nd (2007) – Portland, OR Chapter

3rd (2008) – Sacramento, CA Chapter
4th (2009) – Seattle, WA Chapter
5th (2010) – Portland, OR Chapter
6th (2011) – Silicon Valley, CA Chapter
7th (2012) – Sacramento, CA Chapter
8th (2013) – Seattle, WA Chapter
9th (2014) – Boise, ID Chapter (?)
10th (2015) – Portland, OR Chapter (?)
11th (2016) – Silicon Valley, CA Chapter (?)
12th (2017) – Sacramento, CA Chapter
13th (2018) – N/A; in preparation of the single West Regional Conference (WRC) combined with NWRC and Southwest Regional Conference (SWRC)

The 1st West Regional Conference (WRC) on Smart Science, Smart Engineering, and Smart Technology + YG Summit

In 2019, the first West Regional Conference (WRC) was hosted by the Seattle Chapter along with 9 additional KSEA Chapters and Branches on the West Coast (Idaho, Portland, Oregon, Sacramento, Silicon Valley, Berkeley, Utah, Southern California, and San Diego)

WRC 2019 was held on November 1-2, 2019 in Sheraton Bellevue and attended by over 90 participants. Included in the 90 participants were about 10 YG national leaders to attend the YG Summit held in parallel.

1st (2019) – Seattle, WA Chapter
2nd (2020) – N/A; cancelled due to COVID-19 Pandemic

Young Generation (YG) Seattle Chapter

KSEA YG Seattle Chapter was established in 2010, right after UKC 2010 held in Bellevue, WA. Starting with the Young Generation Technical and Leadership Conference (YGTLC) reunion in January 2011, Seattle YG chapter was actively engaged in workshops, seminars, and various networking opportunities for undergraduate, graduate students and young professionals around Seattle area. In 2011, KSEA Seattle YG became a Registered Student Organization at the University of Washington in an effort to recruit college students. From 2011 to 2012 academic year, the chapter held the first general meeting, Korean BBQ social, NMSC volunteering event, and May picnic. In 2012-2013, the YG chapter recruited 50 members, organizing the general meeting, resume/career workshop, end-of-year party, YGTLC conference reunion, and new officer training event. Furthermore, with Seattle local chapter, YG played crucial roles in planning the National Math and Science Competition 2013 (NMSC). YG group took charge of science sections, a college mentoring session, and volunteer recruitment. Through numerous opportunities, YG members have not only cultivated leadership skills and teamwork, but also built valuable professional relationships and friendships. The KSEA Seattle YG chapter is considered one of the most active and bonded chapter in the nation.

Seattle YG Chapter Presidents and HQ Roles by YG:
HQ YG Director (2010-2011): Dr. Michelle Lee (UW)
HQ YG Director (2011-2012): Mr. Sun Min Jung (Boeing)
HQ YG Director (2013-2014): Mr. Sun Min Jung (Boeing)
HQ Auditor (2015-2018): Mr. Sun Min Jung (Boeing)
HQ YP Director (2018-2019): Mr. Sun Min Jung (Boeing)
1st (2010-2011): Dr. Nora Lee (UW)
2nd (2012-2013): Dr. Janet Lee (UW)
3rd (2013-2014): Dr. Chris Choi (SPU)
4th (2015-2018): Dr. Steven Seun-Been Lee (UW)
5th (2019-Present): Mr. Terry Kim (Boeing)

YG Leadership Team:
2010-2013 Teams: Nora Lee, Janet Lee, Sun Min Jung, Michelle Lee, Michael Lee, Jae Choi, Chris Choi, Meeae Hong, Clara Park, Yuna Shim, Sarah Seo, Henna Park

2013-2014 Teams: Chris Choi, Clara Park, Peter Kim, Youngmin Lee, Sooeung Lee, Janelle Wee, Steven Cha, Justin Sim.

2013-2019 Teams: Terry Kim, Hana Song, Brian Jhong, Yegee Lee, Chung Hoon Choi, Catherine Ryu, Seung-been Lee, Saehee Kwak, Yubin Kim, Seunghan Shin, Paul Kim, Ryan Cho, Cathy Lee, Sukyong Yun, Junghyun Kim, Andy Kim, Daehyun Kang, Andy Yu

Summer Picnic (August)
Seattle Chapter holds Summer Picnic annually to promote KSEA mission and vision, and network among KSEA members. Typically, 50-60 members, family and friends participate in the summer picnic.

Membership Drive (March, September)
Seattle Chapter holds KSEA membership drive in Spring (March) and Fall (September). The objective is to recruit new KSEA members, especially new graduate students and introduce KSEA leaders and staffs.

Christmas and Year-end Party (December)
Celebrate with our members after another great year of Seattle WA Chapter and YG Group events and activities
60+ participants

General Election Meeting (December)
Seattle Chapter holds a General Meeting in December to elect a Chapter President when required.

Summary and Conclusion
KSEA Seattle Washington Chapter is in the process of collecting Chapter history information from CD-ROM archives, legacy documents, and local chapter websites. This effort is in alignment with HQ activities by KSEA History Committee (Chair: Dr. Yong-Nak Lee; 10th KSEA President). Please note that this document is a working document and will continue to be evolved with Seattle Chapter History.

Acknowledgments
Seattle Washington Chapter would like to thank KSEA History Committee for their effort, encouragement and positive pressure for local chapters to make progress in this important effort.

The author (Jae Hoon Kim) thanks the Former Presidents of Seattle Chapter, Dr. Mansop Hahn (First President), Dr. Ki-Dong Lee (Second President) and Dr. Sungyul Yoo (Fourth President) for their assistance in the phone interviews on the Seattle Chapter history.

Southern California

Joon-Ho Choi

Southern California Chapter President

Introduction

We are so pleased to see numerous excellent achievements of KSEA for the last five decades. The KSEA-SC has been one of the oldest and largest local chapters to participate in the association since 1972 due to both the largest Korean-American population in SC and its geological location to Korea. The chapter has been served as the host of the frequent visitors from Korea as well as the educational counseling role for the first- and second-generation Korean students to guide them to obtain a proper career development. The chapter has also produced many returning leaders of scientists and engineers to Korea to various major Korean Technical Institutions. Also, KSEA-SC is one of the leading local chapters which produced many councilors and presidents of KSEA. The SC Chapter has been flourishing with more than 300 members and made a big effort to develop many outstanding services that support both the KSEA HQ and the individual members of the SC chapter, such as career/major fairs, career mentorship programs, STEM camps, and other events for the KSEA community. The SC Chapter has also organized and managed the National Level Programs including the National Math and Science Competition and the iDRONE Program. Also, under the leadership of Dr. HyungMin Michael Chung, the 41st KSEA president, the chapter successfully organized the UKC 2012 as the major host. Many members of the chapter have also frequently participated in multiple national programs, including the UKC 2020 and the Scientists and Engineers Early Career Development Workshop (SEED) as chairs, committee members, secretaries, keynote speakers, and/or volunteers. Among many historical activities, we wanted to take this manuscript opportunity to summarize key events/stepping stones based on historical records of the chapter.

Lee J. Yoo
Chapter President (2012-13)
OC Water District
Fountain Valley

Joseph Kim
Chapter President (2015-16)
California State Univ.
Long Beach

Seon Ho Kim
Chapter President (2019-20)
University of Southern California

Joon-Ho Choi
Chapter President (2020-21)
University of Southern California

Ativities at KSEA-SC

Annual KSEA South-West Regional Conference (KSEA-SWRC)

The KSEA-SC Chapter has been hosting an annual conference (KSEA-SWRC) for years with the San Diego Chapter. This is the SC's flagship technical conference with prestigious scientists, engineers, and entrepreneurs, as well as local students.

About 150+ participants from diverse fields have been participated every year. Many innovative ideas are always running the entire conferences from plenary tracks to networking programs among members. This conference has been sponsored by KSEA, KUSCO and multiple industry partners such as DELTA Airlines.

NMSC

One of the major programs of KSEA is the NMSC, which is also the largest and important event working with local Korean community. Approximately more than 200 students have participated annually and more than 40-chapter members volunteered to coordinate the curriculum, grade the work of students, and organize an award ceremony. In general, the chapter volunteers began preparing for this event at least four months before the competition, and there was a weekly meeting until the end of the program. Dr. Haejung An (Vice President 1 as of 2021; USFDA chemist) has kindly hosted a voluntary NMSC SC lunchen meeting for the preparation of the NMSC almost every year, which helped a great deal for the active event by enhancing the connections among the volunteers.

Career and Mentoring Workshop

Many prestigious universities and colleges are located in Southern California, and the student population is comparatively higher than in other areas. Career and mentoring workshops have thus played an essential role in helping affiliated student members and new members to develop career growth strategies.

Fig. 1 2016 KSEA SWRC with the participants and volunteers
Fig. 2 2015 SWRC Poster

In order to cover as many career paths as possible, speakers were strategically chosen from different professions such as academia (professors), research scientists, professionals, and government. With keynote speeches, mentoring roundtable per professional track/domain, i.e., academia and business, and Q&As sessions, the program has been organized. The lunch and dinner network helped participants interact with speakers and mentors with casual conversations on personal subjects.

KSEA-SC Major Fair

The KSEA-SC Major Fair is a major outreach event that introduces hundreds and thousands of college-bound high school students and their parents to various fields of study in STEM, the prospective career paths and positions of individual fields in society. This event served as a rallying point for the KSEA-new, SC's youthful and experienced participants. During the events, the KSEA-SC student participants actively volunteered to arrange sessions for different engineering and science disciplines. The Major Fair, at times, was held with another big event, the College Fair by the Korea Daily newspaper and has been highly valued by Korean community.

Recreational Activities

KSEA-SC has an annual camping trip to network with members, families and invites new members and their families almost every summer. In 2012, we had a great camping at Cachuma Lake, Santa Barbara, with 65 members, including 30 new members and their families. This tradition has been kept, and the chapter had a camping trip in 2014 at Sequoia National Park, a remarkable location to enhance the membership. In the past, an annual golf outing provided an opportunity to regroup SC chapter members. The chapter provided a membership drive for OB's golf outing and networking with new members. Another recreational activity includes a BBQ picnic at local park.

The future of the SC Chapter.

Southern California is an essential region of technology and entrepreneurship in the U.S. More and more professionals and scholars come to the area, and with such increased population, the SC Chapter has a broad potential to expand. Every year, the participant size of many events and programs increases, and the sponsorships for those programs also increase with the help from public and private organizations in the Korean community. Due to the significant role of the SC Chapter in the community, our members have been frequently invited to various Korean communities' major events as VIPs, keynote speakers, committee members, etc. The chapter and its associated programs have been frequently reported in local media, along with relevant outreach activities. As such, the chapter has positioned as a leading group in the SC Korean Community as the representative of KSEA. The technical infrastructure of the region provides a synergistic effect on the chapter's activities. However, there are still many Korean-American communities that are not yet associated with the chapter, despite many encouraging traces of the chapter. Therefore, we will do our utmost to strengthen the chapter's membership with a strategic plan gathered from the involvement of several constructive ideas from the members to retain KSEA SC as a leading local chapter.

Fig. 3 NMSC preparation meeting (Top) & NMSC awardees in award ceremony (Bottom)

Fig. 4 With the volunteers at the 2015 Major Fair (Left) A keynote speech at the 2016 Major Fair (Right)

Fig. 5 UKC 2012 with the former president Dr. Hyungmin Michael Chung and Korean dignitaries

South Texas

Sung Yun Jung*

Reviewed by Kun-Chee Youn[1], Goo Jun[2], Minsu Kim[3], Jung Hwan Kim[4], Chrystal Shin[5], Seungho Park[6], and Jun Ho Choi[7]

**The 42nd South Texas Chapter President*

[1]The 4th ST CP, [2]The 41st ST CP, [3]the 40th ST CP, [4]the 42nd ST PE, [5]the 42nd ST FD, [6]the 42nd ST Young Professional Director, and [7]the 42nd ST VP

Summary

1. Established as KSEA Southwestern States chapter on August 18, 1972
2. SW States chapter covers the entire Arkansas-Louisiana-Texas tri state area in its inauguration
3. Renamed to South Texas Chapter in 2007
4. Currently, ST Chapter covers Houston, Galveston, College Station and its immediate area.
5. Founded Mathematics Competition in 1985. This Math competition concept and practice grew into KSEA National Math competition
6. Founded West Gulf Coast Regional Conference in 2006
7. Registered as a Non-profit organization on July 5, 2016

Chapter Leadership Structure (2021 current)

Executive Committee

Chapter President (1)
President Elect (1)
Vice President (2, Biomedical and Engineering)
General Affair (1)
Financial Director (1)

STAFF

Public Relation Director (1)
Next Generation Director (1)
Membership Director (1)
Information Technology Director (1)

Subgroup

KWiSE in South Texas (50 members)
South Texas Biomedical Faculty Group (25 members)
South Texas Biomedical Trainee Group (45 members)
Young Professional Group (Konnec+, 25 members)
Texas A&M Undergraduate Group (40 members)
Rice University Undergraduate Group (25 members)
University of Houston Undergraduate Group (20 members)

Advisory Board (3, Immediate Former Presidents)
Long Range Plan Committee (2)

List of Former Chapter Presidents (CPs)

No.	President	No.	President
1st (1972-73)	Kwang-Gook Ko	2nd (1974)	Kwan-il Choi
3rd (1975)	Seung-Hee Jeon	4th (1976)	Kun-Chee Youn
5th (1977-78)	Chang-Go Park	6th (1978-79)	Jang-Woo Nam
7th (1979-81)	Moon-Suk Huh	8th (1981-82)	Sun-Jong Chung
9th (1982-83)*	Chang-Sun Kim	10th (1983-84)*	Sung-Joo Lim
11th (1984-85)	Sae-Man Yu	12th (1985-86)	Dong-Min Kim
13th (1986-87)	Chun Huh	14th (1987-88)	In-Sul Hyun
15th (1988-89)	Chul-Sung Kim	16th (1989-90)	Kwang-Woong Kim
17th (1990-91)	Yu-Taek Jeon	18th (1991-93)	Tae-Yong Yang
19th (1993-94)	Nak-Won Sung	20th (1994-95)	Eu-Shin Kim
21st (1995-96)	Hung-Woong Chun	22nd (1996-97)	Ung-Hyun Kim
23rd (1998-99)	Kwang-Wook Choi	24th (2000-01)	Sam Jae Cho
25th (2002)	Jaeyoung Lee	26th (2003)	Hoon Park
27th (2004)	Jaeyoung Lee	28th (2005)	Sangsoo Ryu
29th (2006-07)	Jung Hyeob Roh	30th (2008)	Dong-Hwan Lee
31st (2009)	Kun Ho Kim	32nd (2010)	Sung Yun Jung
33rd (2011)	Sukjoo Choi	34th (2012)	Sehoon Jang
35th (2013)	Byungkwon Choi	36th (2014)	Sangjoon Sohn
37th (2015)	Kwanghee Jung	38th (2016)	Sang Jun Han
39th (2017)	Sukjoo Choi	40th (2018)	Minsu Kim
41st (2019-20)	Goo Jun	42nd (2021-22)	Sung Yun Jung

Chapter Events and Activities

1. West Gulf Coast Regional Conference

- A regional conference co-host by KSEA-South Texas, North Texas, Austin, Texas Coastal Bend, and Arkansas Chapter
- Sponsored by KUSCO and Consulate General of the Republic of Korea in Houston every year
- The conference is focused on Bio-medical research field
- Over 120 Korean biomedical researchers join the meeting to present and share their research
- For the trainees, career development seminar was also provided

2. KSEA-ST Engineer's Technical Seminar

- The Vice president of Engineering leads this meeting
- ST chapter's oil and gas engineering group organizing this

meeting
- Joint event between South Texas chapter and one of KSEA APS (KOEA)
- To introduce the recent trend of Oil and Gas, Exploration and Production (E&P) Technology and related filed
- This is a quarterly seminar

3. Young Generation Forum
- Young generation group (ST chapter Young Generation director, KONNEC+, Texas A&M, Rice and UofH student group) leads this meeting
- This Forum is focused on early-stage career development and entrepreneurship
- On-site interview and job recruitment chance also provide for participants
- Major Korean American companies (SK E&S Americas, POSCO and Samsung) regularly participate

4. KSEA-South Texas Women in Science and Engineering annual conferences
- KWiSE in South Texas leads this event
- Joint event between ST Chapter and KWiSE ST chapter.
- This event is to create collaborative and interdisciplinary research opportunities
- To build a strong regional network among Korean women in biomedical research and engineering.

5. Young Engineers Meeting (KONNEC+)
- Young Engineer group in South Texas chapter (KONNEC+) leads this event
- A quarterly event including one general assembly
- South Texas chapter initiate this meeting in December 2017

6. South Texas Chapter Bio-Medical Faculty meeting
- The Vice president of Bio-medical science leads this meeting
- A quarterly event which includes one general assembly to build a strong regional network among biomedical researchers in the South Texas Chapter
- provides a chance to promote communication and share information among the members for excellence in scientific research and teaching activities.

7. South Texas Chapter Bio-Medical Trainee meeting
- The South Texas Biomedical Trainee Group leads this meeting
- A quarterly event which includes one general assembly to build a strong regional network among biomedical trainees in the South Texas Chapter and to provide insights on career development

8. Texas A&M University (TAMU) Students Branch Career Development Seminar
- Organized by TAMU staffs and KONNEC+
- Help students in the colleges with their preparation for interviews and resumes
- Major Korean companies participate every year

9. College Membership Drive
- Organized by TAMU, Rice University and University of Houston students meeting staffs
- Help students get exposure to KSEA activity and advertise Vision of KSEA

10. National Math and Science Competition
- Lead by PE of South Texas Chapter
- Support by Consulate General of the Republic of Korea in Houston every year
- 1-3 grade test also provided
- Science Competition is held from 2007

11. General Assembly
- Election of PE
- Report one year activity and plan for next term activity
- Chance to build strong relationship between members and chance for membership drive

Highlight Chapter Activity

1. West Gulf Coast Regional Conference (WGCRC)

The South Texas Chapter lead this annual conference for over 16 years. This event is also co-organized by KSEA North Texas, Austin chapter since 2006, and from 2017, the Texas Coastal Bend chapter and in 2020 the Arkansas chapter has joined as co-organizer. It has started as Korean-American Bio-Medical Scientists Symposium (KABMS) and was renamed to KSEA West Gulf Coast Regional Conference in 2009. This year (2021) we will host the 12th KSEA West Gulf Coast Regional Conference (15th Korean-American Bio-Medical Scientists Symposium).

Staffs Photo after 1st WGCRC, Nov 11th, 2006

In each year around 150 of KSEA members from across Texas and adjacent States had participated this KSEA WGCRC. The primary objective of the conference is 1) to enhance greater social and scientific network between KSEA members in vast Texas State area, and 2) to recruit new KSEA members in all three Texas local Chapters by increasing the visibility of KSEA among scientists and engineers in Texas. This symposium has been contributed to stimulate interactions among Korean-American biomedical scientists and initiated lots of fruitful collaboration between local scientists in Texas area and scientists between Texas and Korea based on their social networks.

A group photo of 1st WGCRC, Nov 11th, 2006

Consulate General of the Republic of Korea in Houston is one of major supporting organizers for WGCRC-KABMS. Not only granting financial support for the conference, the Consulate General invites bio-medical scientists from Korea for technical presentations. Therefore, this symposium provides excellent opportunities to Korean bio-medical scientists who want to make scientific network with scientists who have been worked in biomedical science in Texas and gulf coast area in U.S.

The importance of this conference is 1) WGCRC-KABMS is currently the only bio-medical symposium in Texas and gulf cost areas for Korean-American scientists. 2) WGCRC-KABMS should provide great opportunities to Korean-American scientists who want to share their research, ideas, and network. Because of these requirements, previous WGCRC-KABMS symposiums have been very successfully conducted and lots of important collaborations have been generated between Korean-American scientists in Texas, neighboring states, and Korea. Collectively, this symposium should be continually held at every year to promote advancement and network among Korean-Americans in bio-medical sciences for their career development. There will be a concurrent track of career seminar for young generation summit for seminar and panel discussions.

The first inaugural event was held in Nov. 11, 2006, with title of "*Get to know. Share Your Knowledge*" at the Onstead Auditorium of Basic Science Research Building (BSRB), University of Texas in Houston Texas. Dr. Jung Hyeob Roh chaired symposium as he was the South Texas Chapter President. Over 130 participants were gathered Including the Korean Consul in Houston (Mr. Kung Jung Keun) and guest speaker from KUSCO (Mr. Park, Hee Sok). We had two keynote speakers, Dr. Rakesh Kumar (M.D.Anderson Cancer Center) and Dr. Ro, Jae Yoon (Cornell University), 17 Posters and 11 oral presentations for the first meeting.

10th Anniversary WGCRC, Nov 19th, 2016

We celebrate 10th WGCRC on Nov. 19th, 2016, at MD Anderson South Campus Research Building at Houston TX (symposium chair; Dr. Sung Yun Jung). The main theme of the 10th Anniversary was "*Creative min for Biology Medical Engineering and Medicine*." Especially for the 10th anniversary the South Texas Chapter Host Engineering symposium co-hosted by one of the KSEA APS, KOEA (Korean-American Oil and Gas Engineers Association) together with this biomedical oriented symposium to celebrate its 10th anniversary together with all KSEA members including bio-medical as well as engineering background. In 2019, KSEA-ST also created a TMC Biomedical Faculty Award by generation donations from the participating Korean-American faculty members around Texas Medical Center. We awarded two trainees, one pre-doctoral and one post-doctoral, based on their research product of past 24 months and poster presentations at the WGCRC. Each awardee was awarded with $1,000 prize. In last year, the 14th WGCRC was held on Saturday, December 12th, 2020 as an online meeting via Zoom platform due to COVID-19 pandemic. This event was jointly organized by KSEA Arkansas (CP: Hyunju Jeong, PhD), KSEA North Texas (CP: Wooram Park, PhD), KSEA Texas Coastal Bend (CP: Soojin Yoo, PhD), KSEA Austin Texas (CP: In Hyouk Song, PhD), and KSEA South Texas (CP: Goo Jun, PhD) Chapters. The lead organizers were the conference chair, Dr. Min Gyu Lee, Associate Professor at the University of Texas MD Anderson Cancer Center (UT MD Anderson) and Dr. Goo Jun, Assistant Professor at the University of Texas Health Science Center at Houston (UTHealth). The meeting was a huge success with more than 100 people registered and participated, including a keynote speaker, three invited speakers, thirteen oral presenters, and Korean-American faculty members and trainees across the region.

14th Online WGCRC, Dec 12th, 2020

With over 14 years of KSEA WGCRC-KABMS, we achieved these goals: 1) enhancing greater scientific and professional network and interaction between all KSEA members in vast Texas and Southwest area, 2) providing broad opportunity and information to young Korean American scientists and engineers for their career development and network with established scientists and engineers, and 3) making the meeting place for the all Korean-American scientists and engineers from different institutions across West Gulf Coast area to set up new collaboration between KSEA members. The more detail information regarding KSEA West Gulf Coast Regional Conference is available at the WGCRC website (https://wgcrc.ksea-st.org/).

2. KSEA-ST Engineer's Technical Seminar

The South Texas Chapter hold Engineer's Technical Seminar quarterly together with Korean-American Oil and Gas Engineers Association (KOEA). The KOEA is one of the KSEA APS, based in Houston Texas. The first KSEA South Texas/KOEA Joint Seminar of 2017 was held at the Korean Community Center on March 9th 2017. Together, KSEA South Texas and KOEA hosted a variety of programs for approximately 100 attendees of diverse backgrounds. The night started with dinner and a warm welcome from Dr. Sam Ryu, the president of KOEA. In the welcome speech, Dr. Ryu emphasized the importance of collaboration of the different Korean organizations to create synergic effects in both career building, insight sharing, and growing together as a community. The joint seminar was a successful event that seemed to have greatly benefitted members of both organizations.

1st KSEA-ST Engineers Technoical Seminar, 2017

3. KW*i*SE (Korean-American Women in Science & Engineering) Texas Chapter

In 2014, Dr. Sukyeong Lee, an Associate Professor at Baylor College of Medicine in Houston, TX, initiated the first social gathering of female scientists within the Texas Medical Center (TMC) community. The group quickly grew and officially became the seventh chapter of the KWiSE. Founded to promote collaboration among members, support professional growth, and stimulate specialty development in STEM, the KWiSE Texas Chapter has expanded to serve talented scientists and engineers at Texas A&M University since 2018. Currently led by the 6th president, Dr. Sanghee Yoo, Vice President at Tachyon Therapeutics, the KWiSE-TX holds virtual monthly meetings to foster the next generation scientists and engineers and promote a sense of community through open conversations. The annual conferences are held at TMC and Texas A&M University under the leadership of Dr. Soon Mi Lim, an Associate Professor at Texas A&M University. In 2021, through a partnership with the Center for Women in Science, Engineering, and Technology (WISET), the KWiSE-TX launched a global mentorship program.

1st KWiSE in Texas Annual Conference, 2014

4. KONNEC+

A group of young professionals that participate in KSEA-ST held its first social kick-off event back in 2017.

The idea of KONNEC+ was to connect korean young professionals in Houston, to share our experiences in the industries, to help each others with its capacities and to give back to the communities we belong to. KONNEC+ began with the KSEA-ST members that were currently working in the industries in Houston, then started expanding its participants

A Community service activity at Houston Food Bank, 2018

to students in undergrad/grad and others in the town nearby including Collect Station, TX.

KONNEC+ has been responsible to plan and drive actively YGFs in 2018 and 2019, held multiple career seminars that interested many new young professionals out of its networks and been able to connect the dots between the members every year. In addition, KONNEC+ has provided aids to students regarding to job search and interviews and to mentorships at Texas A&M University and Rice University since its beginning as well.

5. NMSC

The South Texas Chapter (ST Chapter) initiate a "*mathematics contest*" in 1985 under the guidance of Dr. Sundeok Tak. Afterword ST chapter kept held this contest every year. Years later, the ST chapter helps the Dallas and the Minnesota Chapter to held same contest. Eventually the mathematics contest grows to KSEA National Math and Science contest. From 2007, the ST Chapter start to hold Scientific contest in conjunction with Math competition. And, from the same year the ST chapter start to provide opportunity for non-competitive Math test to 1-3 grade student. Both of Science contest and 1-3 grade Math test subjects were prepared by the ST chapter independently. The main purpose of the Science competition is to provide a chance to compete critical thinking skill on structure building for KSEA national Math Competition participants to promote a passion for science.

NMSC 2016

With participation of Texas State Government, Houston City and Consulate General of the Republic of Korea in Houston, the top 3 students in both of Math and Science Competition were awarded for Texas Governor, Houston Mayor and Korean Consul General for every year since 2007.

At last year, the ST chapter participate on-line NMSC as well as held an online-proctored Science Competition on May 1st, 2021. In conjunction with the KSEA NMSC event, the ST Chapter has hosted the annual Science Competition for the past 15 years, except for NMSC 2020, which was held virtually. Several NMSC 2020 participants and their parents expressed their regret at the loss of the Science Competition, which had allowed students to demonstrate their understanding of a multitude of scientific principles and their skills in implementing their ideas into reality. 25 students, ranging from 4th through 11th grade, participated in the Science Competition. On the day of the competition, all of the participants joined a Zoom meeting and proved that their package was still sealed. Students were allotted one hour to build their projects while being monitored over Zoom.

The first Science Competition, 2007

The ST Chapter's effort on NMSC to was highlighted in the local Korean newspaper as part of KSEA's continuous effort to overcome the difficulties of the pandemic by nurturing Korean-American students' interest in STEM. Through this NMSC event, the ST chapter demonstrated KSEA's consistent support of the next generation's interest in STEM, as well as its fortitude and determination.

Washington Metro

Donghun Park

Washington Metro Chapter President

List of former Chapter/Branch presidents

1972	1973	1974	1975	1976
임보현	이한주	이동녕	최창선	송요택
1977	1978	1979	1980	1981
이종삼	우광방	박찬모	이정묵	한만희
1982	1983	1984	1985	1986
황보한	황성태	박상신	고인영	오인환
1987	1988	1989	1990	1991
김세량	김성규/이인수	박수영	강수일	이병국
1992	1993	1994	1995	1996
임문빈	조덕운	이영수	김기한	이승원
1997	1998	1999-01	2002-06	2007-08
최동호	김주희	Sam Lee	Bongtae Han	Jungho Kim
2009-11	2012-14	2015	2016	2017
June M. Kwak	Kyungsang Lee	Eun-Suk Seo	Sangmok Chung	Kiyoung Kim
2018	2019	2020		
Namcheol Kim	Donghun Park	Pilgyu Kang		

Highlights of notable achievements, events, and relevance to the mission of KSEA

1972 Bohyun Yim

- Founding General Assembly for Washington DC Metro Chapter. KSEA Presidents, Soonkyung Kim and Kiuck Lee attended.
- Passed KSEA regulations
- Conference: Minister Hyungsup Choi

1996 Sungwon Lee

- KUSCO 25 year anniversary conference (Feb. 1997)
- Aerospace science workshop (Organization Chair Dr. Sungwon Lee) at KUSCO and Marriot Hotel, May1997

2002-2006 Bongtae Han

- National Math Competition (NMC) 4/19/2020 500 students and parents attended.
- Willston Multi-Cultural Center (WMCC), Falls church, Virginia

2007-2008 Jungho Kim

- NMSC at Northern Virginia Community College (2007, 2008)
- UKC 2007 "*Global Challenges in Science and Technology*" Hyatt Hotel, Reston, Virginia

2012-2014 Kyungsang Lee

- Annual Bioscience and Engineering Symposium (ABES) Oct. 2012 at NIH Twinbrook Campus: Keynote lectures by Drs. Hee-Yong Kim (NIAA-NIH) and Kyungsang Lee (NCI-NIH); Investigator Award, Best Oral Presentation Award, Best Poster Award, Graduate Student Research Award

2014 Eun-Suk Seo

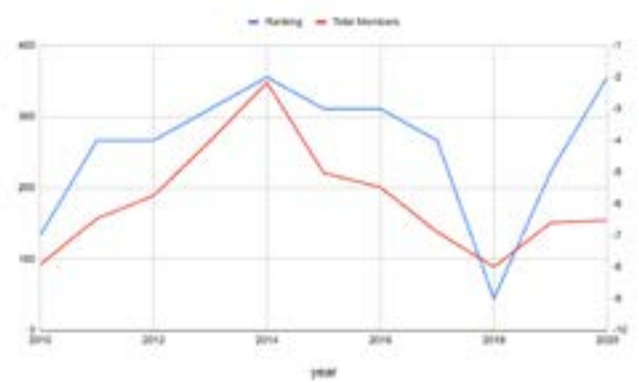
- National Math and Science Competition (NMSC): Participate in Korean Language School, Establish an award for female students to encourage them in Science and Math
- Joint Symposium with Korean Graduate Student Association
- Launch a mentoring program for both undergraduate and graduate students.

Challenges, difficulties, anecdotes and their significance to KSEA

KSEA has been a very important organization to Korean-American scientists and engineers, because networking with other Korean scholars in the USA is quite difficult in the USA. We, DC Chapter, believe that all the members in the chapter have been enjoying activities with a lot of professionals around the DC Metro area. It couldn't have been possible without KSEA.

Having said that, it has also been challenging to maintain the KSEA DC chapter active and vital because there are various types of research institutes, schools, and government entities around the DC metro area and it is a bit demanding to reach out to those who have a separate small group on their sides. However, we will find out how to organize the chapter while having a close relation with KSEA HQ.

The following graph shows the total number of paid members and ranking from 2010 to 2020. In 2014 we had the highest number of paid members (second among chapters) and it has been decreased by 2018. In 2020 the DC chapter was ranked second among all chapters.



Summary

KSEA Washington DC Metro Chapter(WDMC) was established on 5 May, 1972 by electing Dr. Bo-Hyun Yim (NSRDC) as the first chapter president.

From 1972 to 2020 thirty-two (37) presidents served for WDMC members (Korean-American Scientists and Engineers in the DC Metro Area)

"*1981 WDMC Member's Directory*" included 200 Chapter members

"*1994 WDMC Member's Directory*" included 345 Chapter members

"*2013 WDMC Member's Directory*" included 348 Chapter members with 342 paid members

Science Competition

Membership drive booth

2018 NMSC

A talk by Prof. Kwonmoo Lee in the bio-engineering session organized by KSEA Washington DC Metro Chapter

Wisconsin

Yuna Choi
Wisconsin Chapter President

List of former Chapter/Branch Presidents
Kevin Kim (2013-2015), Sunghyun Kim, PhD (2015-2016), Yei Hwan Jung, PhD (2016-2017), Hung Tae Kim (2017-2019)

Highlights of Notable Achievement, events, and relevance to mission of KSEA

- KSEA-WI increased membership number significantly since 2018
- KSEA-WI increased number of events for members and public including membership drive, Wisconsin Science Festival, Wisconsin Science Expedition, NMSC, Symposium, Career Development session with KSEA-WI YG, monthly movie nights, monthly bowling nights, mentoring with YG, Collaboration with Korean Biomedical Sciences (KBMS), company tours, Korean Cultural Night, etc.

Membership Drive: provides a brief description of KSEA and KSEA-WI organizations and encourage people to sign up for a membership. It also provides a networking opportunity among current and prospective members

One of the KSEA mission is Community Service which encouraged KSEA-WI and YG members to participate local events, Wisconsin Science Festival and Wisconsin Science Expedition in each semester respectively, to outreach public in order to educate them about science and engineering in a friendly way. Also, it was a great opportunity to advertise the organization for NMSC and other events we provided.

Symposium: we provided symposium under the theme of career development. There were 6 speakers in either academia or industry and shared their own unique stories how they earned those positions. There were also poster presentation session and networking session among participants

Career Development session: This event was planned and completed with KSEA-WI YG. KSEA-WI members, mostly graduate students, shared their experience on being a graduate student depending on their majors. Also, we provided a resume/cv session for undergraduates

Monthly movie and bowling nights: it was offered to members so we can have more close interaction with not only executive officers but other members. It has been received great positive feedbacks with more participations

Mentoring with YG: KSEA-WI members, graduate students, post-doc, or faculty, in some of selected majors can network and mentor undergraduates in those majors. This event was designed in order to provide easier and more comfortable environment for both mentor(s) and mentee(s) to share their concerns and advice.

Collaboration with KBMS: KBMS was an existing organization and has been providing collaborative environment among members regarding scientific research

Company tours: this was mainly planned and completed by KSEA-WI YG. YG executive officers contacted some local companies such as Epic, Chase, and American Family Insurance, to take a tour and learn more about company

Korean Cultural Night: It was hosted by Korean-American Student Association and KSEA-WI participated to provide fun traditional Korean games to participants

Challenges, Difficulties, anecdotes, and their significance to KSEA
So far, it has been joyful to network with great professionals as a member of KSEA and as a chapter president. However, if I need to be honest, it has been challenging to reach out people who are not part of science and engineering fields. As the organization name implies, it has been focused on professionals and students in mainly science and engineering. People (who are in those liberal arts fields) have asked questions many times whether they can join the organization to receive various benefits KSEA and KSEA-WI including YG offer. Since we live in collaborative, multidisciplinary world these days, we may need to consider some ways to embrace non-science and non-engineering community.

Other information including stat on current and past memberships, unique stories, contributions to local Kor-Am and US communities
KSEA-WI has been playing a leading role with other chapters in Midwest such as Minnesota, Chicago (IL), Michigan, Indiana, and Ohio to re-establish and potentially continue Midwest Regional Conference starting from 2020. The very first conference will be held in April 4, 2020 in Chicago Northwestern University. All those chapters have been working diligently to provide great seminar, poster session, career development session, and surely networking with talented professionals to all those participants (mostly members).

Membership Drive 2019

Movie Nights

Symposium

Wisconsin Science Festival/Expeditions

Wisconsin Science Festival/Expeditions

JBC Coffee Tour

Chapter 10

Affiliated Professional Societies

- The APS List
- AKPA
- KAFTA
- KAGES
- KAMPiNA
- KASBP
- KBMES
- KITEE
- KOTAA
- KSCEE
- NIH-KSA
- NYKB

The APS List

APS Code No.	APS Name	Full Name
1	AKPA	Association of Korean Physicists in America
2	KLAM	Korean Life Scientists Association of Maryland
3	KASBP	Korean American Society for Biotech & Phamaceuticals
4	KOCSEA	Korean Computer Scientists & Engineers Association in America
5	KOEA	Korean-American Oil & Gas Engineers Association
6	KOTAA	Korean Transportation Association in America
7	KWISE	Korean-American Women in Science and Engineering
8	NIH-KSA	NIH-Korean Scientists Association
9	NYKB	New York Korean Biologists
10	KISS	Korean International Statistical Society
11	KOPANA	Korean Pathologists Association of North America
12	KEPS	Korean-American Energy Exploration & Production Society
13	KASBI	Korean-American Society for Biomedical Informatics
14	KAIPBA	Korean-American Intellectual Property Bar Association
15	KAMSA	Korean-American Mathematical Scientist Association
16	RTP B&B	Research Triangle Park Bioscience and Biotechnology Meeting
17	KOLIS	Korean Life Scientists in the Bay Area
18	AKN	Association of Korean Neuroscientists
19	KAFTA	Korean-American Food Technologists Association
20	KSCEE	Korean-American Society of Civil and Environmental Engineers
21	KAMS	Korean-American Materials Society
22	KACEPMA	Korean American Construction, Engineering, and Project Management Association
23	SDKoBA	San Diego Korean Biomedical Association
24	KBMES	Korean-American Biomedical Engineering Society
25	KBM	Korean Biological Sciences Research Group at Michigan
26	TeK One	TeK One
27	KAGES	Korea-America Association for Geospatial and Environmental Sciences
28	KAMPiNA	Korean Association of Medical Physicists in North America
29	KBCAC	Korean Bioscientists & Chemists Association in Chicago
30	KITEE	Korean American Innovative Technology Engineers and Entrepreneurs
31	KAPAL	Korean-American Professional Association in Life Sciences

AKPA

Kyungseon Joo*, Jaehoon Yu** and Chueng-Ryong Ji ***

**The 33rd President of AKPA, **the 45th President and ***the 38th President*

The Association of Korean Physicists in America (AKPA, http://www.akpa.org), as one of KSEA's longtime major Affiliated Professional Societies (APSs), was founded in 1979 in Washington, DC with Dr. Tong-Nyong Lee of Naval Research Laboratory (now professor emeritus at POSTECH) as the first president of the organization. AKPA celebrated its 41st anniversary this year, and it is in the 33rd administration (May 2019–April 2021) under the leadership of president Professor Kyungseon Joo of the Department of Physics at the University of Connecticut. AKPA has been working for more than 4 decades (and still going strong!) to promote networking and capacity among Korean ethnic physicists in the U.S., to foster U.S.-Korea physics collaborations, to recognize outstanding achievements of young Korean physicists and to inspire young ethnic Koreans to learn about physics and science in general.

AKPA generally has an annual meeting in conjunction with a Korean physicists' symposium jointly with Korean Physical Society (KPS), which is held during American Physical Society (APS) March meeting. The recent editions were hosted in Denver (2020, cancelled due to COVID-19), Boston (2019), Los Angeles (2018), etc. These annual meetings have allowed AKPA members to interact more effectively among colleagues in the U.S. and in Korea. The meetings promote the interests of Korean-American physicists and highlight their contributions to science and technology. Many of these events receive generous support and help from KSEA and KPS as well as APS, particularly the APS officers in charge of International Affairs. Special efforts have been dedicated to supporting young ethnic Korean physicists in the U.S. and Korea to provide an opportunity for students and postdocs to present their work to the AKPA-KPS community and for the community to understand current concerns and needs of young Korean scientists in this global and rapidly changing society.

In order to recognize outstanding achievements of young ethnic Korean researchers in all areas of physics, the Outstanding Young Researcher Award (OYRA) was established in 1994. OYRA has been continued to date and become high profile activities of AKPA for close to three decades. Many OYRA winners are now well-established scientists in the U.S., Korea, Canada and Hong Kong. The 2020 OYRA awards were given to two outstanding Korean physicists: Dr. Soowon Choi (Miller fellow at the Univ. of California Berkeley) and Dr. Joon Sue Lee (Assistant professor of physics and astronomy at the Univ. of Tennessee, Knoxville). AKPA normally holds the OYRA award ceremony at the Forum of International Physics (FIP) receptions at the APS March meetings. A close cooperation with the Korean Physical Society (KPS) has been exemplified in awarding two OYRA awards each year. This cooperation is an envy of other international physics organizations at the APS FIP receptions.

As an effort to bring physics closer to the community, AKPA initiated National High School Physics Contest (NHSPC) jointly with KSEA in 2012 as a pilot program in North Texas and North Carolina chapters, then subsequently expanded nation-wide in 2013, under the initiative of the 30th AKPA president, professor Jaehoon Yu of the University of Texas at Arlington. Since then, NHSPC has been held annually as an essential component of the KSEA National Math and Science Contest (NMSC). The goals of the contest are to promote physics among young students of Korean-American and other ethnic heritage, help them exposed to physics in

(Left) Former Presidents of AKPA with a former president of KSEA: 1st President Tong-Nyong Lee (4th from right) and his wife (3rd from right); 15th President Nowhan Kwak (1st from right and his wife (2nd from right); 4th President Yoon-Soo Park (1st from left) and his wife (2nd from left): 12th KSEA President Jae-Young Park (4th from left) and his wife (3rd from left). (Right) Participants at the joint AKPA-KPS symposium at Harvard University in Cambridge, MA on March 3, the day before the start of the APS March Meeting in 2019.

early ages and encourage them to become scientists. AKPA provides monetary support for the national prizes, and KSEA provides the T-shirts for participants and volunteers. The national prizes are supported through Kiuck Lee High School Physics Scholarship established in 2015 through the generosity of the Lee family and contributions from many AKPA members. The certificates for the national winners are jointly signed by the presidents of AKPA and KSEA. AKPA has also been in close contact with the American Physical Society (APS) on this physics contest project. This is only one of many exemplary demonstrations of the cohesive collaboration between AKPA and KSEA.

AKPA continues to work very closely with KSEA. For many years, not only did many AKPA members play leadership roles in KSEA, for example, Kiuck Lee (2nd president), Kyungsik Kang (11th president), Kihyon Kim (15th president), Mooyoung Han (20th president), Chueng-Ryong Ji (38th President), Jaehoon Yu (45th President) and Eun-Suk Seo (46th President), but also do they play significant organizational roles and participate strongly in the annual US-Korea Conferences (UKC) and other KSEA events. AKPA is particularly proud of UKC Physics symposium series where frontier physics research and physics education meet and where a growing number of young researchers participate. The Physics Symposium brings together world leading scientists and young researchers in various fields of physics from across the U.S. and Korea. Fundamental and emergent physics topics are brought together, and their links and impacts to other interdisciplinary areas are discussed. These symposia serve as a timely event to discuss the enrichments of research collaboration and networking between the U.S and Korea.

In closing, AKPA has been an essential partner to KSEA for the past four decades and will continue this role through the foreseeable future. Just as physics provides the bedrock for many disciplines, AKPA will play its role to promote young generation Korean-American physicists and produce leaders in science and engineering in the U.S. and in Korea. Overall, AKPA is healthy and strong and maintains a bright future, thanks to the dedicated service of its members, supporters, and administrative staff.

Congratulations, KSEA for celebrating the 50th anniversary! AKPA wishes another century of prosperity to KSEA!

OYRA award ceremony at the APS Forum of International Physics (FIP) reception at the APS March meeting in Boston in 2019: Dr. Young Jin Kim (Los Alamos), a winner of OYRA (1st from left) and Dr. Hyowon Park (U. of Illinois at Chicago), a winner of OYRA (middle in 2nd row) along with then AKPA president, professor Young Kee Kim of U. of Chicago (2nd from left, front row) and Amy K. Flatten of APS (3rd from left, front row) and current AKPA president, professor Kyungseon Joo of U. of Connecticut (1st from left, 2nd row)

(Left) Photos taken during NHSPC in 2019: A group photo taken during NHSPC in 2019. (Right) Physics demonstration by Professor Chueng-Ryong Ji (North Carolina State U.) for the public

(Left) Photos taken during UKC 2019 in Chicago: Emergent Physics session (Right) Networking dinner

KAFTA

Jang Ho Kim

KAFTA President

The Korean-American Food Technologists' Association (KAFTA) was founded in 1976 by several food scientists in the U.S. For the past 44 years, it has grown to have more than 250 members in U.S. and Korea. Members have been exchanging the latest technologies in chemistry, analysis, microbiology, regulation, processing, and marketing along with new product developments in the area of food science. The KAFTA leadership group has been dedicated to bringing together members to form network and find opportunities and to help Korean students studying the U.S. develop their professional career in Food Science and Industry. It has taken the leadership in organizing the Food, Agriculture, and Nutrition (FAN) Symposium in the annual US-Korea Conference (UKC) Meeting. KAFTA is also affiliated as the North America Chapter of the Korean Society of Food Science and Technology (KoSFoST, http://www.kosfost.or.kr/) and fosters collaborations between scientists in U.S. and Korea.

KAFTA holds an annual meeting to build networking within members, to ensure communication, to recognize winners of the Research Paper Competition and sponsors, and to report activities. The annual meeting is held where IFT (Institute of Food Technologists) Annual Meeting is held, which is the world's largest conference related to food science. One of the most important activities in KAFTA is the Research Paper Competition every year. After reviewing papers by 5-10 anonymous reviewers, 4-7 awards are given to graduate students and post-doctoral associates. AFS (Advanced Food Systems Inc) awards and Swagger Foods awards are the major wards, and some other awards are given depending on the budget. Email communication is also utilized throughout the year to communicate with members and to post job announcements and other announcements. Its website, www.kafta-us.org/, keeps members updated on upcoming activities and news from U.S. and Korea.

KAFTA members can be benefited through three committees, Food Processing Committee, Food Safety Committee and Academic Committee. The Food Processing Committee is established as a technical expert group to support the export of Korean agricultural, food, and fishery products to the U.S. and further to facilitate providing safe and quality products to the U.S. consumers. The Food Safety Committee provides technical assistance to the Korean government and the private sector with emphasis on food safety and food-related health issues. Specifically, it helps introduce new intervention strategies, regulatory guidelines, and best management practices for ensuring food safety. The Academic Committee will be formed in near future to facilitate the network between faculty members.

Compared to other scientific research areas, food science has a relatively short history and, therefore, there has been lack of manpower and funds needed for researches in food science. This problem is more serious in Korea where the history is shorter than U.S. and European countries. Although there have been great efforts on globalization of Korean foods, Korean foods are still not well recognized in the world, which is inevitable due to lack of resources. One fortunate aspect is that there are many world-class Korean or Korean-American scientists working in American companies, national labs, and universities. KAFTA has taken an important role in gathering and networking Korean-American food scientists and fostering collaboration between scientists in Korea and US. It has also provided young scientists, graduate students, post-doc's who will lead the future of this society with encouragements and opportunities to advance their careers. In addition to KAFTA's own assets, the strong support from KSEA and close relationships with other associations such as the Korean Society of Food Science and Technology will further help Korean food scientists and companies.

KAFTA leadership members include President, Vice-president, Secretary, Treasurer, U.S. Advisor, and Korea Advisor with a 2-year term. These leadership members participate in organizing the annual meeting. The place, date, time, format, speakers, and topics are decided during conference calls and face-to-face meetings throughout the year. They invite judges for the Research Paper Competition and work with them to decide awardees. The leadership members also look for advices from the previous leadership members who are in industry, universities, and government

entities in U.S. After the annual meeting, leadership members meet to evaluate the meeting to improve it for the next year. They also meet leaders of Korean Society of Food Science and Technology (KoSFoST) to ask for advices. Following pictures are of past annual meetings.

Ceremony of Joh Foundation Award

KAFTA annual meeting at 2018 Institute of Food Technologists annual meeting in Chicago

KAFTA annual meeting at 2014 Institute of Food Technologists annual meeting in New Orleans

KAGES

Hyejin Yoon
KAGES President

Brief history of your society's affiliation with the KSEA

- Korea-America Association for Geospatial and Environmental Sciences (KAGES, http://www.kages.org/) established on November 17, 2008. KSEA is a non-profit organization for Korean or Korean-American students, scientists, and professionals in the geospatial-technical, environmental science, and related fields. Dr. Jeong C. Seong at the University of West Georgia was elected as the first president of KAGES in 2009 at the first general meeting. Since 2009, a total of eleven presidents have been elected.
- KAGES consists of members (regular, students, sponsor, and honorary members) and the board members (president, vice president, treasurers, three past presidents, and all elected board members including the student board member).
- All members of KAGES receive a dual membership with KSEA. The majority of KAGES members have been affiliated with the Georgia Local Chapter of KSEA. KSEA has provided the financial support for hosting the annual general meetings of KAGES and the student paper awards since 2014.

Highlights of notable achievements, events, and relevance to the mission of KSEA and your society

- The mission of KAGES is also aligned with the ones of KSEA as follows:
- Support for students developing their career success through education and research
- Support for members developing research, teaching, and services
- Promoting interactions between Korea and USA in geospatial technology and environmental science fields
- Every year, KAGES has actively recruited new members of KSEA at the general meeting by providing KAGES-KSEA dual membership.
- Every year, KAGES members actively organize and/or participate in academic sessions at the American Association of Geographers (AAG)' Annual Meeting to present their findings to communicate with other researchers from man countries in the world.
- Since the 6th general meeting of KAGES at AAG Annual Meeting held in Tampa, FL in 2014, KAGES has granted scholarships as paper awards to at least 1-2 student members sponsored by KSEA and other organizations and donors.
- KAGES has co-organized a workshop titled, "*Controversies in naming Geographical Features: A Specific Focus on Maritime Names and East Sea*" on April 15th, 2010 in Washington DC during the AAG Annual Meeting. Vice President of KAGES, Dr. Jongnam Choi contributed to organizing the workshop significantly. Also, our members, Dr. Hosuk Lee, Dr. Sunhee Sang, and Dr. Hyejin Yoon participated in this workshop as the presenters.
- Dr. Jongnam Choi, as a KAGES member, actively participated in East Sea Workshop Program at the 2015 annual conference of National Council for Geographic Education.
- A few KAGES members, including Dr. Jeong C. Seong at the University of West Georgia attended the US-Korea Conference (UKC) on Science, Technology and Entrepreneurship jointly organized by the KSEA and the Korean Federation of Science and Technology Societies (KOFST) in the past.
- Since 2018, KAGES started Mentoring Program for KAGES students to support their academic and career success.
- All active KAGES members, as also KSEA members affiliated with the Georgia Local Chapter of KSEA, participate in every annual KSEA online election as well.

Other information including statistics on current and past membership, unique stories of your society and contributions to your local Korean-American and U.S. communities.

- Since KAGES has established in 2009 with a total of 30 members, we continuously have grown. Currently, KAGES has a total of 57 active members in the 2019-2020 fiscal year, including 22 regular members and 35 student members. As KAGES-KSEA dual membership, these all active members are also active members at KSEA.
- KAGES is for a group of scholars and students whose expertise is in geospatial-technical and environmental science fields who work and study in the U.S. and other countries at the national or transnational scale. Each member has contributed to their local Korean-American and U.S. communities in various ways. For example, a few KAGES members are invited from Korea, organized, and contributed to Geographic Information Science (GIS) training to local K-12 teachers. In addition, some KAGES members are actively engaged with environmental management with the Environment Protection Agency (EPA) and the Department of Natural Resources at their local-level as well as the state-level agencies.

2016 KSEA Scholarship at 2016 KAGES general meeting during AAG annual meeting in San Francisco, CA

2017 KSEA Scholarship at 2017 KAGES general meeting during AAG annual meeting in Boston, MA

2018 KAGES general meeting and its first mentoring program during AAG annual meeting in New Orleans, LA

2019 KAGES general meeting during AAG annual meeting in Washington, D.C.

KAMPiNA

Sang-Jung Park

KAMPiNA President

On behalf of the Korean Association of Medical Physicists in North America (KAMPiNA), I would like to extend my sincerest congratulations to the Korean-American Scientists and Engineers Association (KSEA) on its 50th Anniversary.

The Korean Association of Medical Physicists in North America (KAMPiNA) is a scientific and professional non-profit organization founded on July 21, 2002. Currently, we are boasting more than one hundred active registered members who are working as medical physicists, researchers, educators, and engineers in the field of radiation oncology, radiology, nuclear medicine, and radiological sciences in the United States and Canada. About twenty graduate students, post-doctoral research fellows, and medical physics residents are also registered as student and junior members. The majority of our members are clinicians whose practice is dedicated to ensuring accuracy, safety, and quality in the use of radiation in medical procedures such as medical imaging and radiation therapy.

Over the past two decades, under remarkable leadership and with the enthusiasm of its members, the organization has been the leader in stimulating dynamic innovations in medical physics in the forms of patient care, research, and education. Further, it has made medical physics known in several Korean-American Scientists and Engineers societies. Additionally, the KAMPiNA has been affiliated with the KSEA as one of the Affiliated Professional Societies (APS) since 2013.

The primary goals of the association are:

- To share interests, resources and information among members
- To train students in medical physics and related fields
- To develop new technologies
- To disseminate technical information in medical physics and related fields
- To promote professional relationships between members and physicists in other countries
- To collaborate on research in diagnostic and therapeutic medical physics and related fields.

The KAMPiNA intends to promote the following programs:

- Activities to advance technical capabilities and industrial development in the United States and Korea
- Activities promoting the cooperation between the United States and Korea
- Scholarship and internship programs in the United States and Korea
- Technical conferences, symposiums and workshops in the United States and Korea
- Publishing and distributing technical publications, including the proceedings of KAMPiNA meetings
- Activities promoting friendship and fellowship among members
- Activities enhancing the professional and social status of the members
- Programs promoting and cultivating the next generation of Korean-American medical physicists, scientists, engineers and professionals.

In order to recognize the active and outstanding research achievements of our members, the KAMPiNA MC2 research award was initiated in 2011. The KAMPiNA MC2 research award was named after the late Dr. Myoung Chun Choi to honor his contributions and efforts toward the establishment of the association of KAMPiNA and his pioneering work in Medical Physics. From 2011 to 2014, the MC2 research award was given to the best journal paper and the best abstract presentation. Later in 2015 to 2017, the two best papers in scientific and clinical fields in addition to the best abstract were awarded. Though initially exclusive to KAMPiNA members, since 2018, the annual MC2 awards have been extended to the members of the Korean Society of Medical Physics (KSMP) as well.

Starting July 29, 2018, the KAMPiNA and the KSMP have agreed to put efforts towards improving collaborative research and renewed a memorandum of understanding (MOU). The KAMPiNA has been providing support for the establishment and advancement of KSMP medical physics board certificates and in turn, the KSMP has been inviting two KAMPiNA members as associate editors and reviewers in the journal of Progress in Medical Physics. In addition, the KSMP has been recommending KAMPiNA members as international

board members at the American College of Medical Physics (ACMP). All efforts by the KAMPiNA and the KSMP are to encourage their members to collaborate closely on their research and submit grant proposals together. Both societies collect ongoing research projects from their members and share the research information through emails and through their websites.

With our collective efforts, we have successfully held the KAMPiNA-KSMP joint meetings and US-KOREA Medical Physics Symposiums in the last decade (Philadelphia, PA in 2010, Vancouver, Canada in 2011, Charlotte, NC in 2012, Indianapolis, IN in 2013, Austin, TX in 2014, Anaheim, CA in 2015, Washington, DC in 2016, Denver, CO in 2017, Nashville, TN in 2018, and San Antonio, TX in 2019). The entire association is very thankful to the KSEA for its financial support and contributions to several of these meetings. The KAMPiNA believes that our interdependency will present an array of positive impacts on both sides. All of the KAMPiNA members anticipate future collaborations and successes through the continuous combined efforts of both parties.

Due to ongoing health concerns related to the spread of the Coronavirus (COVID-19) as well as global travel restrictions, the KAMPiNA has decided to take the 2020 KAMPiNA Annual Meeting and US-KOREA Medical Physics Symposium online. Virtual meetings will take the place of in-person meetings, which were originally scheduled for July 13, 2020, in Vancouver, BC. For further details, please see the KAMPiNA website at https://kampina.org/.

Finally, I would like to reiterate my sincere congratulations to the KSEA on behalf of all the KAMPiNA members for your wonderful journey of 50 glorious years of success. We wish you all the best for your future.

Map shows the KAMPiNA members' location over the US

AAPM KAPiNA-KSMP Korean Night, San Antonio, TX, 2019

KASBP

Soo-Hee Park

KASBP President

Brief history of your society's affiliation with the KSEA

KASBP was established in May 2001 among the Korean-Americans working in the biotech and pharmaceutical industries in New Jersey (NJ), most of whom were members of the local KSEA-NJ Chapter. In early 2000 the pharmaceutical and biotechnology industry had flourished in NJ and the biotechnology-driven KASBP naturally had drawn members from the IT industry-driven KSEA-NJ Chapter. Soon KASBP conferences were held independently or together with KSEA including North East Regional Conference (NRC) until mid-2010. KASBP promoted awareness of KSEA among the Korean-Americans in biotech and pharmaceutical industries as well as students and post-docs in the life sciences and related fields, and urged them to join as a member. As KASBP has grown to have seven chapters from west to east costs, it contributed to the increased KSEA members through local KSEA chapters. By the turn of the industries into a more fused model, the presence of KASBP affiliated with KSEA contributed became more important and many KASBP members are playing important roles in KSEA.

Highlights of notable achievements, events, and relevance to the mission of KSEA and your society

Our growth over the past twenty years allowed us to expand to seven local chapters with ~2,000 members. KASBP has contributed to sustain and promote the original mission of KSEA through meetings in its own specialized fields. One of the achievements would be the revival of Northeast Regional Conference (NRC) which was losing members due to the decreased number of IT industries in NJ. From 2011-2016 KASBP held its Spring Symposium jointly with NRC to support not only financially but also to promote the membership in KSEA. Additional achievements by KASBP was bringing in younger generation members through its symposiums to KSEA. KASBP established strong collaborations with local pharmacy schools to help them create networking connections to the more senior members. In addition, these movements led to the establishment of a local KSEA-YG chapters in several schools, examples include the Rutgers KSEA and MCPHS-KSEA YG groups. These groups did not limit their members to those in the pharmacy field but expanded membership to all students and as a result Rutgers-KSEA became a role model for following YG Chapters. KASBP is very proud of these achievements for KSEA and for the next generation of Korean-Americans.

Challenges, difficulties, anecdotes and their significance to KSEA and your society

KASBP has experienced difficulties in motivating its established members in joining KSEA. However, YG members who have not yet set their career paths see more value and are motivated in joining KSEA. KSEA offers useful meeting for YG members such as YGNITE or SEED and provides more career opportunities for YG members. KASBP gave a courtesy waiver of membership dues if the KSEA member shows proof of paid membership and designating KASBP as their first APS in her KSEA membership profile. KASBP promoted its local chapters which include SF, IL, Boston, CT, NJ, Philadelphia, and Washington DC chapters to collaborate with the local KSEA so the members of KASBP can also enjoy the benefits of KSEA and to promote networking relationships regionally among the Korean-American professionals through the generations.

Other information including statistics on current and past membership, unique stories of your society and contributions to your local Korean-American and U.S. communities.

KASBP has been one of the most active and successful APS in KSEA. In 2021, the highest number of attendees to KASBP meetings reached about 2,000 people and the number of attendees in each biannual meeting has been continuously increasing. In October 2020, KASBP held its first eSymposium under the current COVID restrictions with about 300 attendees from US and Korea. The symposium promotes the mission of KASBP and KSEA for networking Korean-American scientist and engineers and contributes to the advancement of Korean industries. Recently, KASBP's member profile expanded to more than scientists and engineers but to include professionals in all other fields that are relevant to drug discovery research and development such as clinical medicine, regulatory science, intellectual property, licensing, and investment. Accordingly, the KASBP symposium could embrace younger generation Korean-Americans through the symposium and local activities to provide them networking opportunities amongst their peers and more mentor/mentee programs to help further networking with those working in their related fields. Many alumni of the YG in KASBP became regular members and are now in leading positions in the organization. In parallel, active job fairs at each symposium attracted many job seekers and hiring companies from Korea,

not only at the graduate level but also for undergraduate level professionals to consider opportunities throughout US and Korea. This job fair assisted many Korean companies in deciding to open positions into a more global hiring process as they worked with KASBP Job Fair team.

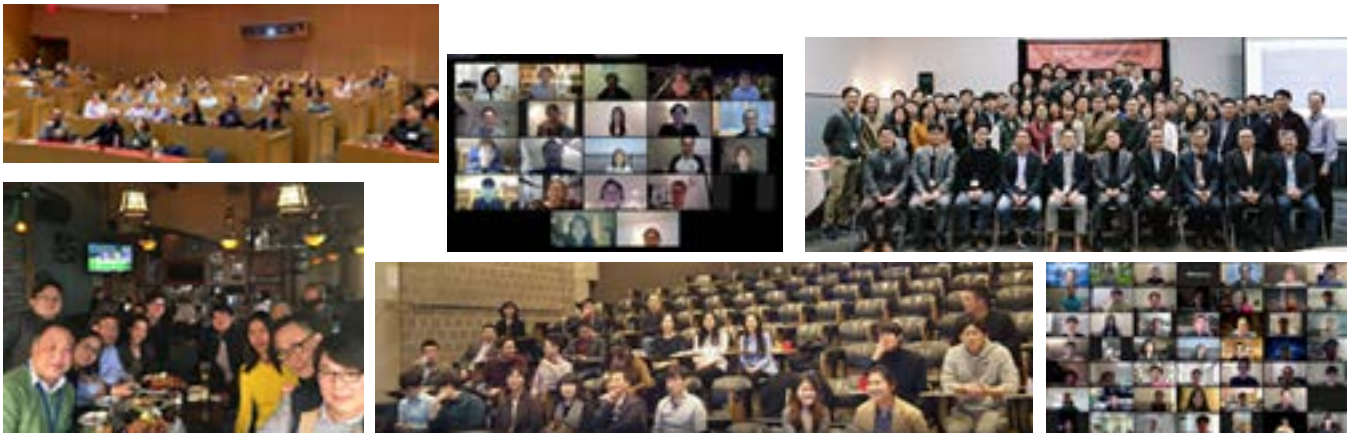
Additionally, KASBP has been providing fellowships for graduate students, post-docs, and early career professionals through poster presentations and awards during the symposium. The process involves volunteer work from the members who can donate their talents back to the organization. Participating sponsors can name the fellowship with KASBP if the sponsorship is at an appropriate level to give the company's name more exposure and pride in their sponsorship. Recently, through COVID-19, KASBP has strengthened its networking through the combined efforts of all chapters. Each chapter will hold a monthly online webinar in turns to allow all KASBP members, even those from Korea, to participate in these meetings without any limitations of geography for speakers and attendees.

Recently, KASBP has started to look into the needs of specialized groups. The small group meetings were started in the KASBP biannual symposiums and KASBP-Boston Chapter developed it into regular small group meetings which can be held monthly or as often as needed in more specified technical fields. This small group meeting promotes members working in similar field to share their experiences, trends, job opportunities, and concerns. The small group also provides an excellent source for experts in the field for Korean companies looking for a specialist or expert.

KASBP also holds its online resources through Facebook and LinkedIn networks. The group shares useful resources such as scientific progress, local meetings, fellowship opportunities, investment opportunities, industry news, and other related news while worldwide members can exchange their thoughts, and resources through various SNS technologies.

2020 KASBP Fall eSymposium: Opening Day & Fellowship Awardees

2019 KASBP Fall Symposium



Local Chapter Activities

KBMES

Ho-Wook Jun

KBMES President

Brief history of your society's affiliation with the KSEA

Korean-American BioMedical Engineering Society (KBMES) was established as June 18, 2013 with a goal to promote exchange of the state-of-the-art engineering, science, and technical information of the Bioengineering and Biomedical Engineering research and related industries. KBMES is an Affiliated Professional Society (APS) of Korean-American Scientists and Engineering Association (KSEA). The first "*Korea-US Joint Workshop in Biomedical Engineering*" was held during BMES 2013 Annual Conference in Seattle, Washington with the explicit and official support of 2013 BMES Programming Committee as well as the Korean Society of Medical and Biological Engineering (KOSOMBE). Since the first workshop, KBMES workshop has been very successful for the past 8 years, boosting the connection between US and Korea Biomedical engineers. The Workshop has been again approved to be included in the 2020 BMES Annual Meeting and will continue to serve to connect the communities of biomedical engineers in Korea and US.

Highlights of notable achievements, events, and relevance to the mission of KSEA and your society

Korea-US Joint Workshop in Biomedical Engineering has been held during Biomedical Engineering Society (BMES) Annual Conference with the explicit and official support of BMES Programming Committee as well as the Korean Society of Medical and Biological Engineering (KOSOMBE). During last 7 years, this annual Workshop has become increasingly well-known among biomedical engineers in both US and Korea, attracting >~100 PIs and trainees from both countries as part of the Annual BMES meeting. The workshop covers wide-ranging convergent technologies to better understand and improve human health by using various approaches including biomaterials, tissue engineering, mechanobiology, biotransport, neuro-engineering, exosome, and immunotherapies, drug development and delivery, medical imaging, immune cancer therapy, stem cell therapy, bionanotechnology, medical device, robotics, and artificial intelligence.

Challenges, difficulties, anecdotes and their significance to KSEA and your society

The goal of the Korean-American BioMedical Engineering Society (KBMES) is to foster international cooperation, collaboration, and networking among biomedical engineers in the U.S. and Korea and to help junior scientists fully develop their career potential. It would be best to have the networking dinner event following our annual scientific workshop so that each participant make personal connection and establish mentor and mentee relationships. To support this dinner networking event each year, the KBMES board members seek sponsorships, which has been challenging. KSEA and KBMES society share the vision for training the next generation Korean-American leaders in the Science and Technology field. Better financial support from KSEA for our annual workshop and dinner networking event is desired. The BMES Programming Committee has been fully supportive of the KBMES workshop with providing a symposium space and resources as an official program.

Other information including statistics on current and past membership, unique stories of your society and contributions to your local Korean-American and U.S. communities.

The members of the KBMES society has been 450 including faculty members, bioengineers in research institutes and industry, postdoctoral scholars, and graduate students. In addition to the annual "*Korea-US Joint Workshop in Biomedical Engineering*" workshop meeting in October, the KBMES also organizes the Biomedical Engineering symposium in the annual US-Korea Conference (UKC) in August. Throughout these on-site meeting and frequent on-line interactions, the KBMES contributes to mentoring graduate students and postdoctoral trainees cross-border between US and Korea. Some of our former predoctoral and postdoctoral members have become PIs and faculty members in US and Korea. They have been actively involved in the KBMES activities.

Year	Conference	Plenary Speakers	# of Attendence	Sponsors
2013	BMES in Seattle, WA	Hanjoong Jo (Georgia Tech & Emory U), Luke Lee (UC Berkeley), Robert Nerem(Georgia Tech)	Six invited talks (3 from US and 3 from Korea), Workshop attendee: 80	KSEA SI healthcare Ltd.
2014	BMES in San Antonio, TX	Cheng Zhu (Georgia Tech & Emory U), Alex Revzin (UC Davis), Michael Cho (UIC), Junghae Suh (Rice U)	Ten invited talks from US and Korea Workshop attendee: 120	KSEA, KUSCO T-Plus
2015	BMES in Tampa, FL	Christine Schmidt (University of Florida), Ravi Bellamkonda (Georgia Tech and Emory University)	Nine invited talks from US and Korea, Workshop attendee: 100	KSEA, T-plus, KIST
2016	BMES in Minneapolis, MN	Roger Kamm (MIT, Plenary Speaker), Lonnie Shea (Univ. of Michigan)	Nine invited talks from US and Korea, Workshop attendee: 100	KSEA, KIST
2017	BMES in Phoenix, AZ	David Moony (Harvard U, Plenary Speaker), Darrell Irvine (MIT, Plenary Speaker)	Nine invited talks from US and Korea, Workshop attendee: 70	KSEA, KIST, Future Bioworks
2018	BMES in Atlanta, GA	Ashutosh Chilkoti (Duke University), Shuichi Takayama (Georgia Tech)	Nine invited talks from US and Korea, Workshop attendee: 120	KSEA, KIST, Cosmetics Technics Korea
2019	BMES in Philadelphia, PA	Edward Guo (Columbia University), Jason Burdick (University Pennsylvania)	Eight invited talks from US and Korea, Workshop attendee: 100	KSEA, KIST, KUSCO, RadianQBio

KITEE

Kyeong Ho Yang*, Myung Jong Lee**, and Dong Sung Suk***

**Founder and the 2nd President, **the 1st President, ***the 1st Chairman of KITEE*

Inauguration and Mission

KITEE (Korean-American Innovative Technology Engineers and Entrepreneurs) was established in May 2015 as a not-for-profit with the mission to help technologists transform themselves to technology entrepreneurs by offering professional services in technical, business development, marketing, management, legal, and financial areas, and providing opportunities to network and exchange ideas with their future startup partners. KITEE aimed to become the center of the startup ecosystem for Korean-Americans in the greater New York metropolitan area and the east coast. The KITEE's business ecosystem features essential entrepreneurial components to startups: human capital in innovative technologies, finance, business service, startup incubation, education/consulting, and collaboration with Korea.

Activities

Monthly Member Meeting

KITEE has held monthly meetings since its formation, carrying out the series of initiatives toward creating startups with the following thrusts:

- Provide opportunities to meet and exchanges ideas,
- Offer supports for transformation of ideas to business,
- Develop business opportunities in various technical disciplines and their convergence,
- Promote collaboration of US-Korea Small and Medium-sized Businesses (SMB), and
- Connect young entrepreneurs and seasoned innovators and business mentors.

The meetings were held in person in the NY/NJ area before the COVID-19 pandemic and virtually through video conference platforms during the pandemic, during which, KITEE allowed Korean-American scientists, engineers, and developers in other States to attend the meetings by taking advantage of the inherent characteristic of online meetings. As a result, its membership was expanded to the entire US with substantial increase.

Mentoring Program for Korean Startups

For US-Korea collaboration, teaming up with the Korea Small & medium Business Corporation (SBC), KITEE has provided technical and marketing mentoring services to selected Korean startups. Owing to the great success of its first program launched in November 2016, SBC decided to run the program twice a year and the second-year programs were completed in May 2017 and November 2017. The feedback from both KITEE mentors and the mentees was very encouraging. KITEE is very proud of its responsible, experienced, and well-prepared mentors who made the program a great success. The mentoring program continued in a variety of formats in collaboration with KOSME (Korea SMEs and Startups Agency, formerly SBC). Before the pandemic, the program was run for 1-3 weeks in the NY/NJ area where the office of SBC/KOSME USA was located. During the pandemic in 2020 and 2021, the mentoring program was run virtually but with more startups from Korea. Via online mentoring, experts from other states were also included in the pool of mentors, allowing mentoring services of better quality.

Idea Pitch Competition

In 2017, under the theme of "*Igniting Entrepreneurship*", KITEE continued to provide professional services and quality seminars by inviting experts in legal, intellectual property (IP), accounting, and finance areas, outstanding entrepreneurs, engineers, and investors. To further promote

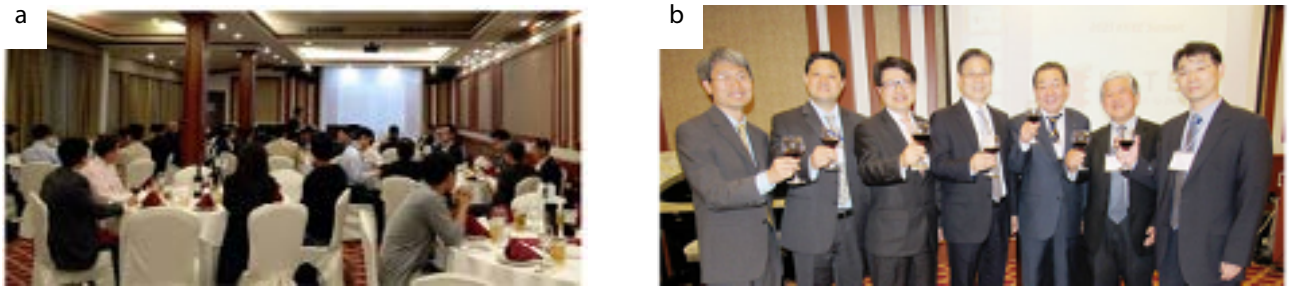


Fig. 1 Photos from the inaugural meeting of KITEE on May 21, 2015: (a) attendees listening to the presentation on KITEE and (b) Co-chairs of the KITEE Foundation Committee toasting success – Kyeong Ho Yang, Dong Sung Suk, and Myung Jong Lee (1st, 2nd, and 4th from right, respectively)

entrepreneurship of KITEE members and to help members build promising startups, KITEE held its first Idea Pitch Competition (IPC) on May 31, 2017, where nine groups of KITEE members presented their ideas to win the competition and the support from KITEE. The IPC continued annually, and its 4th event was held on October 5, 2020 virtually due to the pandemic. The 1st Prize was sponsored by KOSEN (Korean Scientists and Engineers Network) which is under the Korean Ministry of Science and ICT. The IPC demonstrated the fruits of members' collaborative activities. It is encouraging to see that some of the awardees in KITEE's IPC have participated in the UKC Startup Pitch Competition and made into finalists. In 2021, KITEE is co-hosting the New York K-Startup Pitch Competition (November 2, 2021) together with the K-Startup New York Alliance that was formed in July 2021 by the Consulate General of Korea in New York, KITA New York, KOTRA USA, KITEE, KOCHAM, CUNY, and KSE, and KITEE President Kyeong Ho Yang is leading the preparation for the competition.

Collaboration with KSEA

KITEE became the 30th Affiliated Professional Society (APS) of KSEA in 2017 and was ranked at the 6th out of 31 in the number of paid KSEA membership in FY 2020-2021. KITEE has been closely working with KSEA since its formation through KSEA local and headquarter programs. KITEE has organized the Entrepreneurship forum of the KSEA Northeast Regional Conference (NRC) since its inception in 2016 to promote the entrepreneurship of Korean-American scientists, engineers, and students in the NY/NJ/Philly area. KITEE actively participated in the preparation of most KSEA entrepreneurship and startup events including the Innovation and Entrepreneurship Symposium (IES) and Startup Pitch Competition (SPC) (started in 2019, Kyeong Ho Yang: Co-chair in 2019 and 2020, and Chair in 2021) during UKC 2019-2021, the Science and Technology Entrepreneurship Partners' Upscale Program (STEP-UP, started in 2020, Kyeong Ho Yang: Chair in 2020 and 2021), and the KSEA-KITEE Monthly Entrepreneurship Webinar that started on July 29, 2021. KITEE has also supported the Startup Showcase of Ygnite since 2020 by sponsoring a competition award, organizing and running sessions for Korean startups, raising funds from Korean government agencies, and advising the preparation of the startup program. Albert Kim, Joonyul Kim, Kooksang Moon, Tae Heum Jeong, and Chris Lee have also worked in the Committees of the IES and STEP-UP, representing KITEE. KITEE is probably the APS that is most actively collaborating with KSEA for the last 5 years.

Epilog

KITEE turned into its 7th fiscal year and is working to find a sustainable business model that includes (i) increased pool of dedicated and experienced members in various areas including non-technical areas, (ii) young members with passion for starting their ventures, (iii) stronger partnership with KSEA and Korean government agencies, and (iv) profitable businesses for sustainable incomes that would be invested on KITEE member companies.

Current KITEE Members are comprised of engineers and researchers in various technical areas including IT, Biotech, and FinTech, developers, designers, entrepreneurs, investors, students, and experts in HR, financial, and legal areas. KITEE is open to anyone in the US and Korea who is interested in the entrepreneurship (contact: info@kitee.org, web: www.kitee.org).

Fig. 2 Photos from the KITEE activities: (a) a panel discussion at the monthly member meeting at Samsung Electronics USA on September 22, 2015, (b) member meeting at the Consulate General of Korea in New York on March 24, 2016, (c) Korean startup CEOs (mentees) and KITEE Board members toasting big success at the year-end party on December 8, 2016, and (d) the 2nd KITEE Idea Pitch Competition at LG Electronics USA on May 2, 2018

KOTAA

Seri Park

KOTAA President

My memory with KOTAA and KSEA cannot be told without Dr. Hosin Lee. I was always curious about how Dr. Hosin Lee, a pavement engineer, has been involved in the KOTAA from the beginning, which was mainly composed of transportation engineers and urban planners. According to Dr. Lee, KOTAA history all started in 1989 during the annual Transportation Research Board (TRB) conference at Washington DC, with an upgrade of his hotel room to a very large hospitality suite in Marriott Hotel. That's when Dr. Lee met many Korean people attending the annual TRB meeting and he wanted to get to know them better as always. So, it was a great opportunity to call for the Korean people's meeting and he posted flyers inviting all Koreans attending the TRB meeting to his hospitality suite for free beers and snacks. He assigned a mission to some students from Ohio State University to smuggle Heineken beers to the hotel and many Korean people came to his hospitality suite for free beers. In his recollection, Dr. Myungsoon Chang (Professor, Hanyang University) and Dr. Kang-Won Wayne Lee (Professor, University of Rhode Island, 36th KSEA President) came to his party. Later, Dr. Hosin Lee met Dr. Duk Myung Chang (Research Associate at Texas A&M University) and Dr. Kyungwoo Kang (Researcher at New York Port Authority) in their hotel room, who have proposed to create an organization called Korean American Transportation Association (KATA, the former name of KOTAA). With the inception of KATA, the first official meeting was held the following year, 1990, during the annual TRB meeting under the leadership of President Dr. Robert Bumjun Lee, President of Urbitran Associates. It started small and, in 1992, the name was changed to Korean Transportation Association in America (KOTAA) and early this year, KOTAA celebrated its 31st birthday with the new decade, 2020.

My first involvement with KSEA as 40th Administration's FD dates back to 1999 when I first met Dr. Hosin Lee (40th Admin President) at this KOTAA annual meeting, the year when Dr. Lee got elected as KOTAA President for the following term. Having served as KOTAA secretary during Dr. Lee's presidency helped me prepare as the KSEA FD. I think this is an example of close relationship between KOTAA and KSEA. More than 160 KOTAA members are currently registered as KSEA members and over two decades KOTAA has produced four KSEA Presidents (36th Dr. Kang-Won Wayne Lee; 40th Dr. Hosin Lee; 44th Dr. Youngsoo Richard Kim; and 48th Dr. Jun Seok Oh), not to mention the 50th President-Elect, Dr. Brian Park (former secretary and President of KOTAA). A notable program where KSEA plays a significant role in KOTAA's function is the support for KOTAA's Travel Grant program. Initially founded by Dr. Hosin Lee and first implemented in year the 2003, the aim of this Travel Grant program is to support Korean graduate students whose paper got accepted for the annual TRB meeting. This travel grant program was expanded by the next KOTAA President Dr. Youngsoo Richard Kim (44th KSEA President) by obtaining a significant amount of funds from the Korean Society of Pavement Engineering (KOSPE). To date, more than 200

Group Picture of KOTAA Annual Meeting

graduate students have received the KOTAA Travel grant, a KOTAA-KSEA-Korean Society of Transportation (KST) jointly supported program.

KOTAA's annual meeting is the venue where graduate students and professionals gather together and network while attending the TRB annual meeting. Hence, KOTAA's function as the bridge between many scholars in U.S. and Korean agencies & companies is another area that many KOTAA members appreciate. Many stories and news of KOTAA are well archived here.

KOTAA is the one with a long and rich history among many APS's in KSEA. And I believe that KOTAA's future is bright with all encouraging facts and I look forward to our upcoming exciting years to go together with KSEA. Embracing this new decade, I also wish Happy 50th Birthday to KSEA!

Dr. Hosin Lee, Founder of KOTAA Travel Grant program and 40th KSEA President, presenting at the annual KOTAA meeting.

Dr. Jun-Seok Oh, 48th KSEA President, introducing KSEA at the annual KOTAA meeting.

KOTAA Travel Grant Awardees with KOTAA Scholarship Committee

KSCEE

Jun-Seok Oh

KSCEE President

Introduction

The Korean-American Society of Civil and Environmental Engineers (KSCEE) was established on August 12, 2011 during the US-Korea Conference at Park City, Utah, and became one of KSEA's affiliated professional societies (APS). As an association, KSCEE is open for any Korean or Korean-American professionals residing in North America and working for civil, environmental, transportation, structural, and other related infrastructure research, education, and industry, with a Bachelor degree or above. The objectives of KSCEE are promoting fellowship among Korean American civil and environmental engineers and helping members and junior professionals to achieve their fullest career potential through networking and sharing the technical information. KSCEE is operated as a non-profit organization and conducts the following activities to achieve its objectives:

- Activities to promote fellowship among members.
- Activities to share information, provide career advices, and support technical advances in the areas of civil and environmental engineering in North America and Korea.
- Other activities to promote professional growth opportunities of the members.

KSCEE Presidents

At the KSCEE's inaugural meeting in 2011, Mr. Steve Ro, the President of Lee & Ro Inc., was elected as the first president of KSCEE. Since then, Drs. Kangwon Wayne Lee, Hosin David Lee, and Youngsoo Richard Kim succeeded the president positions, and Dr. Jun-Seok Oh is currently serving as the president. Interestingly, recent four KSCEE presidents were former presidents of KSEA.

- 2011 - 2014 Steve Ro, Lee & Ro Inc.
- 2014 - 2016 Kangwon Wayne Lee, University of Rhode Island
- 2017 - 2018 Hosin "David" Lee, University of Iowa
- 2018 - 2019 Youngsoo Richard Kim, North Carolina State University
- 2020 - present Jun-Seok Oh, Western Michigan University

Annual Meetings

KSCEE hosted its annual meetings at the US-Korea Conferences except the 10th annual meeting that was held virtually due to the COVID-19.

- Inauguration Meeting – Park City, UT, 2011
- 2nd Annual Meeting – Anaheim, CA, 2012
- 3rd Annual Meeting – New Jersey, NJ, 2013
- 4th Annual Meeting – San Francisco, CA, 2014
- 5th Annual Meeting – Atlanta, GA, 2015
- 6th Annual Meeting – Dallas, TX, 2016
- 7th Annual Meeting – Washington DC, 2017
- 8th Annual Meeting – Queens, NY, 2018
- 9th Annual Meeting – Chicago, IL, 2019
- 10th Annual Meeting – Virtual, 2020

KSCEE Activities

As KSCEE includes many areas in civil and environmental engineering areas. KSCEE's typical activities include technical seminars and leadership forums for members in addition to the annual meeting. KSCEE has the following five technical groups and their activities are led by group leaders.

Fig. 1 Presidents of KSCEE
From the left Steve Ro (2011 – 2014) , Kangwon Lee (2014 – 2016), Hosin Lee (2016 – 2018), Youngsoo Kim (2018 – 2019), Jun-Seok Oh (2019 – 2021)

- Construction Engineering
- Environment/Water Engineering
- Geotechnical Engineering
- Structure Engineering
- Transportation Engineering

Collaboration with Korean Partners

KSCEE closely works with Korean partners. KSCEE established memorandums of understanding (MOUs) with the Korean Society of Civil Engineers (KSCE) and Dohwa Engineering Co. Ltd. in 2013 and with the Korean Society of Road Engineers (KSRE), the Korean Institute of Construction Technology (KICT), and Korea Water Resources Corp (KWater) in 2014. These MOUs have helped in developing a solid platform to achieve members' fullest career potential through networking and sharing technical information with engineers in our motherland. The close relations with Korean partners have enriched KSCEE's activities by co-hosting forums and meetings. Especially, the collaboration with KICT has been very successful. KICT researchers join in UKC and co-host the KICT-KSCEE forum every year during the UKC.

Travel Grant Awards for Attending UKC

KSCEE awards travel grants every year to students and post-docs who present their papers at UKC and attend the KSCEE annual meeting. This travel grant is aimed at encouraging more students and postdocs to attend the UKC and join KSCEE. The grant awardees also have an opportunity to present their work at the KSCEE annual meeting.

Conclusions

KSCEE has been successful in building a close relationship and sharing information and knowledge among members to promote professional growth opportunities. KSCEE has also promoted KSEA activities by closely working together with KSEA. While KSEA has been an umbrella organization for many technical areas in science and engineering, the leading society like KSCEE can play a direct role in working with members in the technical group as a representative organization. This could be a good example for the future KSEA.

Fig. 2 The 2nd Annual Meeting at Garden Grove, California in 2013

Keynote speaker: Dr. Young Joon Kim (GIST President) and the audience

Fig. 3 MOU Signing with KSCE (Left) in 2013 and KSRE (Right) in 2014

Fig. 4 Annual meeting at New York in 2018

NIH-Korean Scientists Association (NIH-KSA)

Hee-Yong Kim

NIH-KSA President

National Institutes of Health (NIH) is the world's largest premier biomedical research institution (with total budget of $40.3 billion in 2020) that supports creative research for turning scientific discoveries into human health. NIH is made up of 27 institutes and Centers, and funds approximately 325,000 extramural researchers in over 3,000 research organizations, mostly in universities. NIH also supports the intramural research program with 10-15% of the total budget. Out of over 20,000 employees of NIH, about 7,000 scientists work in approximately 1,000 laboratories of the intramural program led by principal investigators.

NIH-Korean Scientist Association (KSA) started in 1990 by a few intramural Korean scientists in the NIH main campus in Bethesda, MD. Only a handful of senior scientists and less than 30 postdoctoral fellows, mostly visiting from Korea, were the initial members. Dr. Johng Sik Rhim, then a senior investigator at National Cancer Institute (NCI), was the first President of NIH-KSA, establishing the tradition of social and scientific interactions among Korean scientists at NIH. Although the number of tenured Korean senior investigators did not increase much over the past 30 years, the new generation rising stars are steadily increasing in recent years as Korean tenure track investigators in the intramural program. The current NIH-KSA membership consists of 8 senior investigators, 8 tenure track scientists, approximately 300 postdoctoral/research fellows and around 30 staff scientists in the intramural program as well as a few program directors and scientific review officers in the extramural program. NIH-KSA promotes research activities among Korean and Korean-American scientists by sharing scientific information and resources, and organizing monthly seminars and annual scientific symposium. NIH-KSA also facilitates the Korea-US science and science policy communications related to NIH through collaboration with delegates from Korean government and organizations. Just as importantly, NIH-KSA stimulates social interactions and networking among members by posting news/announcements, and organizing picnics and Lunar New Year's Party.

The following is the list of NIH-KSA presidents; 1. Dr. Johng Sik Rhim (1990-1991); 2. Dr. Young-Ae Shin (1992); 3. Dr. Soo-Il Chung (1993); 4. Dr. Sang-Shin Park (1994); 5. Dr. Byung-Kook Lee (1995); 6. Dr. Sue Goo Rhee (1996); 7. Dr. John C. Chah (1997); 8. Dr. Chang H. Paik (1998); 9. Dr. Moon-Bin Yim (1999); 10. Dr. Myung Hee Park (2000); 11. Dr. Seong-Jin Kim (2001); 12. Dr. Byoung Joon Song (2002); 13. Dr. Hemin Chin (2003); 14. Dr. Soo-Ja Kim (2005); 15. Dr. Moo-Kwang Park (2004); 16. Dr. Hee-Yong Kim (2006); 17. Dr. Kyung Sang Lee (2007); 18. Dr. Min-Kyung Song (2008); 19. Dr. Sean Bong Lee (2009); 20. Dr. Kyungjae Myung (2010); 21. Dr. Jung-Hyun Park (2011); 22. Dr. Jaeyul Kwon (2012); 23. Dr. Sohyun Ahn (2013); 24. Dr. Byung-Kook Lee (2014); 25. Dr. Myong-Hee Sung (2015); 26. Dr. Young Suk Oh (2016); 27. Dr. Byoung-Joon Song (2017); 28. Dr. Myung Hee Park (2018); 29. Dr. KyungSang Lee (2019); 30. Dr. Hee-Yong Kim (2020)

NIH-KSA Annual Bioscience and Engineering Symposium (2015, 2018, 2019)

NYKB (New York Korean Biologists)

Jungeun Baik

NYKB President

I am Jungeun Baik, the 12th president of the New York Korean Biologists (NYKB). It is a great honor to be able to introduce the development of NYKB and cooperation with KSEA as we celebrate KSEA's 50th anniversary.

NYKB, one of the largest non-profit Korean life scientist organization in the United States, is established for supporting Korean Biologists around New York Metro area to pursue academic and professional excellences in their research and career by contributing to the formation of a close network between Korean Biologists in New York and the world.

NYKB is an organization that extends and succeeds the New York Korean Society for Biosciences, found and operated by Prof. Cho Dong-hyeop and Prof. Jin-ok Lee of Weill Cornell Medical College in 1978. NYKB has successfully held annual conferences under the auspices of KSEA since 2008, and now NYKB has become one of major KSEA-APS consisting of over 200 Korean-American biologists including faculty, postdocs, and students at ten academic institutions in the New York area such as Albert Einstein College of Medicine, Stony Brook University, Cold Spring Harbor Laboratory, Columbia University, Weill Cornell Medical College, Memorial Sloan-Kettering Cancer Center, Mount Sinai School of Medicine, New York University, Rockefeller University, Rutgers University.

About 170 NYKB members are currently KSEA members. NYKB members who join KSEA also participate KSEA presidential elections and various KSEA events (UKC: US-Korea Conference, NRC: North regional conference, KMSO: Korea Math and Science Olympiad, Young Scientist Night, Picnic). Through these participations of KSEA events, NYKB members can have more opportunities for networking.

NYKB annual conference is the largest and the only conference for Korean Biologists in the New York metropolitan area to encourage networking. NYKB annual conference will be held to promote active scientific collaboration, networking, and career development of Korean and Korean-American scientists in New York area. Speakers have great opportunities to present their work and meet other researchers in frontier and broader area of biological sciences. The ultimate goal of our NYKB conference is to foster the next generation of global life science and technology leaders. Furthermore, it will expand the international base of Korean science and technology by establishing a network and database of Korean bio scientists in the New York area. And also, NYKB Annual Conference is to promote KSEA membership activities through the NYKB scientific conference with the sponsorship of KSEA. With the support of KSEA, NYKB was able to hold annual conferences every year. Dr. Steven Suh who was a chairman of the KSEA made the conference more meaningful by giving an opening remark in 2019.

In addition, NYKB also strongly encourages NYKB members to communicate and share their research achievements and scientific knowledge with the Korean and Korean biologist communities. As part of these efforts, we have operated a [NYKB-Korea seminar linkage program] from 2019, [Korean Press release distribution program for NYKB researcher's achievements] from 2020. More recently, NYKB successfully held a [Korean-American Bioscience Forum 2020] in a virtual format in collaboration with the two largest Korean life Scientists associations (NEBS: New England Bioscience Society, KOLIS: KOrean LIfe Scientists in the bay area) in the United States. By doing so, we were able to contribute to the formation of a close network among Korean and Korean-American life scientists in the United States. Furthermore, with the support of KSEA, we opened a NYKB YouTube channel from October 2020 to actively communicate with our members.

These efforts of NYKB will offer a strong and wide range of networks between Korean Biologists and Korean-American Biologists and will provide new perspective of biology area to Korean companies, institutes, and government. It will greatly contribute to connecting Korea and USA in biological science field. Especially, New York is taking a leap forward as a biotech hub through its geographical accessibility. It means diverse collaborative research is doable between world-class universities and research institutes, big pharmaceutical companies, and big investment companies. Because of the strength of New York and NYKB's passionate efforts,

many Korean biologists and Korean biologists in the world will participate in NYKB's various events to form a close network with NYKB members and provide opportunities for collaborative research with outstanding research groups. The collaboration leads to synergistic effect on the research and furthermore it can be a bridge between Korea and the US.

NYKB is a next-generation Korean biologist organization that will lead the future of life sciences and biotechnology, and through close cooperation with KSEA, NYKB will continue to play a central role in the formation of practical networking among Korean biologists in US and the world.

Part IV

Young Generation and Women Scientists and Engineers

Chapter 11

Young Generation

- Young Generation (YG) History
- Beginning of Regional and HQ-Level YG Activities
- Historical Perspectives of the KSEA Young Generation (YG)
- Youth Science and Technology Leadership Camp (YSTLC)

Young Generation (YG) History[1]

Dennis Yuntae Cha* and John H. Lee**

**YG Committee Chair and and **former YG Committee Chair*

Beginnings of National YG Activities

Prior to 1999, Young Generation (YG) activities took place within the UKC program and at the student chapter level One of the earliest identified student chapters was the KSEA chapter at UC Irvine (UCI) in 1995. It was founded when John C Lee, an undergraduate, took the idea to KSEA Professor Kane Kim. At that time, there was already a Korean- American computer science club, and they were interested in connecting it with the broader KSEA organization. The student chapter at UCI had strong initial leadership and was a very successful organization. This group built a very strong relationship with the KSEA Southern California Chapter, supporting the regional events, and while Professor Thomas Hahn was national president in 1999, also drove the volunteering efforts at the UKC at UCLA.

The challenge of developing a YG in KSEA and building out the demographics of KSEA was a well-known concern and a priority for KSEA. In 1995, President Moon Won Suh writes "*Where are you the 2nd Generation Korean-American Scientists? ... [w]e have not been able to make any dent on [this] major issue.*" Also that year, Samuel Lee writes, "*Is KSEA relevant to young Korean-American scientists and engineers?*" and started efforts around mentorship and creating a network. While there were YG members in KSEA, they were looking to build the network and identify leaders to help lead at the local chapter level.

The year 1999 was when serious national level events began. In that year, the 1999 Young Generation Leadership Conference was held. It targeted the challenge around building out the younger 1.5 and 2nd generation demographic, and was a relatively large event with 76 participants. This was followed by the YTEC conference in Seoul in 2000, and in Chicago in 2001; a leadership forum in 2001, and YGLF from 2002 to 2004. The vision for these events is summarized in the vision and purpose for the YGLF:

> *Rapid growth of YG Korean American alters demography of Korean American Communities in every sector, and KSEA is of no exception. These new constituents are typically 1.5 and 2nd generations who were either born in the States, or brought to the States at their early ages. The YG members have visions that are more akin to Western ideology and practices, and have much wider demographic distributions in terms of gender, training, and profession, which include science, engineering, medicine, law; business management, public policies, and etc. KSEA must reach out to YG Korean Americans in order to sustain healthy growth and continuity of KSEA into the next generation. As we embrace and welcome these new constituents, we face new challenges, both in organizational structure and in developing activity programs,*

Fig. 1 Photos from the first national YG Conference. Tom Oh is in attendance in the right photo, on the far right.
See https://ksea.org/us/1999/05/20/ksea-letters-vol-27-no-4/ for more information on the Young Generation Leadership Conference.

1 With interviews from Hosin David Lee, John C Lee, Benjamin C Lee, SJ Claire Hur, Israel Sun Min Jung, Michael J Lee, Stella Chun, Katherine Cho, Daegene Koh, Jonathan Kim, and Clara Kim.

*The purpose of the KSEA-2002 Leadership Forum (***Fig. 2***) is: (i) to identify and develop network of YG members who can lead YG activities at the local chapters, (ii) to inform attendees about the KSEA's programs and activities in national and local levels, and (iii) to share ideas and experiences related to local chapter and/or YG activities. Through a better understanding of the KSEA organization and sharing new ideas and experiences from other local chapters, it is expected that the attendees will be better prepared to lead their respective chapters, which will, in turn, benefit the KSEA.*

Through these events, KSEA was making the effort to build the YG organization, catering to the different needs of the 1.5- and 2nd Korean-American generations and the different stages in their careers (college, graduate, post-doc, and young professionals). To achieve this, the program included discussions on KSEA History, KSEA Future, Chapter activities, in addition to brainstorming for what programs should be built in YG and how to structure and deliver YG programs within KSEA. Recommendations included mentorship, internships, creating networks and building more formal YG roles and support structures in KSEA. However, later years would show that these strategies did not have enough critical mass to move forwards, making it difficult to execute on these transformational changes. John C Lee and Benjamin C Lee were participants in these early meetings.

In 2004 and 2005, Professor Hosin David Lee decided to increase the efforts at the national level. The idea was to build upon the success and the model of the highly popular Young Generation Forum (YGF), a week-long forum for ethnic Koreans Scientists and Engineers from all over the world. He writes:

When I was chair of KSEA YG Committee, I went to Korea as a supervisor [for] all [the] 120 YGF participants from all over the world and Korea (not just 40 participants from US) in early July 2004. [The] YGF participants from USA became friends and they wanted to get together again among themselves.

Fig. 3 The first YGTLC

So, I proposed it to President Sung Won Lee to allocate the fund to organize the first YGTLC, which was held in San Francisco, January 3-4, 2005 … [with] [f]inancial support … from KUSCO.

Fig. 2 YG Leadership forum held in May 10-11 at the KSEA HQ in Vienna, VA

I coined the YGTLC name to emphasize "Leadership" and produced the proceedings of papers from participants. The [i]dea was to create a conference like UKC for the 2nd generation [Korean-Americans] with mostly in students/industry backgrounds (compared to first generation academia for UKC).

I previously organized the YGLF (YG Leadership Forum) in June in 2003 and 2004 in a smaller scale (about 15 YG's) for just one day and it can be considered predecessor of YGTLC with two and a half days with a focus on leadership training and paper presentation. Although I … prepared [the] … program and proceedings, I wanted the YGTLC to [have YG leadership] … and invited two undergraduate students from UC Berkeley, Joshua Hyokun Jun and Charles Sangjune Lee, to serve as co-chairs.

Given the limited time of planning (less than 6 months), I invited YGF participants from the USA and Korea to attend the YGTLC.

These initial YGTLC conferences were successful both from the participants' viewpoint and from the standpoint of building a network of YG leaders. Of special value was the national-level networking opportunity that the event created. For example, one participant writes:

I am not sure what I want to do, but through this event I feel inspired to work hard … I liked meeting students from all over the country – I hope KSEA keeps the YGTLC national.

The positive responses from the participants demonstrated that this was the event that the YG were interested in growing, and taking ownership of. While there are many broader questions remaining on growing YG in KSEA, the focus was to have "*National YGTLC … train future KSEA leaders,*" as John C Lee wrote in 2006. Although it was difficult to create an overall strategy for YG, focusing on building KSEA leaders in the YG became the approach for the following decade.

Growth of YGTLC and building the foundations for YG leadership

Having a successful event with strong support from KSEA was a key enabler for growing the YG. The event provided a much-needed place where promising 1.5- and 2nd generation Korean-Americans around the nation could grow their networks, learn about the organization and prepare themselves for future leadership roles.

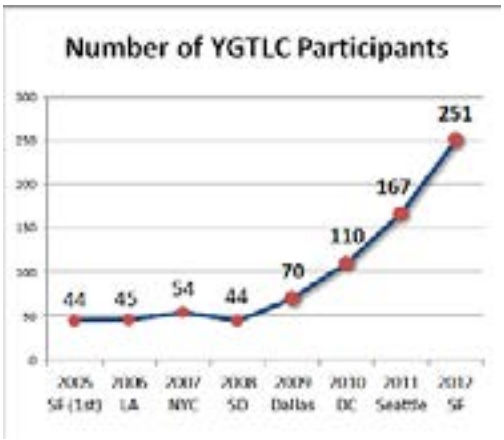


Fig. 4 YGTLC growth

The positive sentiment for the event was carried with an interest from some of the participants to contribute and take on leadership roles. However, the challenge was steep–the appetite for the conferences grew rapidly, with the conference doubling in 2 years from 2008 to 2010, and more than doubling two years thereafter (see **Fig. 4** YGTLC growth). This success led to a corresponding challenge of building a leadership structure to support the large scale for YG national events.

Benjamin C Lee was one of the first YG leaders in KSEA. He had heard about KSEA in the 90's as an undergraduate student in Cornell, and had an important positive experience at the 2003 YGF and at the subsequent YGTLC events. He, along with Christian Hong, was asked by John C Lee to help with the 2009 YGTLC, which he accepted.

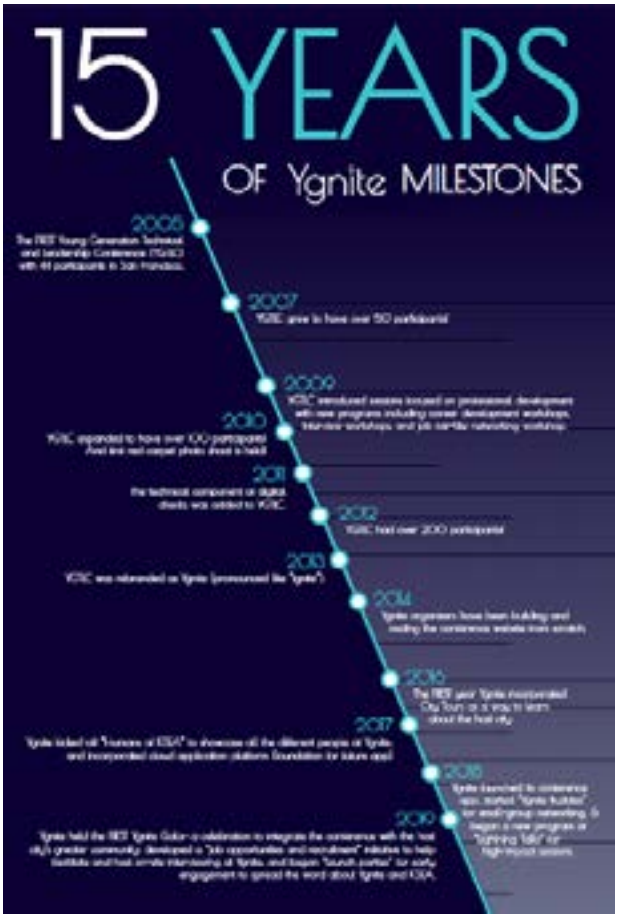


Fig. 5 Major changes in YGTLC/Ygnite

John C Lee and Benjamin C Lee both understood early on that the key to a successful organization was stability in the leadership and organizing body. One of the largest challenges at that time was the turnover in the YG leaders. The nascent organization struggled to provide enough support, political cover, and institutional knowledge to support the new organizers. In preparation, the early YG leaders were committed to building out a support structure to lower the barrier for new YG leaders, and improve the organizing experience. This included careful documentation of practices and records, strong support from past leaders, and building a supportive culture amongst the organizers. Israel Sun Min Jung notes about the organizing culture: "*[I] wanted to give back … through YGF, YGTLC, felt like he received a lot, and [I] wanted to help connect people and bring people in.*" In addition there was great continuity in the leadership structure with many of them playing roles to this day in supporting the YG:

Tom Oh, Benjamin C Lee, John H Lee, Israel Sun Min Jung, Stella Chun, and SJ Claire Hur.

The conference has evolved over time (see **Fig. 5** Major changes in YGTLC/Ygnite). The early program focused on invited speakers, technical presentations by the participants, followed by a teambuilding exercise and a leadership talk. The initial changes focused on expanding on the professional development, creating multiple tracks at the conference, and broadening the participant-driven programming, and where each participant was expected to contribute through essay, panel presentation, or research presentation. In 2013, the conference rebranded to a modern name – Ygnite.

The YGTLC grew to around 251 participants in 2012 , and continues to attract a similar number of participants today.

Building the leadership pipeline

One of the key goals of the early YG leaders was to create a pipeline of YG leaders through YGTLC (see **Fig. 6** YGTLC Chairs). One of the key challenges was providing YG leaders a positive leadership experience. This was due to the yearly change in the broader KSEA leadership, the nascent YG organization with new inexperienced organizers, and the lack of best practices. There were many cases where the early YG leadership had negative experiences and left the KSEA organization.

To overcome this, YG focused on three key areas: increasing retention, identifying and growing new leaders, and building institutional knowledge. These were multi-year goals that would form the foundation to a positive organizing culture.

In addition, the organization relied on strong personal connections, developed over time to create a positive leadership development experience:

> *"There was this understanding that the organizing team was strong, and could work out major challenges together." Daegene Koh*

> *"When there is a pain point, people try to resolve things – they contribute to fix things. KSEA has set a high standard and expectation for me in working with other people." Michael J Lee*

> *"[the conference co-chairs] continued to check in on me, and [when I was put in charge of other organizers that were more senior I] learned a lot from them. [They] taught [me] how to set up and execute meetings." Clara Kim*

> *"There was a culture of reaching out to organizers. [When I was chair, I made it a point to] reach out to each person in the organizing team at least once. Every week, I would also share the accomplishments for each of the teams to celebrate." Katherine Cho*

In addition, there was a focus on organizers as individuals and not as workers. This is not to say that things were perfect – there are still many cases where organizers needed to take a break to recover – however, there was an understanding that they will be welcome back when they are ready to contribute again.

Fig. 6 YGTLC Chairs

The use of the international/national YG events to grow YG leaders has been a successful approach. While many of the leadersinterviewed had contact with KSEA beforehand either on campus or through colleagues, all of those interviewed did not become deeply involved until after their involvement in YGTLC and/or YGF. They were drawn by the brand and the value that they receive from the event, as well as the allure of becoming a leader and organizer for the events. This continues to be the key avenue for identifying and developing KSEA leaders.

The retention for the organizers can be attributed to the personal connections, and the strong emphasis on development and growing others:

"Greatest achievement was recruiting others … it means a lot that [others] have grown to be proactive leaders." SJ Claire Hur

"[my vision] was to create a sense of community and belonging, not just a conference." Stella Chun

"[the leadership roles] provide both soft skills and hard skills and the ability to practice them. These things translate well to the workplace." Jonathan Kim

"I learned how to better delegate and trust others to complete tasks." Michael J Lee

"My current goals are to bring in new leadership from her era into the organization." Clara Kim

"Ygnite has given [organizers] a chance to experiment [with management and leadership] and see who they are, with the confidence that things will be fine. There was also a understanding that we cared out their professional growth" Katherine Cho

Most of the organizers have a strong sense of ownership over the YG events, and have benefited from "*great people with life-long friendship*." They maintain strong ties within the KSEA YG events and outside of them.

YG student chapters

The YG student chapters, now known as YG groups to distinguish from local chapters, have been around from the beginning of KSEA where the organization grew from Korean-American faculty and overseas graduate students from Korea. Many campuses across the nation utilized their student members to form KSEA organization for social, volunteering, and networking activities. John C Lee recounts, "*back then, we gathered at the campus level just to have fun among us; but we attended UKC to support the organizers at local level*."

In 2010, the YGTLC and YG Committee started to actively reach out to student chapters to identify what could be done to improve the student chapter experience. This was to connect the excitement from the YGTLC participants to creating KSEA groups on their respective campuses. This turned out to be a bigger challenge than anyone had prepared for. What the student chapters had to do, who they would get support from, and how they would get funded were not understood. The initial steps were to identify student chapters and bring them to the YGTLC and UKC conferences to discuss and align on best practices. Next, the best practices were documented and shared to new prospective leaders.

The growth of the national events such as YGTLC and UKC, and the participation of YG chapters at these events drove stronger leadership and bonds within these campuses. As a result, many new YG student chapters were formed at campuses across the nation – by early-2010s, there were close to 30 official YG student chapters.

Each student chapter formed its own organization, held its own events such as student picnics, career development workshops, and social events, and supported local KSEA chapters at regional activities such as NMSC, regional conferences, and end-of-year events. YG student chapters sometimes held events with other groups nearby (see **Fig. 7** UCLA & USC Bowling Night).

Most of the organizers have a strong sense of ownership over the YG events, and have benefited from "*great people with life-long friendship*." They maintain strong ties within the KSEA YG events and outside of them.

Fig. 7 UCLA & USC Bowling Night

In order to increase the cross-collaboration among YG student chapters and ensure organizational continuity, ex-YG student chapter leaders Dennis Cha, Kathy Lee, Ye Eun Sarah Rhee, Chris Choi, and YJ Jin formed YG National Board in 2015. The National Board, as a supporting group within the YG Committee and under the YG Directors, not only gathered information from individual student chapters, but also provided guidance and support on funding, event planning, and transition. Beginning in 2019, Clara Kim expanded the National Board to include regional summits where student chapter leaders can network and exchange thoughts and experiences.

Broadening of YG Leadership and increasing representation

The growth of YGTLC has also grown into other areas of KSEA. Tom Oh had encouraged the YGTLC leadership to take on roles in the EC/DC from his time as a YG Director in 2008. Benjamin C Lee was one of the earlier 2nd generation leaders, and served as the General Director from 2011- 2012. Israel Sun Min Jung served as an Auditor and ran for Technical Group Councilor; later addition Benjamin C Lee, SJ Claire Hur and Tom Oh served Technical Group Councilors. Currently it is common to see YG in the Directors Committee and Executive Committee either as KSEA Directors, or as Technical Group Councilors. For example, several of the current Publication Directors are former YG leaders.

YG has also taken on local roles. For example, Grace Park, Benjamin C Lee, Samuel Choi, and Israel Sun Min Jung have served as chapter presidents; John H Lee leads NMSC for the Southern California Chapter and advises YG activity there.

A permanent role for a YG in the KSEA councilors was created in 2015, as part of the restructuring of the EC/DC under President Youngsoo Richard Kim. By this time, there was growing support for YG in national leadership, and the role was created to provide YG a vote during KSEA council meetings.

Looking forward to the next 50 years

Future of KSEA YG is bright – from the national flagship events to the local get-togethers and the growing group of leaders that KSEA has nurtured, KSEA YG has great potential to grow. There are three main focus areas as we look to the future of the KSEA YG.

Connection to industry. How the growing population of industry-oriented professionals will grow in KSEA is an area of development. We seek to have a broader network with those in the industry. Stella Chun notes, "*while KSEA has its roots in academia and provides better benefits to scholars, we need to look to a larger body of Korean-American scientists and engineers who are working professionals in the industry.*" The organization will need to develop programs and values catering to the non-academic professionals' needs.

Continuing the development to local activities. Further development of regional/local activities looks promising as the YG membership reaches critical mass at the local chapter level. "*We should decentralize the resources and encourage more local events; for times when national events are disrupted, we must look to mitigate them with local events*," says Daegene Koh.

Demographics shift is also expected. Acknowledging that KSEA was founded by 1st generation Korean scholars with strong support from Korean institutions, the future KSEA must grow to be a more inclusive and broader organization. With the Korean-American immigration history surpassing 100 years, there will be more American-born Korean scientists and engineers than Korean-born. How the organization will embrace multiple languages and ways of working will need to be understood. For example, as Jonathan Kim, a second generation Korean-American, remembers, "*I started my journey in KSEA when my dad (first generation Korean) brought me to UKC, where he gave a talk*." Jonathan quickly found his group in the YG, but understanding how the 2nd generation story become a part of the broader KSEA narrative will be how YG becomes a more diverse organization.

Another part of the demographic shift may be a shift in focus. Katherine Cho notes, "*The goal of the first generation is to open the door and leave it open for the next generation. The second generation is then there to break down the wall that makes the door exist.*" As YG leaders grow into leaders in their companies and communities, and increase their representation in society, there is a consensus that they will still value the mentorship and community that the KSEA YG organization brings. However, the full vision for YG in KSEA is still left to be seen.

Beginning of Regional and HQ-Level YG Activities

Kang-Wook Lee

The 37th President

Regional Level YG Programs at the Northeast Regional Conference in 1996-1998

Start of Large-Size YG Activities in Regional-Level Conferences

- The Northeast Regional Conference (NRC) organized by four chapters (NY Metro, NJ, Lehigh Valley and Philadelphia) had been one of the most successful KSEA annual conferences in the 1990's. For ex, the numbers of the presented papers were 70, 90, 87, 63, and 60 in 1994, 1995, 1996, 1997 and 1998, respectively. The number of attendees was in the range of 100-300 in the 1990's.
- In 1996, the first large scale YG activity was organized & held with approximately 60 Korean-American undergraduate students (organizers: Prof. Ken Park, Lehigh Univ and Dr. Kang-Wook Lee, IBM). There were three invited speakers (Mrs. Shin Ae Chun, Director of Illinois State Labor Dept; Prof. Kyung Sik Kang, Brown Univ & the 11th P of KSEA; Mr. Jong Sam Choi, LG executive) and a three-person panel session with Dr. Kang-Wook Lee, Dr. John Ahn (AT&T) and Dr. Koo Il Kang (Princeton Univ). This activity was reported in KSEA Letters vol 24-4.
- In 1997, approximately 100 undergraduate students attended the YG conference, 14 technical posters were presented by the students from 7 different colleges, and the invited speakers were Prof. Moon Won Suh, North Carolina State Univ & the 23rd P of KSEA; Dr. Yo-Sung Cho, CEO of Integrated Network Corp; Prof. Inyong Ham, Penn State Univ & the 3rd P of KSEA and Prof. Ilpyong Kim, UConn. The program was organized by Prof. Ken Park and Dr. Kang-Wook Lee, and supported by KUSCO. This event was reported in NY Metro Newsletter (June 1997).
- In 1998, approximately 150 undergraduate students attended this YG activity (organizer: Sunny Youn, Lucent; advisor: Kang-Wook Lee, IBM). The invited speakers were Dr. Yoon Soo Park, Office of Naval Research; Dr. Wooyoung Lee, Mobil Edison Research; Dr. Young Woo Kang, Vice Chair of World Committee on Disabilities; Prof. Chan Il Chung, RPI; Dr. Jeong Kim, CEO of YURIE Systems. A resume booklet that included 27 resumes from 6 different college majors was published. This activity was reported in KSEA Letters vol 26-5.

The KUSCO's First Support for YG Activities Helped by the 2nd President Kiuck Lee

- During a KSEA annual technical conference in February 1997, Dr. Kang-Wook Lee wrote a hand-written proposal to KUSCO upon the arrangement & encouragement of Prof. Kiuck Lee, the 2nd P of KSEA, which resulted in KUSCO's support for NRC1997 YG program with a fund of $5,000. This was the very first support of KUSCO for YG activities and it also enabled the next year's YG program at NRC1998.
- In 1998, KSEA HQ (President Kyong Chul Chun) with Kang-Wook Lee's help submitted a proposal of YG activity to KUSCO who subsequently decided to support only the KSEA HQ with a larger fund. This move made HQ's YG activities possible.

Fig. 1 (top left) Late Mrs. Shin Ae Chun, Director of Illinois State Labor Dept, an invited speaker at NRC1996 YG; (top right) Late Prof. Inyong Ham, Penn State Univ, an invited speaker at NRC1997 YG; (bottom left) Late Dr. Young Woo Kang (NRC 1998 YG speaker) with George Bush; (bottom right) Dr. Jeong Kim, CEO of Yurie System, an invited speaker at NRC1998 YG

Fig. 2 (top) NRC1997 YG Program which was sponsored by KUSCO and KSEA HQ. This sponsorship of KUSCO was its very first support for YG activities. The names of 14 poster presenters with their college names as well as the invited speakers & talk titles can be seen. The social hours such as dinner and after-dinner networking party became popular in the YGTLCs from 2005. (bottom) Late Dr. Kiuck Lee, the 2nd President of KSEA, who helped Dr. Kang-Wook Lee to write and submit a proposal of NRC 1997 YG Program to KUSCO. His daughter, Dr. Linda Lee, escorted him to attend UKC 2008 where Dr. Kiuck Lee received KSEA's first Distinguished Service Membership

HQ-Level YG Activities in 1999 and 2002

HQ organized YGLC or YGLF (YG Leadership Conference or Forum) in 1999 and 2002

With the commitment of KUSCO's support, KSEA HQ (President Ki Dong Lee) organized the YGLC that was held for 3 days in Feb 1999. 76 students from across the US attended this conference and there were 8 invited speakers (Dr. Kwan Im, SAIT President; Prof Robert Chang, Loyola Law School; Prof. Inyong Ham, Penn State; Prof. Kyung Sik Kang, Brown Univ; Prof. Moon Won Suh, NC State; 김미자 부총장, Univ of Illinois at Chicago; 소재향, World Bank; Sam Lee, Nuclear Regulatory Commission). In 2002, YGLF was held but the attendance was relatively low (20 from local chapters).

YGTLC (YG Technical & Leadership Conference) from 2005

- Dr. Hosin Lee, the Chair of YG Committee, organized the YGTLC in Jan 2005. 27 technical papers were presented. There were 8 invited speakers including 4 congressmen of South Korea (서상기, 홍창선, 이해봉, 류근찬). The numbers of the attendees (students and young professionals) were 44, 44, 54, 56, 95 and 120 in 2005 (33rd term), 2006, 2007, 2008, 2009, and 2010 (38th term), respectively. The enthusiastic involvement of new YG members and KUSCO's sponsorship (from 2005 to 2018) helped the YGTLC blossomed. KOFST had also sponsored for several years.
- This YG activity is now called "YGTLC/Ygnite" sponsored by the Overseas Korean Foundation from 2019. Its history deserves to be separately recorded.

KOFST YGF (YG Forum) from 2004

KOFST learned of the importance of overseas YG activities probably from KSEA. KOFST organized its first YGF in June 2004. Dr. Hosin Lee was one of the invited speakers. It was a huge success. KOFST's YGF has been held every year since 2004.

Historical Perspectives of the KSEA Young Generation (YG)

K. Stephen Suh

The 47th President

The young Generation (YG) of KSEA has 50 years of history, and the activities of these young scientists and engineers started along with the founding members. Although not recorded in detail for the founding event in the Windsor Park Hotel in Washington DC on December 12, 1971, the students likely help the founding members in various ways. The first KSEA newsletter (Vol 1, No.1, April 22, 1972), published only five months after the founding event, already mentions the founding member's intent to recruit students as KSEA members. Delaware, Southern California, New England, New Jersey, North Carolina, and San Francisco chapters started as early as February 1972 and accepted student YG members with college degrees in the STEM fields, signifying the beginning of the KSEA YG. By August 1972, Korea Advanced Institute of Science (KAIS), NSF, and other Korean organizations started to mentioned collaborative projects with newly joined graduate students of KSEA. In 1973, KSEA adopted No Membership Fees for students and continued to add postdoctoral members and young professionals (YP), quickly reaching over 500 YG and YP members. The Korean government and the scientific community noticed this dramatic increase in YG, YP, and regular members and sent Science Attache' to the Korean Embassy in Washington DC. Strong recruitment of YG and YP members became the skeleton of KSEA from the early KSEA development phase.

KSEA moved to the Bethesda office from the Silver Spring address in 1974. The leaders and the communication documents started to use wordings such as '*Promoting Activities of Student Members*' and '*Student Recruitment.*' This initiative laid a foundation of ways that YG and YP contributed to many events and activities of KSEA. As the Korean scientific community hosts the first Korea-KSEA Symposium, some YG and YP members were among the 140 KSEA members visiting Korea as the first Korean-American scientific delegation. Since this event, YG activities and recruitment efforts have increased as the total KSEA members pass over 1000 members. By KSEA's 5th-anniversary celebration, YG members represented 334 undergraduate and 384 graduate students among over 1500 membership. At this point, the YG and YP members also represented the bulk of KSEA members, and KSEA started to collect membership fees. In addition, the KSEA leaders began to discuss 2nd generation Korean-descendent scientists and engineers that do not understand Korean and Chinese writing. From the early years of KSEA, the founders and leaders always had thoughts of recruiting and educating the YG, 1.5, and 2nd generation Korean-Americans.

KSEA headquarter (HQ) in Maryland became the official IRS-certified nonprofit organization in 1977. As YG and YP took active roles in multiple KSEA events, KSEA growth reached 21 chapters and 7 branches covering the US and Canada. KSEA Newsletters started to include Ph.D. theses, event abstracts, and meeting abstracts from YG members and offered YG scholarships such as KSEA-KOSEF in 1978. When KSEA membership passed over 1800 in 1978, the KSEA leadership began to assign YG and YP activity budgets. The prestigious Young Scientist scholarships attracted more YG and YP members to KSEA, and the Long Range Committee committed to expanding financial supports. This initiative launched the first YG/YP KSEA delegates to visit Korea to interact with the Korean counterpart of the YG/YP scientific community in 1979. KSEA also decided to translate policies and other documents into English versions to work closely with YG and YP. Continuous efforts later lead to establishing postdoctoral fellowship programs in 1981, and the incentives extended to multiple YG and YP activities. The YG/YP programs ignited explosive growth in membership as the total members passed 2700 in 1982. As the membership reached over 3000 members in 1983, KSEA set aside YG/YP representation in the leadership meetings and decision-making process. In 1984, YG/YP leaders redefined YG definitions, underlined specific policies for young members, and constructed YG's council structure to represent themselves at KSEA leadership meetings. These extended efforts to 45 US and Canadian chapters and branches increased YG scholarship support to reach $45,000 in 1986, and YG/YP represented over 50% of the total 5000 KSEA membership in 1987.

KSEA leaders and the former president council recognized the organization's strength comes from the YG support as a new decade began in 1990. The 'Named Scholarships' for young and 2nd generation Korean-American scientists reached $100,000 in 1988 and continued to grow into the 1990s. The YG groups started to form YG chapters, and the Texas YG chapter initiated the first YG gathering with 200 YG attended in 1990. This event sparked the YG gathering agenda at KSEA

Regional Conference, and the forum was named 'The Next Generation Scientists Forum' in 1991, marking the first YG-oriented conference. As the first Korea-US symposium (later adopted UKC) began on US soil, the YG roles expanded and integrated to all KSEA events and activities in 1992 and afterward. From the 1970s to 1980s, YG groups were predominately from academia. However, YG groups representing industry and government sectors began to increase notably from the 1990s due to the projects aligned with Korea's industrialization. The participation of KSEA YG/YP on various projects during the early 1990s benefit the Korean government and industry sponsors. After experiencing the success, the Korean government and industry partners developed multiple collaboration projects, ranging from mentoring, internship, exchange programs, and US-Korea YG/YP conferences during the later part of the 1990s. KSEA-KUSCO sponsored the YG Leadership Conference (YGLC and YG Forum-YGF) at the KSEA HQ with 70 YG attendees under Dr. KD Lee's leadership in 1996. YGLC success led to the YG Committee formation as a formal representation of YG/YP for KSEA under Dr. CI Chung in 1998. YG stories' continued success provided a foundation for launching the KSEA YG website and the first YG conference and YP conference called Young-Professionals Technology and Entrepreneurship Conference (YTEC) in 1999, preparing YG for the new millennium. The Overseas Korean Foundation (OKF) started to invite YG/YP leaders to Korea and provided multiple mediums and gathering opportunities to form US-Korea YG networks. In 2000, KSEA committed to a bold step for YG/YP by adopting English as the official KSEA language for general use and publish all KSEA documents in English.

Events and activities focused on YG and YP began to take independence after decades of preparation. In 2001 and 2002, the 2-day event Young Generation Leadership Forum (YGLF) launched under the leadership of Dr. NH sung with OKF sponsorship. In 2004, Dr. HS Lee designed the Young Generation Technology Leadership Conference (YGTLC, nicknamed Ygnite) that focuses on an undergraduate and graduate-level event with full-scale 3-nights and 4-day activities. From this point, predominantly undergraduate and graduate students are referred to as YG and separated from the young professionals (YP) at the postdoctoral level or members active in the industry. YP gradually turned the YGLF into an event for YG leaders at the professional level and took leadership roles to design, plan and execute all YG events and activities and mentoring younger YG peers. The conference names for YGLF and YGF changed and used interchangeably but were more focused on the technical parts for late-stage and established YG members that are less than 35 years old. YG and YP continue to grow, form an active council structure to address YG and YP agendas within the KSEA, and participate in leading branches and chapters as chapter presidents. As KSEA established closer ties and collaboration with over 30 Affiliated Professional Societies (APS), YG and YP leaders also took significant roles in recruiting and training young members within each APS. In the 2010s, both YG and YP started to launch fundraising events to sustain independence due to a lack of committed sponsors. In 2017, Dr. KS Suh became the President-Elect as the first 1.5 generation Korean-American. He convinced OKF to return to KSEA as the primary sponsor for the next generation of young KSEA members and further guided YG and YP to launch the YG-GALA event for the YGTLC fundraising activity. This celebrative GALA-based fundraiser became more vibrant and structured in recent years; YG-GALA and traditional sponsorship funds are expected to provide a strong foothold for YG and YP independence each year. In 2018 and 2019, with a significant YG budget increase, YP launched separate Young Generation Summit events within the KSEA Regional Conferences or in distinct formats across the US, adding over 1200 YG members.

KSEA founders realized the importance of the young generation of Korean-American scientists and engineers within the organization. KSEA now harbors over 70 chapters, branches with over a dozen technical groups, and cooperates with 30 APS, operating 250 events and activities each year. Throughout the KSEA history, YG members became YP and then served KSEA branches, chapters, HQ administrations, and APS in various leadership roles.

As KSEA reached its 50th Anniversary in 2021, many topics entered the discussion floor with more questions and plans. What direction YG and YP will take in the next 50 years to retain the ever-growing young Korean-American STEM population? More YG and YP members are on the integrated side of science (i.e., social and pollical science) and other STEM fields within the broad spectrum of research and science. How would KSEA embrace the YG/YP in changing STEM environment? What will be the optimal strategies to foster YG, YP, along with an array of branches, chapters, APS, and Korean partners working together? What long-range plans KSEA must implement into the future to better support our next generation of Korean-Americans and secure the future of KSEA? These questions and many discussions lie ahead of KSEA, but we are confident that the next phase of KSEA is in the hands of excellent, enthusiastic, and passionate YG and YP members. I loved one YG member's response when I questioned about the KSEA's future. He said, "A step into the future is a realized dream from the past," knowing the founders' vision and understanding KSEA's dedication to supporting YG and YP. KSEA is always proud of our young generation Korean-Americans and forever grateful for their services to KSEA.

Youth Science and Technology Leadership Camp (YSTLC)

Jaehoon Yu
The 45th President

Preamble

Looking after young generation is an essential and fundamental function of the preceding generations in continue improving the society and further advancing quality of life for the whole humanity. In this regard, KSEA has long been doing its job to develop and promote young generation members, leveraging its expertise. The annual National Math and Science Contest (NMSC) and Young Generation Technical Leadership Conference (YGTLC) are a couple of exemplary traditional programs that KSEA can be proud of. Training and promoting young generation are not only good for them but also good for the health of the organization and ultimately for the whole humanity since these youth members will eventually become leaders of the society and of the organization itself.

The Changing KSEA Demographics and Its Roles

Through the 50 years of its history, KSEA has undergone significant changes in its working principles. It has been making essential contributions in establishing the keystone foundation of Korean science and engineering and directly to the Miracle of Han River. Its members worked closely with Korean entities in all levels, from private industry, to academic institutions, to national labs, to government ministries and to serving as high level officers in Korean government. It still continues to make vital contributions to the further advancement of Korea.

KSEA's demographics, however, have been undergoing a natural transformation. While the dominant fraction of the members in early years have been first generation Korean-Americans, through the focused efforts of the organization's leadership, the proportion of the 1.5th, 2nd or even 3rd generation Korean-American members increased. This is not only natural but also ideal for the long-term health of the organization. This natural transformation of the organization set the rich soil for young generation members become important contributors to KSEA and now becoming leaders of the organization. Therefore, it is essential for KSEA to prepare for such changing membership demographics and focus on youth to 1) become closer to the general Korean-American public, 2) increase and improve the awareness of KSEA and 3) increase membership at present and plant seeds for the future, starting as early an age as possible.

The Fundamental Principles of YSTLC

As part of expanding the long and sustained efforts of promoting young generation, the 45th administration created and implemented the Youth Science and Technology Leadership Camp (YSTLC) offered to both U.S. and Korean high school students (9th–12th grade), accepting a suggestion of the 45th VP1 Dr. Stephen Suh, as part of an opportunity for achieving the financial independence. The administration then subsequently expanded it to become a more valuable and sustainable youth program. In this spirit, YSTLC was established on the fundamental ideas of 1) discovering young talents early in their lives, 2) providing them a one-in-a-lifetime experience to become a leader in science and engineering in the society, 3) providing them opportunities for a research experience and establishing an essential network, 4) building a strong and lasting friendship between U.S. and Korean students to lay down a close collaboration as young age as possible and 5) broadening the membership bases and awareness of KSEA to high school students for early membership engagements and to the parents and relatives of these students.

Strategic Choice for YSTLC

Coinciding the YSTLC program with UKC was a strategic choice since UKC is the best time for the YSTLC participants to have a focused period of experiment, meet the keynote speaker Nobel Laureates such as professor Bruce Beutler (Univ. of Texas, South Western Medical School, UTSW; 2011 Nobel Laureate in Medicine) and have an exclusive interactions with him/her, participate in high level scientific sessions and discussions, and engage and build network with the UKC participants for future opportunities. The first YSTLC was offered to four selected students during UKC2016

held in Dallas, TX for one week, and started on the Monday of the week of UKC, several days prior to the opening ceremony. Professor Jiyoon Yoon of the University of Texas at Arlington coordinated the program for the participants and VP1 Stephen Suh and Ms. Euna Yun of KSEA HQ put in tremendous efforts with Dr. Yoon to make the first YSTLC a smashing success. YSTLC has been offered every year since 2016, except for 2020 due to COVID-19 pandemic. Photos in Fig. 1.(a) and 1.(b) show YSTLC student visits to UTSW research lab in 2016 and NASA Goddard Space Flight Center in 2017, respectively.

Typical YSTLC Program

The YSTLC program covers about a week with students arriving on the Sunday of the UKC week. In order to provide a chance to build a strong and long-lasting bond between the participating students, two students share a room, since nothing like sharing a one full week of life at an early age builds a long-lasting memory. The first half of the program occupies Monday through Wednesday of the UKC week prior to the start of the conference. The program consists of visits to nearby universities and research labs and interactions with the directors and researchers of the labs to learn frontier research activities and to provide a chance to establish a network essential for their future opportunities. The participants also form teams to choose a research project to carry out during the given YSTLC for an evaluation and competition at the end of the program.

During UKC, YSTLC participants are encouraged to attend the plenary sessions and public lecture by the keynote speakers and to participate in the sessions of their own interest. They are strongly encouraged to ask questions to the speakers and presenters. It is in this period, the YSTLC participants are given time for an exclusive interaction to the keynote speaker Nobel Laureate. This part of the program is to give one-in-a-lifetime opportunity for them to meet a Nobel Laureate, to learn that they are the same people as each and every one of them, and therefore to give them the idea that they can also be a Nobel Laureate, someday. The three photos in **Fig. 1** (c), 1 (d) and 1 (e) show the YSTLC participants with the 2011 Physiology Nobel Laureate, Dr. Bruce Beutler in 2016, the 2006 Physics Nobel Laureate, Dr. John Mather in 2017 and the 2013 Economic Science Nobel Laureate, Dr. Peter Hansen in 2019, respectively.

YSTLC Summer Research Internship Grant

To provide an incentive and an additional opportunity to YSTLC participants, the founding 45th former president, Dr. Jaehoon Yu created a $3,000 summer research grant program out of his research endowment grant at the University of Texas at Arlington (UTA). This grant quickly

Fig. 1 (a) YSTLC 2016 participants' visit to Univ. of Texas at Arlington bio-medical engineering lab – Dr. Jiyoon Yoon and VP1 Stephen Suh are seen in the photo, (b) YSTLC2017 participants' visit to NASA Goddard Space Flight Center and meeting the then NASA administrator, (c - e) YSTLC participants with the keynote speaker (c) 2011 Physiology Nobel Laureate, Bruce Beutler of Univ. of Texas, South Western Medical Center in 2016, (d) the 2006 Physics Nobel Laureate, Dr. John Mather in 2017, (e) the 2013 Economic Science Nobel Laureate, Dr. Peter Hansen in 2019

became a well-liked and desired incentive and prestige for participating students and parents. The first of this grant was offered in UKC 2018 to David Oh of Houston, Texas, who carried out the fundamental particle physics detector research for medical sensor development for an eight week stay at UTA in the Yu lab. The second award was given to Skyler Ryu, a YSTLC 2019 participant, who was scheduled to work on design, construction and commissioning of two neutrino experiments, SBND and ICARUS at Fermilab during the summer 2020, staying at Fermilab for 12 weeks. This plan had to be deferred to the summer 2021 due to COVID19.

Some YSTLC Statistics

Given that YSTLC is supposed to self-sustain, the camp requires registration fees from its inception. This was a strategic decision since the first fundamental step of achieving a fiscal independence to the organization is to implement a self-supported model of any program such that it can cover all expenses, including those for person power and supporting staff. The fees cover participant lodging, food, refreshments, UKC registration fees, all transportations during the program, materials and supplies and supporting staff expenses. The number of participants and their demographics have also been changing, start 4 U.S. students in 2016 to 6 from U.S. and 10 from Korea in 2019.

Unfortunately, YSTLC 2020 was planned but had to be cancelled due to COVID19. **Table 1** shows the compilation info for all YSTLC.

Table 1. Some YSTLC Statistics from YSTLC 2016 through the cancelled YSTLC2020

Year	Location	# of Participants		Fee (US $)	Note
		US	Korea		
2016	Dallas, TX	4	0	3,000	YSTLC Inception
2017	Crystal City, VA	13	1	3,000	$200/student KOFAC scholarship support
2018	Queens, NY	11	1	3,000	1st Summer Research Internship Awarded
2019	Chicago, IL	6	10	2,500	YAK supported the 10 Korean Students
2020	LA, CA				cancelled due to COVID

Expanding YSTLC Concept for External Funds

Taking the concept of engaging students in as early stage as possible one step further, the 45th admin in 2016 proposed in a white paper a comprehensive $10M/year grant young generation support program to Korean National Assembly, working closely with then chairman of the oversight committee on Ministry of Future, Information Technology and Broadcasting, Dr. Sangjin Shin. The proposal consists of four activities: 1) Undergraduate and Graduate Student Science and Technology Research Internship (STRI), 2) Science and Technology Leadership Camp (STLC, the same concept as the YSTLC), 3) Science Teacher Leadership Workshop (STLW) and 4) support for other already existing KSEA YG programs. This proposal provided the foundation for the 46th admin to continue working closely with the oversight committeeand resulted in the Global Young Generation Science and Technology Leadership Training Program whose first supported program was during UKC 2018.

Conclusions and Future

YSTLC was created to discover talents as early a stage possible, promote their career in science and technology by providing them once-in-a-lifetime experience and ample opportunities for them to establish network at a young age and give them confidence to be a Nobel Laureate. The cornerstones of the business model of YSTLC are the self-sustainability and the ample research incentive opportunities in order to ensure its continuity via fiscal independence and to attract continually increasing number of participants. YSTLC is well established as a popular program that serves KSEA positively and broadens its reputation deep into the fabric of Korean and Korean-American communities. It also prompted additional opportunities to further engage Korean government entities through creating collaborative programs to support young generations in both the communities. It contributes to increased membership through at present and through planting a seed to young minds and provides youth and their family members opportunities to engage in KSEA and broaden their network for their long-term career.

Finally, future KSEA administrations should be able to benefit greatly from YSTLC through its fundamental idea to support the youths with a self-sustainable business model and the expandability of the concept itself. YSTLC will help KSEA to prepare well and ease itself into the natural transformation of its demographics and roles within the U.S. and to Korea through the foreseeable future. Preparing well itself through a strategic program to fully and coherently integrate young generation into its fundamental roles will determine the future and the relevance of KSEA through the next 50 years and beyond.

Chapter 12

Women Scientists and Engineers

- KW*i*SE History
- Interview - Young Generation (YG) Female Leaders in KSEA

KW*i*SE History

Gye Won Han

The 1st and Founding President of KWiSE

Congratulations on the Korean-American Scientists and Engineers Association's (KSEA) 50th anniversary! KSEA has been one of our closest partners and supporters and, of course, very good friend to Korean-American Women in Science and Engineering (KW*i*SE). It's my great honor to share the history of KW*i*SE with KSEA members.

KW*i*SE history will be divided into three parts:

- Chapter 1. Foundation of KW*i*SE: Motivation and struggles in 2004-2010
- Chapter 2. KW*i*SE progress (I): KW*i*SE 2nd to 4th Administration, 2010-2015
- Chapter 3. KW*i*SE Progress (II): KW*i*SE 5th to 8th Administration, 2015-Present

First, I will start with the history of KW*i*SE and the motivation for our foundation.

Foundation of KWiSE: Motivation and struggles in 2004-2010

According to the HERI (The Higher Education Research, www.heri.ucla.edu) Faculty Survey presented by S. Hurtado at the Seeking Solutions: Maximizing American Talent by Advancing Women of Color in Academia Conference, June 2012, Washington, DC, the relationships among academic rank, race, and gender in STEM (Science, Technology, Engineering and Mathematics) fields are as follows:

Sample	Professor	Associate	Assistant	Lecturer/ Instructor
URM* Women 260 (2.5%)	16.9%	25.8%	32.7%	24.6%
Asian Women 241 (2.2%)	19.9%	31.5%	32.4%	16.2%
White Women 3,674 (34.2%)	23.6%	30.3%	31.1%	15.1%
URM Men 354 (3.3%)	30.2%	29.4%	23.2%	17.2%
Asian Men 510 (4.8%)	34.1%	26.7%	32.0%	7.3%
White Men 5,399 (50.3%)	44.2%	27.8%	18.9%	9.1%

*URM stands for underrepresented minority

Across the groups, the percentages showed opposing trends for full professors and lecturers/instructors. The percentage of full professors in a given group went from low to high in the following order: underrepresented minority women, Asian women, white women, underrepresented minority men, Asian men, white men. The percentages of lecturers/instructors ran in the reverse order.

This data showed that women of color, including Asian women, were more likely to be in non-tenure-track positions and less likely to be in full professorships. This suggests that women of color are disproportionately occupying positions that have the least power and authority in the academic context. In order to overcome it, we need to build a support network to promote our career development and success.

With a strong need to build a network for Asian women scientists in 2004, KW*i*SE was born with a handful of Korean-American women scientists from The Scripps Research Institute (TSRI, currently Scripps Research), UCSD, Burnham (currently Sanford Burnham Prebys Medical Discovery Institute), and La Jolla Institute for Allergy and Immunology (LIAI) in La Jolla, California.

We decided on the name KW*i*SE (Korean-American Women in Science and Engineering) with the mission:

- To establish and strengthen the network of Korean-American Women in Science and Engineering-related fields,
- To facilitate communication and cooperation between our members
- To promote their career development and success, and
- To foster international collaboration between the U.S. and Korea.

Since this is the first organization to start a Korean-American women scientists and engineers-centered network, we really focused on establishing and strengthening our connections.

With KSEA rules committee, and all KW*i*SE members' help, KW*i*SE's bylaw was established. In addition, we purchased the KW*i*SE.org website domain (www.kwise.org), and from there, we took an action!

Our first meeting took place on Oct 21, 2004, and was held in a small seminar room at The Scripps Research Institute. About 30 local Korean-American Women professionals gathered and shared their visions, ideas and knowledge. It was a great turn out, consisting of ambitious people who were very excited and enthusiastic to meet new individuals in the field. This meeting also gave a chance for the members to bond and get to know each other more closely. There were clear signs that KW*i*SE wanted to grow as a tight-knit community, be there to share experiences with one another, and to provide an excellent networking opportunity for its members.

In 2005, one of KW*i*SE's outreach activities to promote potential young female scientists was to provide KW*i*SE Student Awards to the top-scoring high school female students in the KSEA National Math Competition (NMC). KW*i*SE-San Diego started it first, then KW*i*SE-LA followed. These awards continue until this day. Furthermore, in December 2018, KW*i*SE-LA Chapter partnered with KSEA-SC chapter to run the initiative KSEA-KW*i*SE STEM Fair on the topic of Robotics. We continue to plan to expand our outreach activities to promote young female students to pursue their career paths in STEM.

Sleek and simple, the 1st KW*i*SE newsletter was published in 2005, and it has continued to publish with our most recent 2020 KW*i*SE newsletter. I will talk about more about it in Chapter 3.

In November 2005, the 1st KW*i*SE Annual Meeting was held. It was sponsored by The Global Network of Korean Scientists & Engineers (KOSEN) and KSEA. Many postdocs and students shared delicious Korean meals together, and participated in the network meeting. Later, this meeting merged the "*West and East Coast Meeting*" into the "*West and East Annual Conference*."

In the summer of 2005, KW*i*SE received an invitation from KSEA-HQ for organizing the 2005 Women's Forum and Symposium during the US-Korea Conference on Science, Technology and Entrepreneurship (UKC). Dr. Sooja Kim and I (I will be referred to as Dr. Gye Won Han from this point) co-organized the 1st Women's forum. Dr. Eun-Hee Park Cirlin (Int'l Technology Associates) and Dr. Gye Won Han (Scripps), Myeong-Hee Yu, (KIST), Kwang Hwa Chung (KRISS) and So-Jung Park (UPENN) co-chaired the Women in Science Symposium (WiSS). WiSS consists of "*Women in Bio-Science*," "*Women in Nano-Technology*," and "*Women in Electrical Engineering*" sessions. Speakers from universities and institutes, both in the U.S. and Korea, were invited to present their work during the seminars. Through this event, KW*i*SE confirmed the widespread and active interest in networking and support amongst Korean-American women researchers, and opened up new interactions and career opportunities for its members.

KW*i*SE continued to organize the 2006 Women's Symposium (WISE) at UKC 2006 into two parts: Women in Advanced Materials & Technology [co-chairs: Prof. Kyung-Hwa Yoo (Yonsei Univ.) and Dr. Hye Jin Lee (UC Irvine)] and Women in Bio-Science & Technology [co-chairs: Dr. Myung Hee Park (NIH) and Dr. Young Sook Yoo (KIST)]. In addition to the symposium, KW*i*SE also organized the 2006 WiSE Forum which consisted of two parts - a panel presentation by six distinguished Korean women scientists, Dr. Kwang Hwa Chung (KRISS), Prof. Chong S. P. Sung (University of Connecticut), Prof. Myunghee Cho Paik (Columbia University), Dr. Mimi Kim (Albert Einstein College of Medicine), Dr. Esther Yang (Abbott laboratory), and Dr. Sooja Kim (NIH), followed by a roundtable discussion. The speakers presented various challenging issues impacting

women scientists, ranging from the educational/professional pipeline and unconscious bias, to balancing family and work. The purpose of the panel was to empower the current and new generations of talented women so they may assume leadership roles in science and technology, and how they might achieve sustainable professional development.

WISE Forum at UKC 2006, New York, August 2006

During the roundtable discussion, moderated by Dr. Sooja Kim (NIH), the participants shared their own experiences, failures, successes, and views, and discussed interesting and thought-provoking issues affecting women at various stages of their careers. In UKC 2007, KW*i*SE organized the Women's Forum with the theme of "*Facing Challenges*" on August 9, 2007. The Forum is co-chaired by Korea and US scientists. [Korea: Dr. Kwang Hwa Chung, Korea Research Institute of Standards and Science (KRISS) Dr. Young Sook Yoo, Korea Institute of Science and Technology (KIST) USA: Dr. Gye Won Han (Scripps) Dr. Sooja Kim (NIH)]. In addition, as other UKCs, many KW*i*SE members were also invited speakers in various Technical Symposia of UKC 2007. It should also be noted that KW*i*SE President, Dr. Gye Won Han received the 2007 Outstanding Community Service Award of the Year. The award is a joint recognition given by Korean Federation of Science and Technology Societies (KOFST) and KSEA.

Speakers and committee & Co-Chairs at the WISE Forum, UKC 2007
1st row, from left to right: Ms.Eun Young Choi (Harvard Univ.), Prof. Victoria Yoon (UMBC), Prof. Eun-Suk Seo (UMD), Prof. Kyung A. Kang (U of Louisville), Dr. Linda C.Duffy (NIH), Dr. Sooja Kim (NIH, Co-Chair), Prof. GIl-Ja Jhon (Ewha Womans Univ.), Dr. Gye Won Han (KWiSE President) and Dr.Jo Anne G. Jensen (DHHS).

2nd row, from left to right: Dr. Hyunsook Lee (Harvard Smithsonian Center for Astrophysics), Dr. Young Hyeon Shin (KRISS), Prof. Soon Ok Chang (Suwon Univ.), Prof. Jin Kim Montclare (Polytechnic Univ.), Ms. Sook Shin Ha (Virginia Tech), Dr. Hee-Yong Kim (NIH/NIAAA), Dr. Sohyun Ahn (NIH), Ms. Hyunyoung Song (U of Maryland), Ms. Catherine Soojung Hong (Colorado State University), Dr. Jensen's daughter and Dr.So-Hye Cho (TSRI).

KW*i*SE held the 2008 WiSE forum during the UKC 2008. The theme of the WiSE forum was "*Step Forward in Science and Engineering for a Better World by Achieving Excellence through Mentorship*." Seven speakers from around the world gave excellent speeches. The co-chairs were Gye Won Han (Scripps), Sun Hwa Hahn (KISTI), Sooja Kim (NIH), Jiyoung Kim (Kyung Hee University). The goal of the WiSE Form was to promote cooperation between women scientists, engineers, and entrepreneurs from U.S. and Korea by discussing and sharing their achievements and current interests. This forum also enhanced the network of both American and Korean women scientists and engineers.

WISE Forum at UKC 2008, San Diego, CA, August 2008

In the UKC 2009, KW*i*SE held the 2009 WiSE forum titled "*Moving Ahead in Women's Career - Unlimited Career Opportunities for Women Scientists and Engineers.*" The forum was organized by Dr. Gye Won Han, (The Scripps Research Institute), and president of the RTP Chapter, Dr. Youngjin Park (SAS Institute, Inc). The agenda comprised of five speakers on various topics, a panel discussion, and the granting the 2009 KW*i*SE Woman Scientist Award of the Year (Dr. Heakyung Lee (Winthrop University). French born Laura Beretta, currently at the Fred Hutchinson Cancer Research Center and formerly of the INSERM (Institut National de la Santé et de la Recherche Médicale) gave an inspirational and empowering talk about the potential of women in science. She began by drawing an iconic image of Marie Curie: two time Nobel Prize recipient, discoverer of radium, professor at the Sorbonne University, mother of two children, and a radiology nurse during the First World War. Offering advice to those who would bravely follow Curie's example, Dr. Beretta emphasized the need for confidence and patience. The second speaker was Heakyung Lee of Winthrop University who geared her talk toward those aspiring to the same academic success as Beretta and Curie. Here speech, titled "*Tenure Process at a University*," began with the demographics of Winthrop as her focus was on teaching universities. The KW*i*SE Forum continued in UKC 2010. This will be described in the next Chapter, KW*i*SE Progress (I).

WISE Forum at UKC 2009, Raleigh Convention Center, NC, July 2009

In 2007, the 1st KW*i*SE East and West Coast meetings were held as the KW*i*SE proposal was accepted by the Korea-US Science Cooperation Center (KUSCO). As part of its Career Development Symposium series, the program featured scientific talks in the morning and career advice talks in the afternoon (Chair: Dr. Eun-Young Ahn, and co-Chair: So-Hye Cho (The Scripps Research Inst.)).

In the opening session, Dr. Gye Won Han, President of KW*i*SE, gave a brief history of KW*i*SE, and thanked members' participation. Then, Dr. Higgin Ko (KSEA-SD President-elect) and Ssang-Tack Lim (KSEA-SD Seminar Chair) gave warm welcoming remarks prior to the main program. The whole talk was given by Dr. Young Kee Kim who is the Deputy Director of the Fermi National Accelerator Laboratory in Chicago and Prof. at Univ. of Chicago. Her talk gave us a peek into the fascinating world of particle physics and her personal endeavor to be a successful leader. During the career forum, a broad discussion in launching a career in academia as being minority woman scientist and securing a career in biotech industry ensued.

2008 KW*i*SE 2nd West Coast Meeting: Becoming the 21st Century Leaders was held in Los Angeles, CA, June 14, 2008 The meeting was opened by Dr. Gye Won Han (KW*i*SE President) sharing the growth and future plans of KW*i*SE. After the introduction of participants, and the report of Ms. Mona Kim on the KW*i*SE Database Project's aim for professional networking, Instructor Karen Watai at Leadership Education for Asian Pacifics, Inc. (LEAP) led a workshop on "*The 21st Century Leader: Surviving and Thriving in the 3rd Millennium*." The workshop challenged attendees to realize the wide gap and incongruity between the concept of a leader and the cultural behavior of Korean-American women at their work and encouraged audiences to practice the characteristics of a strong leader. It was an honor to begin the afternoon session with a welcoming remark by Director Jong-Hyun Rhie (KUSCO). Five speakers presented various aspects on how women in science and engineering fields can develop career skills to be a prominent leader: Dr. Jane Oh (NASA) about 4-dimensional assessments of one's own character, and 8-dimensional behaviors of managing co-workers and employees to create a successful team; Dr. Sue and Jay Chung (Tayco Engineering) about their wisdom and 'secret' to "*It's a Wonderful Life*," with emphasis on harmony between husbands and wives and being a success-oriented peacemaker at a workplace; Dr. Min Hui Kang (USC, CHLA) about establishing a strong mentor-mentee relationship in addition to various tools to become a successful mentor; Dr. Myung Hee Choi (General Atomics) about her personal struggles in balancing career ambition and familial duties; lastly, Dr. Haekyung Lee (iTherx, Inc.) about challenges and rewards in working for a biotech, and the pros and cons between industry and academic careers.

KWiSE West Coast Conference, San Diego, CA, June 2009

KUSCO and KW*i*SE (West, East Coast regions, and RTP Chapters) hosted the KW*i*SE 3rd Annual West Coast Conference on June 27th, 2009 at The Scripps Research Institute located in San Diego. The first presenter was Ms. Diane West from the 2 Connect, Inc. Her presentation, "*21st Century Leadership Training: Communication Skill & Science Behind Presenting,*" focused on various presentation skills to better exhibit the successes and information gained from research. Afterward, the "*Afternoon Career Forum*" began with the welcoming remark by Dr. Hyung-Min Chung, from California State University, Long Beach. Dr. Haejung An from FDA then gave the first presentation on "*The Secrets of a Long-term Career*." She emphasized making efforts to continue improving one's expertise throughout their career. Afterward, Dr. Sunyoung Lee from Burnham Research Institute gave a talk, "*Preparing Future Faculty*", emphasizing the importance of attending conferences for future faculty. Subsequently, Dr. Caroline Chen from Vertex Pharmaceuticals shared her experience and her life story with reference to her "*Road*

to Becoming a Patent Agent." Lastly, Dr. Insung Kang from Qualcomm Technology described the numerous branches of organization within Qualcomm in his presentation, "*Working at Qualcomm.*" The conference ended around 4 PM with the closing remarks from the President of KW*i*SE-San Diego Chapter, Dr. Sanghee Yoo.

In 2006, KW*i*SE signed the Memorandum of Understanding (MoU) with Women's Bio-Forum in Korea (BFM), with the Biological Research Information Center (BRIC) for cooperation and collaboration between KW*i*SE-BMF and KW*i*SE-BRIC organizations. Also, KW*i*SE received funding from KOFST for establishing Korean-American Women scientists and engineers Database from 2006-2008. According to the KW*i*SE Database stats, KW*i*SE members were found in the East Coast (41%), West Coast (37%), South (13%) and Midwest (8%) in 2008.

In 2008, KW*i*SE won the Amore Pacific Award – Group Development Award (단체진흥상) at the International Convergence Meeting of Korean Federation of Women in Science and Technology (KOFwST), held at the Hoam Faculty Club in Seoul, Korea. This award was given to KW*i*SE in recognition for its pivotal role as a professional network for women scientists and engineers in the U.S. as well as in Korea, and its endeavor to promote further development of these relationships worldwide. President Gye Won Han and Professor Arianna Kim attended the ceremony with President Han giving a short presentation on the progress and then current challenges of KW*i*SE. Drs. Han and Kim also gave invited talks during the scientific session. Dr. Han's talk was titled "*High-throughput Approaches from Gene to Structures*," while Dr. Kim spoke on "*Survival Signaling as Targets for Skin Cancer Chemoprevention*." KW*i*SE appreciates the generous support of KSEA and KUSCO, and especially its own members for the time and effort they have dedicated to developing KW*i*SE.

2009 5th Annual KW*i*SE Meeting-The KW*i*SE 5th annual meeting was held at The Scripps Research Institute in San Diego on December 6, 2009, with the theme "*How to prepare for an academic position in Korea*." The meeting began at 9:30 am with registration and breakfast. The official program started at 10:00 am with welcoming remarks from KW*i*SE-SD Chapter president, Dr. Sanghee Yoo, followed by a brief progress report on the organization's ongoing state of affairs, such as the upcoming presidential election, by the founder/President of KW*i*SE, Dr. Gye Won Han.

In 2007, the KW*i*SE committee set the 2007 KW*i*SE Woman Scientist Award to recognize an excellent scientist and also contribute KW*i*SE significantly. The 1st KW*i*SE Award was given to Dr. Sooja Kim (Chief, Center for Scientific Review at NIH) for her excellent service to KW*i*SE as well as being an outstanding woman scientist at NIH.

The 2008 KW*i*SE Woman Scientist Award was presented to Dr. Hee-Yong Kim (NIH/NIAAA) for her outstanding contribution to advancements in science and engineering disciplines and the establishment of KW*i*SE. Following the ceremony, Dr. Kim gave a talk regarding her research as well as providing advice to women scientists. She eloquently articulated, "*under any circumstances, be confident in your ability, be grateful, be responsible and to never give up anything that is dear to your heart*." She also pointed out the importance of building a constructive network with ones' colleagues. This was held during the WiSE Networking Dinner at the UKC 2008, in San Diego, CA, on August 14, 2008.

The 2009 KW*i*SE Woman Scientist Award was provided to Professor Heakyung Lee at Winthrop University for the third KW*i*SE Woman Scientist Award. She was chosen for exemplifying the three aspects for which the award is given: contributions to a field of science or technology, community service, and contributions to KW*i*SE. Of particular note for Dr. Lee was her instrumental role in establishing the Research Triangle Park chapter of KW*i*SE, the organization's fifth Chapter The KW*i*SE Woman Scientist Award then continued in UKC2010. This will be described in the next Chapter, KWiSE Progress (I).

As Dr. Sanghee Yoo was elected as the 2nd term KW*i*SE President (2010-2011), KW*i*SE moved forward.

KWiSE won Amore Pacific Award (Group Development Award, 단체진흥상) in 2008

KWiSE progress (I): KWiSE 2nd to 4th Administration, 2010-2015

The period of KW*i*SE growth from 2010 to 2015 can be summarized as strengthened our internal structure and network to promote scientific exchange and cooperation between members, and increased our engagement of outreach activities.

The KW*i*SE 2nd Administration started in mid-2010. Dr. Sang hee Yoo served as the president for the 3rd term. With a grant from the National Institute for Supporting Women in Science and Technology (NIS-WIST) in 2010-2011, we continued to build a database of Korean-American women scientists and engineers and promoted collaboration with women scientists and engineers residing in Korea. To this day, Dr. Yoo is focused on expanding the KW*i*SE network in the State.

2010 6th Annual KW*i*SE Meeting was held at the Scripps Immunology conference room on November 13, 2010. It was a beautiful sunny day with blue sky which only southern Californians can enjoy during this time of the year. The meeting started with opening remarks from KW*i*SE president, Dr. Sanghee Yoo and KSEA president Dr. Jongdae Lee. Dr. Lee suggested us to have more joint efforts between KW*i*SE and KSEA.

KW*i*SE held the 2010 WiSE Forum at the 2010 UKC in Seattle, WA. The 2010 KW*i*SE forum consisted of two sessions. The first science session was chaired by Dr. Sanghee Yoo, and the second session of WiSE Forum was led by Dr. Gye Won Han (The Scripps Research Institute) and Dr. Sun Hwa Hahn (Korea Institute of Science Technology Information (KISTI)) with the theme of "*Leadership and Career Development for Today's Women Scientists and Engineers*."

KW*i*SE-SD, KW*i*SE-LA, and KW*i*SE-RTP continued to present KW*i*SE Student Awards to the top-scoring high school girls at the 2011 KSEA National Math & Science competition (KSEA NMSC). We especially thank Dr. Minhee Ko and Dr. Sanghee Yoo who presented the KW*i*SE Student Awards at the NMSC event.

The 2011 7th KW*i*SE annual meeting was held on Oct 15th, 2011 in the Santa Monica Double Tree Hotel. The annual meeting was to celebrate the founding of KW*i*SE. The keynote speakers were Dr. Hosin Lee (KSEA president) Dr. Gye Won Han (founder of KWiSE), and Dr. Eun-Suk Seo (Professor in Astrophysics). The meeting was a huge successful network of KW*i*SE members sharing their thoughts and exchanging their ideas.

2011 WiSE Forum was held in the UKC 2011. The theme of the 2011 WISE forum was "*Overcoming challenges as female scientists and engineers in their career.*" The first speaker was Professor Oh Myuoung Sook from the Chemical Engineering Department of Hongik University, Korea. Her topic was "*Education of female engineering students*." At the time, the population of female engineers in Korea is only 5.2% of the total engineering population, and the engineering fields are extremely male dominated. She mentioned the confidence levels of female students are very low despite good grades and work ethics.

WISE Forum at UKC 2011, Utah, August 2011

The 5th Annual West Coast meeting was held at the Doheny Eye Institute in Los Angeles, CA on May 14, 2011. The meeting begun with welcoming remarks from the KW*i*SE president, Dr. Sanghee Yoo. The keynote speaker was Dr. Jae Jung, Chair of molecular microbiology and immunology department at the University of Southern California. The 6th Annual East Coast meeting co-chaired by Dr. Seongeun Cho (FDA) and Hey-Kyoung Lee (JHU) was held in the KUSCO conference room in Vienna, VA, on June 16, 2012. It was the first time for KW*i*SE to use the KUSCO conference room, and was very meaningful meeting for both KW*i*SE and KUSCO.

The KW*i*SE 3rd administration started in 2013 with Dr. An taking the lead as President. In 2013 UKC, the 2013 KW*i*SE-KOFwST Women's Forum was jointly organized by the Korean-American Women in Science and Engineering (KW*i*SE) and Korean Federation for Women Science and Technology associations (KOFwST). The title of the forum was "*How to Reach Beyond Mid-career in Science and Engineering*." This forum discussed

how to facilitate moving midcareer professionals to upper levels. KW*i*SE and KOFwST aims to play roles in helping women's career advances in science and engineering in the U.S. and Korea. All women professionals including the ones at the beginning of their career are invited.

In the same UKC 2013, a special Outstanding Women Scientist seminar was designed to bring outstanding female scientists to present and discuss current important topics in the U.S. to both audiences from the U.S. and Korea. The topic was "*Molecular Nutrition for Better Health*" to link the basic research with the applied scientific fields and to also help practice in real life how to improve human health. The outstanding women scientist speakers provided a wealth of knowledge and contacts to scientists from KW*i*SE as well as from Korea. This seminar was expected to benefit the scientists in the U.S. and Korea and enhance collaboration opportunities between the participants. Organizers: Chair : Haejung An (U.S. FDA) Commitiee: Susan Yang (Chapman Univ.) Jihie Kim (USC) Eun-Suk Seo (Univ. of Maryland) Hey-Kyoung Lee (Johns Hopkins Univ.) Minhee Ko (Univ. of Southern California) Jeong Im Woo (House Ear Institute) Suejung Huh (Dream Works) Eunjeong Yoo (Univ. of Southern California) Hee-Yong Kim (NIH) Youngjin Park (SAS) Cathy Lee (Gordon Univ.) Gwe-Ya Kim (UCSD) Recorder: Hey-Kyoung Lee (Johns Hopkins) Suejung Huh (DreamWorks).

KW*i*SE Woman Scientist Awards were chosen for exemplifying the three aspects for which the award is given: contributions to a field of science or technology, community service, and contributions to KW*i*SE. The awardees were Dr. Gye Won Han, KW*i*SE 1st and Founding President (2010), Dr. Hey-Kyoung Lee (JHU, 2011) and Eun-Suk Seo (UMD, 2012). 2013 KW*i*SE Woman Scientist Award was given to Prof. Won Ok Song, Dept. of Food Science & Human Nutrition, Michigan State University.

The annual 2014 KW*i*SE West Coast Conference was held at the Scripps Research Institute (TSRI) Conference Room, La Jolla, California on May

17, 2014. Approximately, 60 participants attended the meeting. The meeting began with a presentation from the KW*i*SE President at the time, Dr. Haejung An. She shared the KW*i*SE activities and achievements during her presidency and appreciated KW*i*SE executive members, Drs. Minhee Ko, Jeong-Im Woo, and Minyoung Lim, for their contribution. Prof. Eun-Suk Seo who was the KW*i*SE President-Elect, gave a keynote talk called "*The Mirror World of Antiparticles*."

Dr. Eun-Suk Seo, Department of Physics, University of Maryland served as the 4th President of KW*i*SE (2014-2015). During this term, KW*i*SE strove to harness the untapped leadership potential of female scientists and engineers to empower the future generation of women leaders in science and engineering. A joint KW*i*SE-KOFwST Forum was organized at the UKC annually: specifically, a Forum entitled "*Current Women's Issues in the US and Korea*" during the UKC 2014, San Francisco, CA, August 6-9, 2014, and "*Women's Leadership*" during the UKC 2015, Atlanta, GA, July 29 – August 1, 2015. Honorable Hee-Young Paik, former Minister of Gender Equality and Family of Korea and President of KOFwST, and President Seo co-organized and co-chaired both forums to provide opportunities to exchange ideas, learn and inspire, and to promote better leadership for a changing world with diversity in disciplines, background, and gender. Outstanding speakers and participants included the Honorable In-Sook Park, Member of the National Assembly, Prof. Heisook Lee, Director of the Korea Advanced Institute of Women in Science, Engineering and Technology (KAI-WISET), and the honorable Myung-Ja Kim, former Minister of Environment of Korea and former President of KOFwST. This annual forum provides an exceptional opportunity to foster peer networking and mentoring, and is a platform for current and future leaders to meet in an environment where meaningful partnerships and friendships can form and grow.

KWiSE- KOFWST Forum during the UKC2014

KOFST and KSEA jointly awarded Prof. Eun-Suk Seo the Scientist of the Year Award (left) and Dr. Jane Oh the Engineer of the Year Award (right) at the UKC 2015. Prof. Seo and Dr. Oh, respectively, served as the 4th and 5th President of KWiSE

Prof. Do-Sun Na, Korean Academy of Science and Technology and the 3rd President of KW*i*SE, Dr. Haejung An, U.S. Food and Drug Administration, co-chaired an Outstanding Women Scientist Seminar entitled "*Dietary Approaches to Better Health*" during the UKC 2014. A new collaboration with Woman Scientists and Engineers (KWSE) was initiated at the KW*i*SE Biotechnology Forum during the UKC 2015. Many KW*i*SE members contributed to UKC 2014 and UKC 2015 by serving as organizers: e.g., Dr. Jane Oh, UKC 2014 Program Co-Chair; Dr. Eun-Suk Seo, UKC 2015 Program Co-chair, Dr. Hee-Yong Kim, Chair of Food, Agriculture and Nutrition (FAN) Symposium; Dr. Sohyun Ahn and Prof. Hey-Kyoung Lee, Chair and Co-Chair of Bio, Medical and Pharmaceutical Symposium, to name a few, and many KW*i*SE members were invited speakers to various Technical Symposia. It should also be noted that the KW*i*SE President Seo and VP Oh received the Scientist of the Year Award and the Engineer of the Year Award, respectively, at the UKC 2015. These awards are the joint recognition given by KOFST and KSEA.

With a support from KUSCO and KSEA, the Annual Spring Conferences were held successfully at the University of Maryland and Caltech for the East Coast Conference and the West Coast Conference, respectively. The keynote speech, "*Strong Objectivity: Gendered Science*," by Prof. Seungkyung Kim, Chair of the Women's Studies Department & Director of the Center for East Asian Studies, was highly notable. Interdisciplinary research generated a lot of interests. Particularly, interactive and engaging panel discussions gave a great opportunity to foster further peer networking and mentoring among the attendees. The National Institute of Health (NIH) and Southeastern Chapters had Fall Conferences. The Research Triangle Park (RTP) Chapter had a membership drive at the University of North Carolina (UNC), Chapel Hill Korean Association of Students and Scholars Annual General meeting. The KW*i*SE webpage was re-modeled to include each Chapter web to encourage Chapter activities. During the 4th administration, the Newsletter was published quarterly, whereas it was published annually in the past, to stay closer to the community and to build a stronger organization. Various awards, including the 2015 KW*i*SE Woman Scientist Award and KW*i*SE Service Awards, were given. Seven female winners of the National Math and Science Competition (NMSC) also received KW*i*SE Students Awards. For the first time in KW*i*SE history, two Technical Trend Reports (기술 동향 보고서) were delivered to KOFST, specifically, "*New Drug Development and Current Trend*" and "*Current Trend and Tasks of Research Connecting Quarks to Cosmos*."

In addition, President Seo presented KW*i*SE activities at the Global Network of Korean Women in Science and Technology Associations (GNet KOWST Forum 2014) held in Seoul, Korea in November 2014. Its goal was to promote the global networking among the Korean women scientists around the world. The theme of the forum was "*Korean Women Worldwide in Science and Technology - Where we are and where we are going.*" It was a good opportunity to promote KW*i*SE to the

GNet KOWST Forum 2014, Seoul, Korea, November 2014

GNet KOWST Forum 2014, Seoul, Korea, November 2014

global community. Representatives of the Asia-Pacific region, Canada, and the European Union also made presentations on their activities. This forum was followed by the 2014 KOFwST Conference with the theme "*Women Scientists and Engineers who are changing the world*," which was attended by about 250 people. Both the GNet Forum and the KOFwST Conference facilitated scientific interactions and added much potential for future collaborations and networking.

KWiSE Progress (II): KWiSE 5th to 8th Administration, 2015-Present

The period of KW*i*SE growth from mid-2015 to present can be summarized as expanding our collaboration with other organizations as well as strengthening our internal structure to promote scientific exchange, strengthen mentorship programs, and engagement of outreach activities.

This period started with the 5th Administration (2015-2016) led by Dr. Jane Oh (JPL, NASA). The main undertaking of this period was to establish a proper organizational structure for KW*i*SE, which involved adopting a formal by-law and registering as a 501(3)(c) non-profit organization. In addition to continuing KW*i*SE Annual Conferences and participation in UKC (US-Korea Conference), Dr. Oh organized the KW*i*SE Leadership Conference in January of 2016 at the Caltech Beckman Institute in Pasadena. The purpose of this event was to exchange ideas on how to build successful careers and leadership skills, but it also served as a venue to discuss the future directions of KW*i*SE.

The 6th Administration (2016-2018) was the first to reflect the newly established by-law to have a two-year term for the KW*i*SE presidents. Dr. Hee-Yong Kim (NIAAA, NIH) served as the president for this term. One of the initiatives of the 6th Administration was to build a new KW*i*SE web site (www.kwise.org). During this period, the Greater DC chapter was revitalized, and the NIH-DC chapter initiated the KW*i*SE mentoring program. In addition to this, under the leadership of Dr. Kim, KW*i*SE established connections with our European counterpart, EKWSEA. This led to the exchange of members from these two organization to participate in events for one another's organization. In 2017-2018, The KW*i*SE-KOFwST Women's Forum continued to serve its role as an event that allows the exchange of ideas on how to improve conditions facing women in the STEM (Science, Technology, Engineering, and Mathematics) fields. In addition to the KW*i*SE-KOFwST Women's Forum, 2017 KW*i*SE-BT forum was also organized at UKC2017, and for the first time, a standalone KW*i*SE technical symposium in BMP (Bio, Medical and Pharmaceutical) was organized at UKC 2018. Furthermore, in 2018, KW*i*SE-KWSE Bio-Technology forum with KWSE (The Association of Korean Woman Scientists and Engineers) was organized to provide venues for scientific collaborations specifically with our counterparts in Korea.

The 2018 KW*i*SE-KOFwST Forum during the UKC 2018 served a different role. It served to exchange scientific ideas and opened the possibility to promote collaboration among Korean women in the STEM fields. At the 2018 KW*i*SE-KOFwST Women's Forum, it was discussed that in order to truly promote our cause, we will need to involve not just women scientists, but also men.

In 2018, Dr. Hey-Kyoung Lee (Johns Hopkins University) became a President of the KW*i*SE 7th administration (2018-2020). One of the initiatives of the 7th administration was to use online media to strengthen connections between members. The KW*i*SE website was repopulated with archived materials to promote KW*i*SE activities. In addition, KW*i*SE has adopted social media,

2018 KSEA-KWiSE STEM Fair: KWiSE LA chapter partnered with KSEA SC chapter to organize and run the first STEM Fair on the topic of Robotics

such as LinkedIn and Facebook, to allow informal interaction between members and to promote KW*i*SE activities to a broader audience. The KW*i*SE Annual Conferences, which merged with the West and East Conferences, continued to serve as our main activity in exchanging scientific ideas and providing helpful information related to career development.

Furthermore, several chapters are engaged in various activities to provide mentorship to our members and outreach activities to educate the next generation.

In December 2018, the KW*i*SE LA chapter partnered with KSEA SC chapter to run the very first KSEA-KW*i*SE STEM Fair on the topic of Robotics to promote young female students to encourage them to pursue a career path in STEM.

2016 and 2017 KWiSE_KOFwST Forum at UKCs

At the 2019 UKC, KW*i*SE co-organized two forums, the 2019 KW*i*SE-KOFwST Women's Forum and KWSE-KW*i*SE BT Forum, and a technical session titled "*KWiSE-Neuroscience & Molecular Physiology*." Based on the past discussion, male speakers were included in the programs of Women's Forum and the technical session. The KWSE-KW*i*SE BT forum continued to act as a venue for scientific collaborations with our counterparts in Korea. Discussions from the KWSE-KW*i*SE BT forum led to a new initiative titled 2020 KWSE-KW*i*SE Webinar series, which was led by KWSE and KW*i*SE-NIH Chapter. This Webinar series is open to all KW*i*SE members, and we expect to expand this new initiative to include speakers across all KW*i*SE chapters. The exchange of scientific discoveries such as a virtual seminar series is expected to promote collaborations between KWSE and KW*i*SE members. During the KW*i*SE-KOFwST Forum at UKC 2017 and 2018, Dr. Myung-Hee Park (NIH) and Prof. Yeon Bai (Montclair State University) received the 2017 and 2018 KW*i*SE Woman Scientist Award, respectively, in recognition of outstanding services to the betterment of the KW*i*SE. Dr. Park served as the KW*i*SE-NIH chapter President and helped]revitalize DC chapter. Dr. Bai founded the New York and New Jersey (NY/NJ) chapter in 2013 and relentlessly served for the steady growth of its membership and network.

The 2019 KW*i*SE Outstanding Woman Scientist Award was provided to Dr. Jayoung Kim (Cedars-Sinai Medical Center) to honor her outstanding contributions and dedication to KW*i*SE as well as to commend excellence on her research.

In the KW*i*SE 8th Administration (2020 - present) with Dr. Jayoung Kim taking the lead as President, KW*i*SE Annual National and Regional conferences and Special Forums, such as KW*i*SE-KOFwST Women Forum – COVID Burnout, Statement on Asian Hate Crimes, and COVID-19 Science Forum, were organized.

Besides, since 2020, KW*i*SE-WISET (Korea Foundation for Women in Science,

2018 and 2019 KWiSE_KOFwST Forum at UKCs

Engineering and Technology) has organized Global Mentoring Program, which becomes a platform where young professionals and students share work-related concerns and receive professional leadership training. For K-12 students who are interested in the STEM (Science, technology, engineering, and mathematics) field, KW*i*SE has provided a series of the STEM Talk Concert, where students can meet their role models in various majors, which helps our next generation of female scientists choose a major and continue the scientific career path.

In addition, with KOFwST support, KW*i*SE initiated a research project to understand the prevalence of Burnout syndrome among Korean-American Women Scientists in 2021.

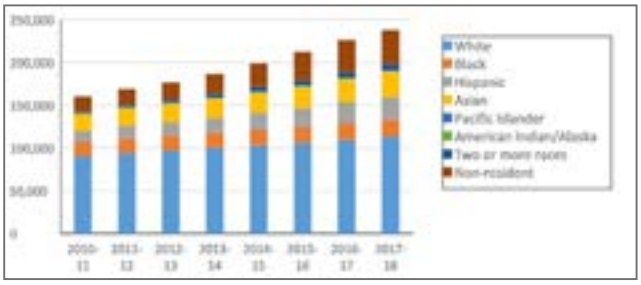
Currently, KW*i*SE (www.kwise.org) consists of eight Chapters in the Greater DC, NIH, LA, NY/NJ, NC (Research Triangle Park Chapter), SD, GA (Southeastern Chapter), and TX with the mission to promote:

- Technical Excellence
- Career Development
- Professional Collaborations
- Mentoring Future Generation
- US-Korea Cooperation

As Science, Technology, Engineering, and Mathematics (STEM) occupations has experienced rapid growth, the number of women has been increased in STEM workforce and continues to grow. According to the National center for Education Statistics (https://nces.ed.gov/programs/digest/d16/tables/dt16_318.45.asp), the number of women who are awarded STEM degrees every year have increased in all races except Native Americans.

From 2010 to 2018, an increase of about 80,000 women have been awarded a STEM degree in the following order: White (22,921), non-resident (21,391), Hispanic (14,088), Asian (10,048), two or more races (6,418), Black (2,990), Pacific islander (5), and American Indian/Alaska (-83). Among them, Hispanic and non-resident STEM women awardees are increased more than double during this period with Hispanic going from 12,917 (in 2010) to 27,005 (in 2018), and non-resident going from 17,585 (in 2010) to 38,976 (in 2018).

However, as we discussed before, women are still underrepresented in STEM jobs. In order to overcome this challenge and support women in STEM fields both in college and the workplace, KW*i*SE will keep growing, and continue to be a leading voice for women in science and engineering.



Total number of STEM degrees/certificates women conferred to U.S. citizens, permanent residents, and nonresident aliens: 2010 through 2018

I am very proud of the KW*i*SE leaders and our valuable members for their tireless efforts to establish a close network of Korean-American Women in Science and Engineering fields and provide more opportunities for collaboration and career development. Our goal is to harness the untapped leadership potential of female scientists and engineers to empower a future generation of women leaders in science and engineering. It is clear that we need to form strong ties with collaborating organization, such as KSEA, and promote efforts to secure sponsors for supporting our activities especially mentoring and career advice for our future generation that sustain our growth. I strongly believe that the partnership with KSEA will allow us to reach out to a larger community across the country to support our next generation of women in STEM.

Acknowledgments

I would like to thank the current KWiSE President, Dr. Jayoung Kim, and former KWiSE Presidents, Dr. Hey-Kyoung Lee, Dr. Hee-Yong Kim and Dr. Eun-Suk Seo for providing me summary of the achievements for their terms. I would also like to thank Dr. Ja Yeon K. Chu and Ms. Kathlynn Alba for the great help on statistical resources and proofreads.

2018 and 2019 KWiSE Annual Conferences

Interview

Young Generation (YG) Female Leaders in KSEA

Stella Chun
Executive Director of YG/YP

How did you first get involved with KSEA?

Via recommendations

Claire: I learned about KSEA when I was an undergraduate student in 2004. One of the professors, who was a member of KSEA, called for volunteers for the National Math and Science Competition (NMSC). Without knowing much about KSEA, I signed up to volunteer. The main tasks were to move desks and direct the high school students to the appropriate examination rooms. I didn't really give much thought about KSEA at that time. All I knew was that the NMSC in L.A. was sponsored by Nong-Shim and after volunteering, we received a box of cup ramyun to take home.

A few years later, my friend attended Young Generation Technical and Leadership Conference (YGTLC) 2007 in New York and told me about all the fun she had there. So few years later, I applied and went to YGTLC 2010 in Washington, D.C., in hopes that I would have as good experiences as my friend did.

Ryuhwa: Dennis Hong. I've known Dennis Hong since I was in Korea. I used to study Robotics and since the robotics community was small, I'd gotten a chance to know him even before I moved to the USA. When I moved to San Francisco to attend UC-Berkeley, Dennis told me about KSEA. He had described KSEA as an organization where there's a lot of Korean Scientists and Engineers, and therefore, I should attend their events. So I ended up checking out Ygnite (YGTLC was rebranded as Ygnite in 2013) 2014 in Houston. This was also the year when Dennis was invited to Ygnite as a plenary speaker, so I was encouraged to attend the conference even more.

Stella: I attended Young Generation Forum (YGF) in the summer of 2008 and made some great memories with friends from all over the world. When I returned to Canada, we stayed in touch via Facebook and my Korean-American friends told me that there will be a similar event like YGF, but in the USA. They've encouraged me to apply for it, so that we can meet and have a reunion at that event. Excited by the thought that I would get to see these awesome people again, I applied. I do remember being so nervous that I wouldn't be accepted by YGTLC because I thought I may not be good enough to attend. So when I got the acceptance letter, I was joyous. Up until that time, I honestly thought that YGTLC would just be an opportunity to reunite with my friends, and did not realize how life-changing it would end up becoming.

Push to know the Korean community

Katherine: My family member, who was part of KSEA, recommended me to join KSEA and encouraged me to apply to the 2014 Ygnite in Houston. During that time, I wasn't heavily involved with any Korean associations, and I was curious to learn more. However, even after I got accepted to attend Ygnite, I was still on the fence. But, what was really great was that Jane Hyun was a plenary speaker in 2014, and I had just read her book Breaking the Bamboo Ceiling. As such, I knew I had to attend, booked my ticket, and here I am today.

How did you end up organizing and pursuing these leadership roles in KSEA?

Recruited by Stella Chun

Katherine: Near the end of Ygnite Houston, I had met Stella, who was an organizer at that time. We ended up talking for a bit, and Stella asked me, "*Do you think there's anything we (Ygnite organizers) can do to improve the conference*?"

During that time, for my professional work, I had founded and created a conference myself. So naturally, I had made a lot of observations both to improve Ygnite and gather tips to improve my own conference. So when Stella asked me that question, we wound up having a long conversation and towards the end, Stella mentioned that she'll be in New York and we should hang out. I remember politely declining because we had just met - after all, we are strangers. But the

next thing I remember is Stella was in New York City, and mentioned how she is an organizer for the Young Generation and Professionals Forum (YGPF) at US-Korea Conference (UKC). She encouraged me to be an organizer as well, to which I had politely declined since I was wrapped up in my own work. But, next thing I knew, I found myself in San Francisco organizing for that 2014 YGPF. So in many ways, maybe my leadership roles within KSEA started from a bit of spellcasting and magic from Stella, because I am still unsure how I got involved.

Ryuhwa: I never actually thought about being an organizer. While attending Ygnite, I wanted to win the prizes by being an active participant. Since organizers don't get to win any prizes, I was happy to attend KSEA events (Ygnite and YGPF) as a participant.

So, for me, I became an organizer because of Stella. When I was just a mere participant, Stella came up to me and said "*Ryuhwa, let's work together*," and that's how it started.
(for further elaboration of Ryuhwa's story)

Stella: Oh! I remember why I asked you (Ryuhwa) to work together for the following year. I was very stressed as a co-chair, and Ryuhwa, being a good friend of mine, asked if there's anything she can do to help. So I asked her to pull some data for me. When Ryuhwa gave me the file, I was so impressed because not only did she give me the data, she had organized it in a table, and analyzed the file for me. When I saw that Ryuhwa went the extra-mile, I knew I wanted her on my team, for the following year's Ygnite in Philadelphia.

Sense of belonging

Claire: As my friend told me, YGTLC was a lot of fun. The first time I attended YGTLC, I ended up wandering the hotel to see what was happening after-hours. While I was wandering, I saw that some organizers-Tom Oh and his daughter, Ben Lee and other organizers-had ordered pizza and were eating it together in the lobby. When I saw them from afar, I could tell that they were genuinely enjoying each other's company, and I wanted to join them. So, even though I was a participant, I approached them and they welcomed me into their pizza party. Since I was among the organizers, they began to discuss next year's YGTLC and told me to apply to become an organizer. The sense of belonging and the bonds that the organizers shared, was something that I wanted to be part of as well. So, I took their advice, and a couple months later, I became an organizer for YGTLC 2011. As a first time organizer, although I didn't do much other than giving out drink tickets during the Wine and Cheese event, I was still able to form a close knit community with the Ygnite organizers.

What was your favourite memory from KSEA?

Overachievers

Claire: My favorite memories are from two Ygnites that happened in D.C. - where I was a non-organizer: first-time participant and returning as participant after being a chair. When I first attended Ygnite for the first time in D.C., I was so impressed that all these well-rounded Korean-Americans can be gathered in a single space. There were more than 100s of overachievers in a single room. It blew my mind that these participants would be up late networking, and then be up at 8am to attend the morning sessions. It was my first time seeing people behave like that. Normally, when people stay up late, they do not show up for the morning session. But Ygnite has attracted a whole new set of people and have shown me a different world. To be surrounded by these smart, overachieving people, I felt super proud to be Korean-American. I actually learned the word 'overachiever' at Ygnite. When I first heard it, I didn't know what it meant, but I really didn't need an explanation. I could see what it meant as I was surrounded by them.

Walking the journey together

Katherine: It's hard for me to pinpoint on a specific memory because so much of it is full-circle. But, I did especially love Ygnite Seattle 2020. I returned as a participant after organizing since 2016. Since I had just chaired Ygnite 2019, when I returned in 2020, I had immense appreciation for the conference because I understood so many of the different layers behind the scene. And what also made it so special was that I had just confirmed my job. Friends from KSEA have seen me go from considering whether I should go back to school to get a masters degree in 2014, to graduating and pursuing a doctorate, to debating if I should pursue a career in academia, to confirming a tenure-track assistant professorship in 2020. This group is one of most stable groups in my life and have walked through such a huge portion of my career - so many of my memories and milestones have been with KSEA and likewise, this has been a community where I've seen us celebrate one another as we accomplish our different paths.

Fostering the growth of organizers

Ryuhwa: I don't have a specific favorite moment regarding me, but I've had a very proud moment when Hyeon Ki, the chair of Ygnite 2021, was giving his closing speech during the last session of Ygnite 2021. When I first approached Hyeon Ki in 2020 to become the chair for 2021, there was a lot of hesitation, but I've persuaded him to take on the opportunity. Then, COVID-19 hit the world. I saw Hyeon Ki's team shift gears from in-person conference to virtual, and adapt to every change that came along with it. From Hyeon Ki's

"To identify a problem, then to come up with a solution and having [Code of Conduct] to show up on the website, it was such a proud moment."

initial hesitation to seeing him step up to his role during the pandemic and to make Ygnite 2021 a success - I couldn't be more proud of what Hyeon Ki had achieved. I think it was almost like a maternal instinct that kicked in and sprouted this emotion in me.

Stella: I've been an organizer for 6 years prior to becoming a chair for Ygnite. And every year, we would have boxes of Red Bull as organizers were pulling all-nighters. The more I got involved with KSEA and Ygnite, I would notice that less and less organizers would return for the following year due to being burnt out. Subsequently, I started to worry about sustainability of Ygnite organizers. So, my goal as a chair was to make sure the Ygnite 2017 organizing team does not get burnt out and enjoy the conference. So, during the conference, when I saw that the organizer room was empty at night - and not a single person was scrambling last minute and pulling an all-nighter, I was ecstatic. I was happy to see that we were at least one step closer to preventing burnt-out syndrome and maintaining the sustainability of the organizers.

Was there a moment when you were inspired by another female in KSEA?

Advocating for YGs

Stella: I was actually inspired by Claire. During headquarter KSEA meetings, there were often times when voices of YGs would not be heard properly as lack of representation. So during these meetings, we were typically silent and didn't voice our opinions. However, Claire was able to break free from this stereotype and started to advocate for YGs. During this process, I also learned that KESA members were interested in hearing our opinions. So when Claire started to advocate and be YG's voice, she ended up creating a communication bridge between the YG and KSEA so that there's more open dialogue, and we can all work together for a better future.

Milestone for KSEA: Establishment of Code of Conduct

In 2019, there were rising concerns of conducts at KSEA events, as reflective and aligned with broader societal concerns regarding sexual harassment. As cases surfaced, YG leaders noticed that there weren't proper procedures within KSEA to deal with such incidents. As a result, as some of YG leaders voiced these concerns, KSEA listened and decided to create an ad-hoc committee to explore different possibilities and processes for our organization. Benjamin Lee and Katherine S. Cho were key leaders in spearheading this initiative, which ultimately led to establishment of KSEA's Code of Conduct (https://ksea.org/us/about-us/code-of-conduct/) and Code of Conduct Oversight Task Force. This was a proud moment for all of us as it was a step KSEA took to explicitly say this is not an acceptable behaviour, and for KSEA to show that changes will be made accordingly.

Katherine: The day the Code of Conduct was published on the KSEA website was one of the proudest days I had in KSEA. For context, my research and professional work examines organizational behavior and institutional accountability (particularly on issues of social justice). To see this work, as both professional and personal investment— identifying a problem, building out a community to determine potential solutions, and then having a code created and publicly documented— was such a proud moment. It was a moment when I realized that we had made an impact in KSEA. Sexual harassment is not an issue that suddenly started happening. Just like any other organizations, even in KSEA, there are individuals (disproportionately women), who year after year, thought about this issue and had multiple conversations with me, us, about it. Over the years, these conversations grew into a community of people who cared and created a momentum to initiate change. This was not to a single person's credit and I want to recognize both Ben and Stella's roles in navigating the KSEA structure to codify change and thank so many of the people who trusted us with the initial conversations to make the change. There is still more work to be done, and yet, in this moment, is such a huge celebration.

This interview was a short glimpse of getting to know the few selected YG female leaders who transitioned into playing a bigger role in KSEA. There are still so many unmentioned YG female leaders and we hope that there will be another opportunity to interview them in the near future.

Part V

Past and Future

Chapter 13

Reminiscence

- KSEA and KoSEN and I
- 조국 선진화에 결정적 역할을 수행한 KSEA를 회상하면서
- KSEA 협력기관 회고 - 한국과총 회장단 활동기

KSEA and KoSEN and I

Sunhwa Hahn
Former President of KISTI

First of all, congratulations on the 50th anniversary of KSEA. The relationship between KSEA and I goes back to 2000 when I started KOSEN, the Global Network of Korean Scientists and Engineers. KOSEN was initiated in 1999 with the support of the Ministry of Science and Technology as an online platform for Korean scientists and engineers home and abroad to share information and knowledge with each other. One of the most important missions was to attract the participation of Korean scientists abroad, so collaboration with the Korean Scientists and Engineers' Association abroad was a top priority. In 2000, with the Overseas Koreans Foundation and KSEA , we conducted YTEC, a program inviting 1.5 and 2 generation Korean scientists in USA, and this has become the predecessor of YGF.

In 2001, for the first time, I participated in the General Meeting of KSEA to promote KOSEN. At the time, the president-elect of KSEA was Dr. Ho Jung, and the event was held at the Drake Hotel in Chicago. When I promoted KOSEN as one of the keynote speakers of the event, one of the audiences suggested, "*It would be better if KOSEN provide Match Making function for Korean scientists*". Although we did not add a special match making function, there are cases in which couples were actually born across borders through KOSEN. Since then, I have attended the General Meeting of the KSEA almost every year until 2017. I watched the growth from family events with about 100 people to grand UKC events with over 1000 people. KOSEN has participating as a sponsor since 2001, and the sponsorship is continuing till last year. We set up a publicity booth for attracting new members and preparing souvenirs. In particular, KOSEN's souvenirs were mainly prepared for overseas Koreans, such as a desk calendar displaying the lunar calendar and Korean holidays, anchovy and red pepper paste set, and Korean style handy fan. Mobile-phone chargers and Korean candy of the memories were ready on the desk, so our desk was very popular. The event that was held at UC Irvine in 2005 is memorable by preparing a special session for the advancement of science and technology policy in Korea with the now deceased Chairman Kane Kim and Professor Hoshin David Lee, who served as the 40th president of KSEA. In particular, at that event, I was able to build friendships with past presidents and wives of KSEA by hosting a breakfast at a wonderful restaurant near the beach. Afterwards, whenever I attended UKC, the past presidents and their wives greeted me really warmly.

At UCK 2010, with the 28th (H.Thomas Hahn), his wife, and the 39th (Jae Hoon Kim) KSEA Presidents

At UKC 2016, with the 15th (Ki-Hyon Kim), the 46th (Eun-Suk Seo), the 37th (Kang Wook Lee), the 38th (Chueng-Ryong Ji), and the 21th (Kun Sup Hyun) KSEA Presidents

At UKC 2017, with the 25th (Saeyong Ahn), the 46th (Eun-Suk Seo) KSEA Presidents, and Dr. Yong Ki Kim (Univ. of Chicage), Dr. Sang Hyuk Sohn (President of DGIST at 2017), Dr. Tae Sik Lee (President of KRICT at 2017), Woo Il Lee (President of KOFST)

The Korean American Science and Technology Association is not only a focal point for Korean American scientists living in the United States, but also an important organization that connects Korean and American science and technology. UKC, the annual meeting of KSEA, has become the largest and most important overseas event in S&T field. In particular, I think it is very important to cultivate second-generation scientists and provide them with a link with Korea. As the years go by, Korean relatives will disappear, and the ties that connect Korea and our second and third generations will fade. Chinese, Jews, and Indians are building their own strong network and becoming a ladder of each other. It is important to raise each of the best researchers, but it is also important to make sure they are empowering each other. I think that KSEA should continue to play that role as the first priority.

Again, I would like to express my warmest thank to KSEA for your contribution on S&T advancement of KOREA as well as your friendship with KOSEN. I wish I could attend upcoming UKCs and meet affectionate people there.

조국 선진화에 결정적 역할을 수행한 KSEA를 회상하면서

조 경 목

전 과학기술처 차관

한국 정부는 1960년대 초부터 경제개발을 비롯한 본격적인 근대화 정책을 실시하기 시작하였다. 식민지로부터 해방된 후 민주공화국으로 겨우 발걸음을 디딜 때 동족 간에 일어난 한국전쟁은 전 국토를 초토화시켰으며, 세계 최빈국으로 만들었다. 전쟁 후의 복원 작업은 서구적 모델에 따른 근대화 정책을 적극적으로 실시하는 것이었다. 정권을 장악한 박정희 대통령은 경제개발을 정권을 유지하는 핵심적 과제로 인식하여 총력을 기울었다.『과학입국』과『공업발전』은 경제개발을 위한 필수이기 때문에 과학자와 기술자를 확보하는 것이 관건이었다. 전후 혼란기에 제대로 교육받은 인재를 확보하기가 힘든 상황 속에서 외국에서 교육받고 활동하고 있는 과학자들을 영입하는 안들이 제안되었다. 이러한 시대적 요청에 부응하여 새로 설립된 행정부처인 과학기술처에서 과학정책을 담당했던 (1961-1980년대 말까지) 공무원으로서 당시 대한민국 정부가 과학기술 발전을 촉진하는 데 기여할 수 있는 재외 과학자들을 초빙하는 행정적 지원을 기획하고 수행했었다. 특히 1971년 말에 출범한 재미한인과학기술자협회(KSEA)의 설립을 측면에서 지원하고, 과학자들의 활동을 한국정부와 연결시키는 실무를 담당했다. 행정 실무자로서 담당했던 일들을 돌이켜 볼 때 한국인 과학자들의 적극적 호응이 없었다면 과연 그러한 과학정책이 경제개발의 기반으로 작용할 수 있었겠느냐 하는 질문을 던져 본다. 이러한 상호작용이 갖고 있는 역사적 의의를 얼마나 지금 현재 활동 중인 과학자들이 인식하고 있는지 궁금하다. 이제 KSEA 50주년을 맞이 하면서 협회의 설립과 재미과학기술자들의 한국 사회 발전 에 기여한 공로를 회고 할 수 있는 기회가 주어져서 매우 영광스럽게 생각한다.

1. 시대적 배경: 1960년 전후의 사회상과 시대가치

1960년의 한국은 1인당 국민소득이 미화 80불에 불과한 최빈국, 농업국가였다. 한국 전쟁의 상흔은 사라지지 않고, 경제는 복구되지 않은 상태였다. 미국의 잉여농산물로 생계를 유지했으며 춘곤기를 겪고 있던 상황이었다. 미국원조에 의존한 소비경제는 산업의 발달을 어렵게 했으며 국토방위는 미군과 유엔군에 의존한 상태였다. 이러한 사회경제적 조건 아래에서 고등교육의 수준도 미흡할 수 밖에 없었다. 대학을 졸업한 이공계 학생들이 더 전문적인 교육을 받기 위해서는 유학을 갈 수 밖에 없었다. 미국은 우리의 이상향이었으며, 우리 나라도 언제 미국과 같이 잘 살 수 있을까 하는 염원이 넘쳐 흘렀다. 동시에 군사력을 외부에 의존하지 않고 스스로 국토를 지킬 수 있는 힘을 키워야 한다는 희망도 강했다.

2. 정부 주도의 경제 발전 기획과 과학기술개발 추진

1961년 5월 16일 쿠데타에 의하여 수립된 정부는 국민적 지지를 얻기 위하여 이러한 시대적 요망사안을 반영하여 국시로『자립경제』와『자주국방』을 제시하면서 제 3 공화국을 출범시켰다. 자립경제를 이루기 위한 기반으로 종합적인 경제개발 정책을 입안, 수행하기 시작했다. 5년 단위의 경제개발5개년 계획과 병행하여 기술개발5개년 계획을 수립하여 보완하고 지원하도록 시행했다. 이를 추진할 수 있는 정부 내 전담 부서로서『경제기획원(EPB)』을 설립(1961) 했다. 내부기구로 경제기획국, 기술관리국, 외자 도입국, 예산국 등을 두어 경제 및 과학기술 발전 장기 계획을 수립하고, 국내외 자금 배정을 하는 등 정부 주도의 집행, 총괄 조정 업무를 수행하도록 했다. 공대 출신으로1961년부터 정부에서 과학정책 분야를 맡아 봉사해온 필자는 경제 기획원 설립부터 과학정책을 전담하는 과학기술처 설립의 전 과정에 참여할 수 있었다.

2-1. 과학기술개발 계획의 전략과 내용

과학기술 개발의 기본 목적은 경제발전계획에 부응하는 산업기술개발에 두는 것이었다. 이를 위하여 국가는 과학기술행정을 총괄할 수 있는 부서를 설립하였다. 경제기획원의 기술관리국(1962)에서 출발하여 과학기술처(1967)가 이러한 임무를 담당하기 위한 행정부처로 만들어졌다. 이를 통하여 5년 단위의 과학기술개발 장기계획이 수립되었으며 이에 수반되는 정책 및 전략을 개발해왔다. 특히 각종 과학기술관련 법령을 제정하고, 이에 필요한 재원을 안정적으로 확보하는 방안이 제시되었다. 또한 기술인력의 질적 향상을 위한 자격 제도를 정착해왔다.

담당 행정기관의 설립과 함께 추진된 것은 산업기술 연구개발을 선도할 연구기관의 설립이었다. KIST가 1966년 과학기술처의 설립(1967)과 함께 시작되었으며, 기존의 국공립 연구기관의 구조 조정도 이루어졌다. 장기 과학기술인력의 수급 계획이 수립되었으며 KAIS가 이를 위하여 1971년에 설립되었다. 그 뿐 아니라 국내 기존의 이공계 교육기관을 정비하고 산업계 직업훈련을 강화시키는 정책을 지속적으로 수행해왔다.

다른 한편에서 한국 사회 속에서 과학기술자들의 사회적 지위의 향상이 중요하다는 인식 아래 일반 국민을 대상으로 범국민적 과학기술 진흥풍토를 조성하는 정책을 만들었다. 과학문화재단이나 국립과학관을 확충하여 일반 국민이 과학기술에 접할 수 있는 기회를 확대하고 과학기술에 대한 이해를 증진시킬 수 있는 정책을 모색해왔다. 특히 과학기술자들의 사기를 진작시키는 것이 중요하기 때문에 '병역특혜', '포상제도' 등을 만들어갔다.

과학기술발전은 대규모 투자가 필요한 만큼 장기적인 투자 계획도 수립했다. GNP대비 연구개발에 대한 투자는 급속히 증대되었다. 1963년에 그 비율은 0.23% 였으며, 이어서 0.39% (1970)를 차지하게 되었다. 이를 기반으로 R&D는 더욱 확대되어 1980년에는 0.56%, 1990년의 1.72%, 2000년에는 2.39%를 차지하게 되었다. 정부의 노력뿐 아니라 민간 기업의 기술개발투자를 촉진하기 위하여 세액공제를 할 수 있는 기술개발촉진법을 입안했다. 이 과정에서 과학기술자에 대한 병역특혜도 가능하게 되었다.

2-2. 60년대 과학기술계의 성과들

1960년대에 본격적으로 시작된 과학 정책은 당시 시작된 경제개발의 토대가 되었을뿐더러 향후 과학기술 인재 양성을 위한 단단한 기반을 구축한 것이다. 이 과정을 분야별로 살펴보면 아래와 같다.

1) 과학기술처 출범 (1967)

당초 제 2차 과학기술진흥 5개년 계획에서는 국무위원이 수장이 되는 과학기술처가 진흥계획의 마지막 단계인 1970년에 발족하는 것을 목표로 하고 있었다. 그러나 과학기술계의 열망과 1967년 대통령선거의 영향으로 그 계획이 앞당겨져서 1967년 4월 21일 조기 출범하게 되었다. 초대 장관으로는 재미과학기술자인 김기형 박사 (펜실베니아 대학, 요업공학)가 임명되었다. 과학기술처의 조직은 1960년대 전반기에 제 1 차 및 제 2 차 과학기술진흥계획을 수립하고 집행해왔던 경제기획원의 기술관리국(당시 국장 전상근박사, 퍼듀대 화공학, 1954년 귀국)을 모체로 했다. 김기형 장관의 주도 아래 과학기술처는 KIST육성 지원, 재외한인 과학기술자 유치 및 지원, 한국 과학원 설립 등의 다양하고 핵심적인 과학정책들을 입안 집행해왔다.

2) KIST 설립 (1967)

KIST 설립은 한미 관계와 밀접한 관계를 갖고 있다. 1965년 1월 20일 제 36대 미국 대통령으로 취임한 존슨 대통령은 월남전의 명예로운 승리와 종식을 위하여 우방국의 월남파병을 희망 했다. 취임한 지 얼마 되지 않은 1965년 5월 한국의 박정희 대통령을 미국으로 초빙하여 파병을 요청하게 되었다. 미국이 박대통령에게 방미 선물로 당시 백악관 과학고문인 Donald Hornig 이 주관이 되어 한국이 원하는 경제개발에 필수적인 산업기술연구기관의 설립과 고급과학기술 인재양성기관 설치를 지원하는 방안이 검토되었다.

한편 이와는 별도로 한국 내에서 국립공업연구소, 원자력 연구소와 금속연료종합연구소를 통합하여 산업기술연구를 선도할 종합과학기술 연구소를 설치하려는 구상을 추진하고 있었다. 당시 한미 양국의 결론은 한국에 산업기술을 연구개발 할 수 있는 과학기술연구소(KIST)를 새롭게 건설하여 미국에 와 있는 우수한 한국인 과학기술자들을 활용하자는 것이다. 이들이 귀국하여 일할 수 있는 자리를 장만해줌으로써 한국의 발전에 주요한 계기를 제공하자는 것이다.

이와 같이 한국 내 필요성과 미국의 지원이 일치하여 KIST가 한 미 공동사업 (미국 920만불, 한국 36억원)으로 1965년부터 추진되어 1969년 10월 23일 준공식을 하게 되었다. KIST 소장은 미네소타 대학에서 화학야금학 박사학위를 받은 최형섭이 임명되었으며, 책임연구원 급으로 재미

과학기술자 16명을 포함한 재외 한인 과학기술자 18명을 영입하여 본격적으로 연구가 시작되었다.

3) 재외 한인 과학두뇌 유치사업

1953년 휴전협정이 맺어져 전쟁이 끝난 다음 해외 유학 붐이 일어났다. 1953부터 1967년 사이 7000 여명이 미국으로 유학을 떠났다. 대부분 이공계 전공자였으며 가난한 나라에 기여할 수 있는 공부를 하기 위하여 떠났지만 대다수, 거의 90%가 미국에 남아 계속 연구를 하거나 취업을 하고 있었다. 1960대에 경제개발에 기반을 둔 근대화 작업을 추진하면서 고급 과학두뇌의 필요성이 절실하게 느껴졌다. 정부는 1968년부터 본격적으로 재외 한인 과학기술자 유치 사업을 정책적으로 시작하여 필요한 인력을 공급하기로 했다. 그 대상은 박사학위 취득 후 2년 이상의 전문 경력을 가진 과학기술자로 하여 영구 유치와 일시 유치로 나누어 적극적으로 영입했다. 영구 유치는 2년 이상 국내에 취업하여 체재할 경우 본인 및 가족 항공권, 이사비용, 정착비 지원을 국고에서 충당했다. 일시 유치의 경우는 본인 왕복 항공권, 체제비 지원을 정부 예산으로 제공했다. 영구유치는 그 후 1991년까지 계속되어 1968년에서 1991년까지 1,051명을 지원했다. 일시 유치는 1968부터 1994년까지 1,127명을 지원했다. 그외에도 KIST는 이 프로그램과 별도로 자체 예산을 통하여 1966부터 1996년까지 314명을 유치하는데 성공했다.

이러한 해외 과학자 유치사업은 재미과협 (1971), 재독과협 (1973)의 적극적이고 긴밀한 협조를 통하여 수행되었다. 개발도상국에 해당되는 신흥공업국가가 역사에 전례없는 Reverse Brain Drain (역두뇌유치) 사업의 성공 사례로 높은 평가를 받고 있다.

3. 70년대 과학기술 정책

1970년대 한국 사회는 60년대의 제 1, 2차 경제개발 5개년 계획을 성공적으로 완수하여 농수산 중심의 산업구조를 수출주도형 경공업 산업구조로 바꾸는 데 성공하였다. 그 다음 단계로서 공업구조를 경공업에서 중화학공업 중심으로 전환시키려는 제 3차, 제 4 차 경제개발 5개년 계획을 야심 차게 추진하고 있었다. 당시 한국 사회는 경제적 성공에 고무 받았고, 새롭게 시작된 농촌 근대화 운동인 '새마을 운동'이 거국적으로 파급되어가는 단계에 있었다. '우리도 하면 할 수 있다'라는 스로건이 사회 전반을 뒤흔들고 있었다. 그러나 다른 한편에서 1974년에 유신체제가 성립되면서 억압적 정치체제의 문제가 한미 관계에도 영향을 끼치고 있었다. 미국의 카터 대통령은 취임 이래 주한미군철수 공약을 집행하려고 하고 있었으며, 워싱턴 정가의 로비 사건인 박동선 사건은 한미 관계를 어렵게 하고 있었다.

과학기술 측면에서는 한국 정부가 에너지 원의 안정적 확보를 위하여 노력해온 핵연료 주기기술획득 사업을 미국이 핵 비확산 정책에 따라 강하게 반대하고 견제를 하여 중도에 그치는 사건이 있었다. 그러나 민감기술분야 (예를 들어 remote sensing) 과학기술을 제외한 다른 분야, 예를 들어 nuclear safety같은 분야에서는 협조를 아끼지 않았다. 이러한 국내외적 환경 아래 한국 정부는 과학기술 분야에서 독자적인 인재양육과 전문 연구소 설립 필요성을 느끼게 되어 과학원 설립, 전문 분야별 출연연구소 설립, 재외 한국 과학기술자 협회 지원을 더욱 강력하게 추진하게 되었다.

1) 한국 과학원 설립 (1971)

장기 과학기술계 인력 수급 계획 (1967-1986)은 이공계 학사 이하의 기술 인력은 국내 기존 대학, 전문 대학, 공고, 농고 등의 교육 기관의 학생정원과 실험실습 시설 확충을 통하여 양성하도록 했다. 그러나 이들 교육 기관의 교원, 교수, 전문 분야별 출연 연구 기관의 책임 연구원급, 그리고 산업계가 필요로 하는 전문 과학기술인력을 국내에서 양성, 공급할 수 있는 능력을 갖추는 데는 많은 시일을 요할 수 밖에 없었다. 일부는 해외 한인 과학기술자를 유치하여 보충할 수 있었으나 전공 분야를 정확히 맞추기가 힘들고, 유치된 과학기술자도 자녀교육문제, 생활 여건의 미비 및 재정적 문제로 인하여 유치를 확정하는 데는 한계가 있었다. 공업국가로의 도약을 위하여 한국내에서 고급과학기술 인재를 양성할 수 있는 제도적 장치를 갖출 수 밖에 없었다.

1969년 정근모 (미시간 주립대, 이학박사)는 자신의 은사인 USAID 처장 Dr. John Hannah에게 한국에서 고급과학기술 인재를 양성할 수 있는 '이공계 특수 대학원'의 설립이 얼마나 시급한가를 설명하고 이를 위하여 미국 대외 원조 자금을 지원해주기를 요청했다.

1970년 한국 과학원 (가칭) 설립 타당성 조사 팀이 F.E. Terman (Stanford대학 부총장; '실리콘 벨리의 아버지'로 불리는), F.A. Long (Cornell대 교수; 존슨 대통령 당시 백악관에서 Hornig박사와 KIST설립안 제안에 참여) 그리고 정근모 교수로 구성되어 1970년 12월 최종 보고서를 완성하고 신설될 한국 과학원 (KAIS)의 목적은 "*한국 산업과 연구소들이 필요로 하는 고도의 전문*

인력을 양성하는 것을 목표로 한다"라고 명기하고 있다. 드디어 1971년 2월 설립되었으며 과학원 교수진은 전원 박사학위 소지자로 구성되었다. 재외 한국인 과학기술자 66명이 1971-1980년 사이에 초빙되었다. 첫 신입생은 106명으로 1973년 3월 정식 개교를 하게 되었다. 한국과학원은 수많은 석, 박사과정을 수료한 과학기술인력을 양성해왔다. 이 뿐 아니라 이들 졸업생들이 수많은 벤처기업을 설립, 지원하여 세계를 선도하는 연구중심대학으로 발전하게 되는 기반을 70년대에 만들었다.

2) 전문분야 별 출연연구기관 설립
1973년 정부는 중화학 공업화를 최우선 정책과제로 공식 선언했다. 여기서 철강, 비철금속, 기계, 조선, 전자, 화학 등 6대 분야를 전략산업으로 선정하여 과감한 외자 도입과 선진기술 도입에 총력을 다하였다. 과학기술부문도 이러한 정책에 맞추어 도입된 선진 기술의 흡수, 소화, 개량에 중점을 두고 이를 산업계에 이식, 보급시킬 수 있는 매개체 역할을 담당하는 연구소들을 분야별로 설립하게 되었다. 이러한 정부 출연 연구소들은 당시 유일하게 종합연구기관으로서의 역할을 수해하고 있었던 KIST의 해당 연구집단 또는 부설 연구소를 모태로 한 것이었다.

1970-1980년 사이에 KIST에 기반을 두고 지원을 받으면서 설립된 주요 출연 연구소는 다음과 같다.
- 한국 선박 연구소
- 한국 해양 연구소
- 주물 기술 센터
- 정밀 기계기술 센터
- 한국 전자 통신 연구소
- 태양 에너지 연구소
- 국토개발 연구원
- 교통개발 연구원
- 시스템 공학 연구소
- 연구정보 개발 센터
- 한국 식품개발 연구원
- 한국 전자기술 연구소
- 생산기술연구원

이들 연구기관들의 연구 지도자들은 바로 1960-1970년대에 유치된 재외 한국인 과학기술자로 구성되었다.

3) 재미 한국인 과학기술자 협회 발족
1960년대 후반부터 시작된 재외 한국인 과학기술자 유치 사업은 1970년대에 들어 오면서 한국 과학원의 설립에 따른 교수요원의 충원, 중화학분야 정부 출연 연구기관의 연구원 확보, 산업기술계의 고위 과학기술자 수요 및 더 나아가 기존 이공계 대학의 교수요원 충원 요구에 따라 그 규모가 커지게 되었다. 이를 위한 체계적이고 효율적인 운영이 절실하게 필요하게 되었다.

1971년 6월 당시 KIST 소장인 최형섭 박사는 미국 출장 중에 과학기술처 장관 임명 소식을 접하게 되었다. 그 때 동행했던 김형기 과학기술처 연구조정관에게 재미 한국인 과학기술자 협회 설립에 관심을 갖고 있는 재미 한인 과학기술자들이 협회를 설립하는 데 지원할 수 있는 방안을 찾아보라고 지시했다.

1971년 "*재미 한국 과학기술자 협회*"에 이어 1973년 "*재구라파 한국 과학기술자 협회*", 그리고 1983년에 "*재일 한국인 과학기술자 협회*"가 출범하게 되었다.
재미 과협은 재미 한국인 과학기술자 실태를 조사한 총람을 발간하였으며, 1974년부터 매년 모국 방문 학술 심포지움을 개최했다. 이 뿐 아니라 한국 과학 재단에서 의뢰한 논문 심사와 평가, 회원들의 논문 초록 및 특허집 발간 등 회원들의 학술 활동 지원과 연구 내용들을 모으는 작업을 해왔다. 특히 재외 한국인 과학기술자 유치 사업의 효율적 집행에 기여하여 과학기술자와 행정기관 사이의 매개체 역할을 했었다.

필자가 주미 대사관 과학관으로 근무했던 시기 (1976-1980)의 회고담은 재미 과협 25주년 기념 특집『한미 과학기술교류 100년과 재미 과협의 역할』(1998.8)에 기고되어 있다.

4. 1980년대 한국의 과학정책
1980년대는 박정희 대통령 시해사건, 광주 민주화 사태, 이한열 사건으로 압축 되어진 민주화 운동으로 이어지는 혼란 속에서 새로운 민선 정부의 수립을 가능하게 한 6.29 선언이 있었던 시기이다. 그러나 한국 경제는 이러한 정치적 불안정에도 불구하고 삼저 (환율, 금리, 기름값)에 힘입어 지속적인 고도 성장을 할 수 있었다. 구조적인 정치제도 변화를 겪으면서도 무난하게 이루어진 88 올림픽 개최는 한국 사회에 대한 희망적 전망을 가능하게 했다.

이러한 경제 사회적 상황 속에서 '80년대 한국 사회의 시대정신'은 민간 주도의 경제 개발 추진과 대통령을 내 손으로 뽑겠다는 열망으로 표현되는 민주화 열기로 요약될 수 있다. 과학기술정책도 이러한 시대정신을 반영하여 두 가지 방향으로의 변화가 이루어졌다. 첫째,

그간 정부 주도로 추진되고 있었던 산업기술 개발의 정책방향을 민간기업 주도로 유도하기 시작했다. 둘째, 정부는『특정연구개발사업』프로그램을 신규로 운영하기 시작했다. 이는 핵심 산업 기술개발과 공공 복지 기술개발을 산학연 협동으로 추진하는 것이다.

민간기업의 기술개발을 유도하기 위하여 정부는『기술개발 촉진법』을 개정 강화하였다. 이 법은 기술개발 투자에 대한 세제상의 각종 우대 조치, 기업연구소의 설치권장, 연구원의 병역 면제 등의 혜택을 가능하게 했다.

또한 정부는 1982년부터 『특정 연구개발 사업』을 운영하여 기업과 함께 연구개발비를 공동부담하는 사업을 진행했다. 이 연구 개발의 수행은 출연 연구기관과 기업 연구소가 함께 하고 연구성과의 상업화는 해당 기업에게 우선권을 부여하는 방식으로 집행되었다. 이러한 배경에서 1980년 대에는 기업부설 연구소 설립 붐이 일어났다. 1981년 53 개였던 기업부설연구소가 1985년에는 183개, 1988년에는 604개에 달했다. 1991년 4월에 1,000개를 돌파했으며 연구원 수도 1981년 2,086 명에서 1990년에 31,186 명으로 크게 증가했다. 연구소 보유 기업의 매출액 대비 기술개발 투자도 1982년의 0.97%에서 1990년에는 2.08%로 상승했다.

이 시기에 한국 과학기술사에 기록될 성과는 민간 기업인 ㈜ 포항제철 (회장 박태준, 와세다대 , 기계공학)이 김호길 (영국 Birmingham대, 이학박사; KSEA 6대 회장)을 초대 학장으로 1985년 8월 초빙하여 운영의 자율성과 독립성이 보장되는 학교 법인 포항공과대학교를 설립한 것이다. 포항공대 (Postech)는 김호길 박사를 필두로 한 재미 한인 과학기술자들 (최상일, 박찬모, 변종화, 이정묵, 이정림, 김동환, 염영일, 장수영 및 그 밖에 많은 재미 과학두뇌)이 주축이 되어 개교했다.

1987년 3월 249명의 첫 입학생을 모집한 이래 2011년 3월 현재 재학생은 총 3,409명이다. 이 중 학사 1,294 명, 석사 319 명, 박사 1,666 명, 기타 130명이 재학 중이다. 개교 이래 2011년 3월 현재 학사 5,319 명, 석사 5,344 명, 박사 1,976 명, 기타 1,003명 등 총 13,632 명의 졸업생을 배출했다. 이들은 국 내외 대학과 기업체, 연구소에서 활발히 활동하고 있으며 국제적 수준의 연구업적과 논문 발표 등의 학술 활동으로 이제 포항공대는 세계적인 연구대학으로 성장 발전하고 있다.

5. 과학기술발전 방향 - 1990년 대 이후

1990년 이후 한국 사회는 과학기술정책을 처음 수립했던 1960대에 비하여 모든 면에서 변했다. 정부는 선거에 의하여 교체되는 민주적 정치제도를 갖춘 민주공화국으로 변했다. 정치 경향은 보수에서 진보로 그리고 진보에서 보수로 정권이 교체되는 것을 경험하면서 정치 발전의 한국적 방향을 모색하고 있다. 경제 현황은 개발도상국에서 무역량이 미화 1조달러 에 달하는 무역 강국으로 도약하기 시작했다. 신자유주의 체제 속에서 IT 산업, 자동차 산업이 한국 산업을 이끌고 있다. 90년대는 이 과정에서 금융 위기를 맞아 고통받고 극복하는 단계를 겪었다. 그러나 전반적으로 한국 사회는 세계발전사에 유례없는 비약적 도약을 하는 사례가 되었다.

이러한 한국 사회의 정치 경제 사회 발전에 따라 과학기술 분야의 정부 주도성의 성격이 변했다. 정부는 더 이상 산업기술 발전을 위한 연구개발 의 주역이 아니다. 정부는 주로 공공 기술 과 전략적으로 선택된 Big Project 기술 개발에만 주력하고 있다. 새로운 과학지식의 창출을 위한 연구개발, 즉 기초 과학분야의 연구는 정부의 지원 아래 과학기술계 (대학, 연구소, 학계, 재외 한인 두뇌집단 등)가 주도적 역할을 하고 있다. 그러나 국력에 비하여 이 분야에 대한 정부의 연구비 지원은 아직 미흡한 실정이다.

한편 국내 과학기술계를 대표하는 민간 기구로서 한국과학기술단체 총연합회(과총)는 그동안 국내 외 한국인 과학기술 두뇌들의 글로벌 network 형성과 data base을 구축해왔다. 종합학술대회를 매년 개최하는 등의 지속적 활동으로 국내외 한인 과학기술자 간의 교류를 활발히 하는 데 기여해왔다. 이를 통하여 재외 한인 과학 두뇌 유치 사업에 기여한 바가 크다.

재외 과협은 앞에서 지적한 바와 같이 1971년 재미 과협이 설립된 이래 2006년 현재 14국에서 구성되어 있다. ① 미국, ② 카나다, ③ 일본,(4) 중국, ⑤독일, ⑥ 불란서, ⑦ 영국, ⑧ 러시아, ⑨ 카자흐스탄, ⑩ 우즈베크스탄, ⑪ 키르그스탄, ⑫ 타지키스탄, ⑬ 우크라이나, ⑭ 호주 등에 과협이 설립되었고 총 20,000 여명의 재외 한국인 과학기술자 회원들이 이러한 과협을 중심으로 활발한 학술활동을 하고 있다.

6. 나오면서

반세기 전 지구상에서 가장 가난한 농업국이었던 대한민국이 현재와 같이 공업이 발전되고 과학기술 측면에서 선진국

문턱까지 오게 된 것은 재외 한인 과학기술자들의 조국 발전에 대한 헌신적인 노력과 애국심의 발로가 그 결정적인 원인이라고 평가된다.

재미 한국인 과학기술자 유치사업을 구상하고 운영 집행하면서 얼마나 많은 한국인 과학자들이 미국 내에서 다양한 분야에 종사하고 있다는 것을 알게 되었다. 해당 분야에서 조용히 일하고 있는 분께 갑자기 연락하여 한국이 그러한 지식과 경험을 필요하다고 하면서 설득하는 작업이 쉽지만은 않았다. 그러나 내가 과학관으로 일하면서 직접 접촉한 과학자 중 아무도 완전히 거절한 예가 없었다. 다만 민감한 분야인 경우 미국 내 사정 때문에 접촉을 더 이상 진행할 수 없는 경우만 있었다.

내가 과학기술자들과 만나 설득하면서 내 머리 속에 있었던 것은 1967년 6일 전쟁 직후 예루살렘에서 만난 젊은이들이었다. 당시 우연히 카페에서 유창한 영어를 쓰는 젊은 군인들과 만나 이야기를 할 기회가 있었다. 기관단총을 몸에 걸치고 커피를 마시고 있던 젊은 군인들은 모두 미국 대학에 재학 중이었던 남녀 유대인 학생들이었다. 모국의 전쟁에 학업을 잠시 중단하고 자원 입대한 이들은 미국에서 태어난 미국 시민들이었다. 그들은 군 복무가 끝나면 학업으로 돌아갈 것이라고 했다. 그들의 조국에 대한 사랑과 애국심이 위기의 상황에 달려온 것이다. 나는 이들을 통하여 이스라엘의 밝은 미래를 볼 수 있었다.

내가 한국의 과학기술 발전을 위한 정책을 수립하고 전략을 구상할 때 마다, 특히 해외 한국인들의 도움이 얼마나 절실하다는 것을 깨달을수록 이스라엘에서 만난 젊은이들을 생각했다. '유대인이 한다면 한국인도 할 수 있다'는 꿈과 자신감을 다짐했다.

워싱턴에서 과학관으로 근무할 때 어려운 일이 있으면 김호길 박사 (94년 타계, 초대 포항공대 총장, 6대 KSEA 회장)와 바둑을 두면서 이스라엘 이야기를 하면서 힘을 얻었던 옛 일들이 떠오른다.

다시 한번 이 기회를 통하여 여러 분의 선배들의 기여에 감사드립니다. 그리고 이렇게 지나간 일들을 회고할 수 있는 기회를 주신 KSEA 집행진에 감사드립니다.

7. 참고 자료와 문헌

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2012년 말로 기억이 되는데, 서울대학교 토목공학과의 전경수 교수님으로부터 상의할 일이 있으니 서울대학교 총장을 역임하신 이기준 교수님과 함께 만나자는 연락을 받았다. 이기준 총장님은 와인을 한잔하자하시더니 주)동진쎄미켐의 이부섭 회장님이 한국과학기술단체총연합회 (한국과총)의 회장으로 출마하시는데 나의 도움이 필요하다고 요청을 하셨다. 두 분은 서울대학교 화학공학과 1년 선후배지간으로 오랜 시간 두터운 친분을 쌓으신 사이였다. 특히 한국과총에서는 미래 과학기술인들을 위해 과학기술인 복지컴플렉스와 사이언스빌리지를 건립하는 계획이 있는데 대한국토·도시계획학회 (KPA; Korea Planning Association)의 회장인 나에게 건축 및 도시계획에 관한 사항을 자문해 달라는 것이었다. 나는 도시계획을 전공한 학자로서 나의 전문성이 필요하다는 점에 기꺼이 동의하였다. 그리고 과총회장 선거를 치르는데 필요한 공약을 만드는 등 자문을 하여 이부섭 회장님이 한국과총 2013년 정기총회에서 제 18대 회장으로 당선되었다.

2014년 2월17일 이부섭 회장님은 기업인으로서는 최초로 한국과총의 회장으로 취임하였다. 그 전까지의 회장님들은 거의 대학총장이나 과학기술계통의 교수 또는 장관을 역임하신 분들이었다. 기업인 정신으로 단련된 신임회장님은 과총의 모든 사업에 효율성을 강조하시며 타성에 젖은 조직을 혁신하고자하는 모습을 보였다. 그리고 이를 위해 학문분야별 대학, 산업계, 연구기관 등을 고려하여 14명의 부회장을 선임하였다. 한국과총이 주로 학계의 학술활동이 중심이 되어 사업이 전개되는 바 기업인 출신의 회장을 학계에서 특별히 보좌할 필요가 있었다. 그래서 서울대 연구부총장을 역임하신 이승종 교수님과 가천대학교에서 부총장을 지낸 나를 상임부회장에 임명하였다. 특히 나에게는 각종 과학기술 현안 및 이슈의 발굴, 각종 포럼 및 정책토론회 주제선정 및 개최결과 평가, 각종 발간물의 주제와 필자선정 및 집필을 담당하는 과학기술정책위원회의 위원장 역할까지 맡겨주셨다. 2014년에서 2017년까지 활동한 제 18대 회장단에서는 과학기술정책 수립 및 집행과정의 참여와 과학기술발전을 위한 학술활동 지원 및 육성, 글로벌 과학기술 네트워크 구축 및 확산이라는 기본적인 사업들을 충실히 수행하였다. 아울러, 과총내부조직의 효율화 작업, 과학기술인 복지컴플렉스 및 사이언스빌리지 건립, 사회 각계 지도자들의 소통과 토론을 통해 국가의 도약방안을 모색해가는 '국가발전포럼'의 운영, 주식 신탁법의 제정을 통한 과총의 재정 확보 혁신방안 도입, 2016년 과총 50주년 행사의 성공적인 개최 등을 역점사업으로 선정하여 한국과총의 비약적인 발전을 도모하고자 하였다.

위에 열거한 여러 가지 역점사업들 중 나는 과학기술인 복지컴플렉스와 사이언스빌리지의 도시계획 심의와 건축설계, 시공까지 가장 깊이 관여하게 되었다. 사이언스빌리지는 과총이 대전시에 소유하고 있는 부지에 과학기술계 은퇴자들에게 복지차원에서 주거공간을 제공하는 사업이다. 과학기술인 복지컴플렉스는 지어진 지 30년이 넘어 재건축이 필요한 과학기술회관 본관 건물을 재건축하는 사업으로 과학기술인들을 위한 복지공간을 확충하기 위해 과학기술부가 재정지원을 하는 사업이다. 과총에 들어가 보니 직원들 중에 건축이나 도시계획분야를 아는 사람이 거의 없었다. 그래서 땅과 돈만 있으면 건물을 얼마든지 지을 수 있다고 생각하는 것 같았다. 강남구에 위치한 과학기술회관 본관을 면적을 늘려 재건축하기 위해서는 용적률을 상향하는 도시 계획 조치가 필요했으나 이러한 사항을 아는 사람도 별로 없는 것 같았다. 과총이 자리 잡고 있는 부지는 서울특별시 도시계획상 '제3종 일반주거지역'이었는데 이미 '제3종 일반주거지역'의 용적률 250%를 모두 적용하고 있어 용적률 400%까지 가능한 '준주거지역'으로의 종상향 (up-zoning)이 필요했다. 당시 서울시의 정책기조는 강남의

도시개발을 억제하자는 방침이었기에 종상향을 위해 서울시 도시계획위원회의 심의를 통과하는 하는 것은 보통 어려운 일이 아니었다. 또한 종상향을 하는데 있어서는 늘어난 용적률의 일정비율을 공공기여로 기부채납을 해야 하는데 여기에서 강남구청과 서울특별시가 의견이 충돌하여 합의를 도출하기까지 엄청난 시간과 노력이 소모되었다. 강남구청에서는 공공기여분을 강남구에, 서울시에서는 서울시에 기부하여야 한다고 상반된 주장을 하여 그것을 조정하고자 서울시와 강남구를 수없이 드나들어야했다. 당시 강남구청장과 서울시장이 정치적으로 상반된 견해를 가지고 있어 공공기여의 문제에서 여러 번 충돌했던 일이 있었던 것은 건설이나 부동산에 관심이 있는 사람은 다 아는 일이었다. 어쨌든 많은 우여곡절을 겪으며 수차례의 연기와 재심의 끝에 서울시의 도시계획 심의를 통과하여 감개무량했던 기억이 있다. 사실 과총이 소유하고 있는 부지가 '제3종 일반주거지역'에서 '준주거지역'으로 종상향이 되면 토지의 가치가 수백억 원은 상승하는 일이기도 했다. 그리고 건축설계를 완료하고 시공사를 선정하여 마침내 2019년 1월 28일에 기공식을 거행하였다.

다른 하나의 사업은 과총이 과학기술계 이외의 사회 리더들에게 과학기술의 중요성을 알리고 공감대를 형성하는 것이 과학기술계의 발전을 위해 필요하다는 논의에서 출발하였다. 그 논의의 중심에는 서울대학교 김태유 교수님의 적극적인 제안이 있었고 그래서 탄생하게 된 것이 바로 과총 '국가발전포럼'이다. 그리고 사회지도층인사의 원활한 초빙과 주제선정, 발제자와 토론자를 효과적으로 섭외하기 위한 운영위원회가 다양한 분야의 인사들로 구성되었다. 초대운영위원장으로는 포스텍의 김도연 총장님께서, 2기는 서울대학교 이승종 교수님, 3-4기는 한국과학기술한림원의 원장을 역임하신 박성현 서울대학교 명예교수님께서 맡아주셨다. 포럼의 회원은 운영위원회에서 심도 있는 논의를 거쳐 전, 현직 대학총장 및 교수, 정부각료, 국회의원, 대사, 군 장성, 기업의 CEO와 문화예술계 인사들을 초청하였고 이 중 비과학기술계 인사를 대략 70%이상으로 구성하였다. 연사는 회원들 중에 그때마다의 주제에 따라 국회, 정부, 국방, 의료, 산업, 문화예술계와 학계에서 돌아가며 발제를 하는 방식을 채택하였다. '국가발전포럼'은 이렇게 2014년 1년 동안의 준비기간을 거쳐 2015년과 2016년 상 하반기, 매 기수 50-60명으로 4기에 걸쳐 진행되었다. 나는 1기에는 과총의 부회장으로서 2기부터 4기까지는 운영위원으로 참여하면서 이 모임을 통해 다양한 분야의 인사들과 소통하는 것이 우리 사회에서 얼마나 중요한가 하는 것을 절감하였다.

그 외에도 과총의 중요한 사업 중에 하나가 글로벌 과학기술 교류의 일환으로 2000년부터 추진한 한미학술대회 (US-Korea Conference: UKC), 2008년 한유럽학술대회 (EU-Korea Conference: EKC), 한아시아학술대회 (Asia-Korea Conference: AKC), 2011년 한캐나다학술대회 (Canada-Korea Conference: CKC)의 개최 등으로 과총의 위상을 높이고 국제화하는데 이바지하는 것이었다. 나는 그 중에서도 2015년 7월26일부터 28일까지 캘거리에서 개최된 CKC와, 같은 해 7월29일부터 8월1일까지 애틀랜타에서 개최된 UKC에 참석할 기회를 갖게 되었다. 그리고 2016년 8월 7-8일, 오타와에서 개최된 CKC, 8월 10-13일 댈러스에서 개최된 UKC에도 참석하게 되었다. CKC-2015는 "*Free Trade Agreement and Free Technology Collaboration*"이라는 주제로 진행되어 처음으로 'Research Day Program'을 실시하여 한국과 공동연구를 위한 제안서를 발표해 주목을 받았다. UKC-2015 포럼의 슬로건은 "*Pursuing Excellence with a Servant's Heart*"였으며 과학기술 및 공학의 12개 분야 심포지엄과 함께 미국 공립 과학아카데미와의 공동포럼 등 다양한 행사가 진행되었다. CKC-2016은 "*A Big Step Towards Science, Technology and Innovation*", UKC-2016은 "*Enriching Lives through Science, Technology and Entreprenuership*"이라는 주제 하에 진행되었다. CKC-2016에서는 당시 조대식 캐나다 대사께서 우리 일행을 대사관저로 초청하여 만찬을 제공해주셨다. UKC-2016에서는 과총의 울트라 (ULTRA: Universal Linkage for Top Research Advisor) 프로그램의 일환으로 진행되었던 오하이오대학교의 석좌교수이자 미국 과학·공학 명예의 전당 회원이신 이성규 박사님의 특강은 아주 감동적이었다. 그리고 2016년 7월27일-30일에는 이부섭 회장님을 대신하여 독일 베를린에서 개최된 EKC에 참석하여 개회사를 하고 시상식 등을 진행하였다. 이때의 슬로건은 "*Science, Technology and Humanity: Gateway to the Future*"였으며 유럽 9개국의 한인과학기술자협회가 모두 참석을 하여 한-EU 공동연구, EU기술정책연구 및 ICT인력양성 등에 대한 방안을 논의하였다. 첫 날 오찬은 당시의 이경수 독일대사께서 관저로 우리를 초청하여 융숭한 대접을 받았으며 둘째 날 회의가 끝난 후 일행들과 함께 화재 이후에 복구된 독일 국회의사당의 돔 (dome)을 시찰하고 그 곳의 식당에서 와인과 함께 격조 높은 식사를 한 것에 매료되기도 하였다. 특히

재독한인과학기술자협의회의 전임 회장이었던 석준원 교수님께서 베를린의 동서독 분단의 현장과 유태인 학살의 홀로코스트기념 조형물 등 시내의 중요지점들을 시찰할 수 있게 안내해 주신 것에 대하여는 이 지면 을 빌어 감사드리고 싶다.

제18대 과총 회장단 재임시절에 잊지 못할 추억 중에 하나는 한국과총 50주년 기념 행사를 원만히 준비하고 성대하게 치룰 수 있는 기회를 가졌다는 점이다. 과총과 같이 큰 단체의 50주년이 되는 해에 회장단에서 일할 수 있었다는 점 또한 행운이라 아니할 수 없다. 이 행사를 위하여 준비위원회가 구성되었는데 위원장으로는 전 서울대 총장이자 한국과총 제16대 회장을 역임하신 이기준 박사님을 모시고 위원으로는 이영순 전 서울대 수의대 학장님, 남궁은 명지대학교 교수님, 이승종 전 서울대 연구부총장님과 내가 참여하게 되었다. 우리는 준비과정에서 수많은 회의와 토론을 통하여 당일 기념식 행사를 다양하고 성대하게 치루는 것은 물론 지난 50년의 방대한 역사를 기록으로 남기기로 하여 "*멈출 수 없는 꿈, 과학기술로 미래를 열다*." 라는 제목의 한국과학기술단체총연합회 50년사'라는 책자를 발간하였다. 뿐만 아니라 지난 50년의 역사 속에 공식적으로 기록되기 어려웠던 여러 시행착오와 고민, 문제제기 그리고 웃지 못 할 에피소드까지 담아내고자 하는 노력의 일환으로 "*지도에는 없는 길 그러나 가야할 길*"이라는 제목의 '*이야기로 살펴본 과총 반백년*'이라는 책자 또한 발간하였다. 부수적으로는 수차례의 디자인 심의 끝에 50주년이라는 멋진 엠블럼을 만들어 과총의 눈부신 발전을 홍보하는데 2016년 내내 활용하였으며 "*과학기술 미래를 열어가는 과총*"이라는 과총 창립50 주년 기념우표첩도 제작하여 역사 속에 영원히 남기고자 하였다.

아울러 나는 과학기술정책위원회 위원장으로서 위원들과 함께 당시 사회적 이슈가 되었던 과학기술 분야의 문제들을 시기적절하게 판단하고 대안을 제시하는 정책포럼을 개최하기 위하여 수 십 차례에 걸쳐 회의를 하였다. 포럼의 주제와 발표자, 토론자 등의 선정을 위하여 머리를 맞대고 논의하던 기억이 새롭고, 함께 고생해 주신 제 18대 과총 과학기술정책위원회 위원님들과 개인적인 친분을 쌓아가며 즐겁게 지내던 시절이 그립기도 하다. 2014년 초에는 정책위원회의 혁신적 활동을 위한 브레인스토밍의 기회를 여러 차례 가졌으며 같은 해 12월에 한국과학기술연구원 (KIST) 강릉연수원에서 워크숍을 실시하였는데 그 결과 우리 위원회에서 지금과 같은 과학기술대전환의 시대에 대한민국은 제대로 준비를 하고 있는지를 점검하는 서적을 출간하자는데 의견이 모아졌다. 주제는 '*내일이 오늘에게 묻는다, 응답하라 과학자여!*'로 하고 책 제목은 우여곡절 끝에 최종적으로 '*한국과학 비상플랜*', 부제'*과학기술 50년, 오늘을 성찰하고 내일을 설계하다*'로 결정하였다. '*비상플랜*'이라는 용어는 우리말과 영어가 섞여 어우러지며 '*비상*'이라는 한자로 '*높이 날아오르다*'의 '*飛翔*'과 긴급 사태라는 '*非常*'의 두 가지 의미를 가지는 동음이의어를 사용하였다. 나는 이 책이 4차 산업혁명 시대에 과학기술인은 물론 일반국민에게도 많은 시사점을 제공하리라 기대하며 또 하나의 보람 있었던 일로 기억하고 싶다.

끝으로 제18대 과총 회장단은 '*열린 과총, 강한과총, 행동하는 과총*'이라는 슬로건 아래, 과총의 재정확충을 통해 과학기술인과 회원단체의 지원을 강화하고 과학기술인 복지컴플렉스 건립과 함께 위상을 재정립하며 미래 국가비전을 제시하는 대한민국의 과총으로 거듭나겠다는 이부섭 회장님의 약속을 실천하고자 최선의 노력을 다하였다.

하지만 그 중에는 완성된 사업도 있고, 어떤 것은 다음 회장단에서 이어받아 진행 중이기도 하고, 또 어떤 사업은 중단된 것도 있다. 그래서 부분적으로는 아쉬움이 남기도하지만 과총 부회장 재임기간 3년은 나의 기억 속에 오롯이 남아있고 매우 의미 있는 시간이었다는 자부심을 가지고 있다.

제 1회 과총 국가발전포럼 2016. 9. 29

Chapter 14

Personal Reflections and Testimonials

- If Products are the Engine, Then Relationships are the Wheels
- Pursue Your Passions with Sincerity and Purpose
- Taking Risks for What You Want
- The Peaks and Valleys in My Life
- Houston Chapter's Early Days
- "*How I did it*" Best practice sharing for getting Governor's Honor for NMSC
- I love Math
- Competitive Curiosity

If Products are the Engine, Then Relationships are the Wheels

Timothy HyungRock Haahs

Founder of Timothy Haahs & Associates, Inc

Adam Smith said that the root of capitalism is based on self-interest. To pursue this self-interest, one needs to be engaged in an open market society. The open market, however, invites competition. Competition is both a challenge and a driver for innovation, but innovation alone is a car without wheels. For innovation to make its way to success, you need to build not just relationships, but lasting relationships. How do you do this? By focusing more on the needs of others than yourself. Adam Smith illuminated this idea in his book The Theory of Moral Sentiments. Contrary to what we have been led to believe, Adam Smith professed that the essence of business is inherently "*others-centered*."

I was born and raised in a leprosy colony in Korea where my father volunteered to serve as a young 22-year old pastor. My father did what any successful entrepreneur would do: innovated ministry and built relationships. His innovation (product) was in how he packaged the message of Christianity to meet the specific needs of his unique audience, and his relationships were motivated by a sincere desire to help the less fortunate people.

Foundation of Entrepreneurship Defined

My father, like all humans, also had self-interest motivations. One of them was figuring out how to provide adequate education for his children in a colony that only served the needs of lepers. The closest elementary school that my siblings and I could attend was an hour walk away.

After serving in the colony 7 years, my father decided to resign and move to the city. Yet, when the time came, he could not fathom leaving the lepers since there was no other pastor willing to serve there at that time. He had a change of heart and committed to stay another 7 years. He upheld the essence of entrepreneurship (in this case ministry) which is to be "*others-centered*," triumphing over self-interest.

Our local community was so moved that they took matters into their own hands and built a house for our family in the city so we could attend school. We lived there during the weekdays and returned to the leprosy colony on the weekends. The word spread about my father and I watched as the circle of people around him grew from lepers, to city-dwellers, to a global audience. Soon he became a highly regarded and sought-after evangelist. But the true breakthrough came when two missionaries from the US learned about his ministry. They were so touched that they sponsored our entire family's move to the US and miraculously gave us the opportunity to learn from the world's best institutions.

Moving to Philadelphia

I entered middle school in 1969. My older brother and I were the only Asians in school. I was bullied, mocked, ridiculed, and called all kinds of derogatory names. The fact that I did not know any English exacerbated the mockery. At that time, I did not know how to cope or if I would ever fit into this new culture and country.

The sentiment was similar when I thought of starting my own company after a heart transplant surgery at age 33. People around me discouraged me by citing my heath. They also pointed out that the engineering and construction industry was dominated by older white men, and that it would be difficult for a young Asian to succeed. On top of that, I had no experience as an entrepreneur and no personal network. The odds were heavily against me!

"*Self-Centered*" vs. "*Others-Centered*"

In 1994 after struggling with my ailing heart, I had my first heart-transplant. What I learned during this time confirmed what Adam Smith stated in The Theory of Moral Sentiments that "*man naturally desires, not only to be loved, but to be lovely…*" It is balance between desire to be loved motivated by self-interest and desire to be lovely cultivating "*others-centered*" goodness.

I waited in the hospital bed for 5 months for a matching heart to be available. Towards the end of my 5th month, my condition deteriorated to the point where I was mostly unconscious. My doctor told me that my chance of survival was close to none

without an immediate heart transplant. Miraculously, a heart became available in the nick of time.

One day, my doctor woke me up with an unusual and surprising level of excitement in his voice. "*Tim, I've got great news for you. A heart is on the way. You will live! We can do the surgery tonight.*" I was overjoyed. Then, I heard something unimaginable. The same doctor, as he filled out my medical chart, began to utter, "*Tim, did you hear about a young girl next to your room who was brought in by helicopter three days ago? She is listed for a heart transplant. It's so sad! In her case, if she doesn't get a heart transplant in two days, she will die.*" I was surprised and disconcerted. I asked my doctor if he was sure this young patient would die in two days. He affirmed saying, "*Yes.*" Initially I did not know how to respond. Then I asked him, "*If you are so sure she will die in two days, then, how many days do I have if I don't get my heart transplant today?*" My doctor responded, "*You have 7 days…but in your case we might be able to extend for another 3 weeks maximum.*" At that point, something moved my heart. I offered the heart that I was supposed to get, that I had waited so long for without the guaranteed promise of another, to the young girl. My doctor said they could not allow that, but I insisted. That night the heart went to the young girl and she lived. Thankfully, I too got my heart about 3 weeks later.

Business was Born, Entrepreneurship Began

A great invention, product, or service can spur the idea of starting a business. But it can only turn into a successful entrepreneurship when it has built heartfelt and lasting relationships.

About 1 year after the heart transplant surgery, I started my own architectural and engineering design company with this mission statement: "*We exist to help those who are in need.*"

In addition, my company has three core values:

Go the extra mile. If you only meet contractual requirements, then you are a good business partner, but nothing more. Build impressive, lasting and meaningful relationships by always doing more than what is expected.

Inform. Lovers always inform each other. Informing gives people comfort and assurance. More importantly, it gives the impression that you are always mindful of them.

Return the call/message on the same day. If you want to be valued, value others by returning their call or message on the same day, not within 24 hours. These core values have become not only the fuel, but the wheels of my business. They have helped to build lasting relationships that satisfy our inherent desire to love and be loved, to give and receive.

Merits:

2016 Awarded the Ellis Island Medal of Honor
2016 Received an honorary Doctor of Philosophy in Missiology from Kosin University
2013 White House Appointment, Board Member, National Institute of the Building Sciences
2013 The Korean Broadcasting System featured Tim and his firm on its weekly documentary, showcasing Korean global leaders' success stories.
2012 Appointment to Governor's Advisory Commission on Asian American Affairs, Commonwealth of Pennsylvania
2012 Delaware Valley Engineer of the Year, the greater Philadelphia tri-state area
2011 Engineer of the Year, American Society of Civil Engineers, Philadelphia Section
2011 Appointment as Distinguished Advisory Professor of Architecture, Inje University in South Korea
2011 Korean-American Scientists and Engineers Association (KSEA) Entrepreneur of the Year
2006 Entrepreneur of the Year, Real Estate and Construction, Ernst & Young, Philadelphia Region
1998 Blue Chip Enterprise Initiative® Award, MassMutual and US Chamber of Commerce
1997 Structural Engineer of the Year, American Society of Civil engineer, Philadelphia Section
1984 University of Pennsylvania, Philadelphia, Masters in Civil and Urban Engineering
1979 University of Pennsylvania, Philadelphia, Bachelors in Civil Engineering

Company Awards include:

- Best Firms to Work For, Building Design and Construction Magazine, 2007
- Best Engineering Firms to Work For, Structural Engineer Magazine, 2007, 2006, 2005, 2004, and 2008
- 200 Fastest-Growing A/E/P & Environmental Consulting Firms, Philadelphia 100 Fastest-Growing Companies, Hall of Fame Recipient, Philadelphia Business Journal
- 2007, 2005, 2004, 2002
- Top 25 Engineering Firms, Philadelphia Business Journal, 2007, 2006
- Best Places to Work in the Greater Philadelphia Region, Top 25, Philadelphia Business Journal, 2004

Pertaining to KSEA:

2011 Korean-American Scientists and Engineers Association (KSEA) Entrepreneur of the Year

1987, I was the president of the Philadelphia chapter of KSEA.
1979, I was a recipient of the KSEA scholarship program to visit Korea for about 3 month. I was assigned originally to KIST and then transferred to Daelim Corporation.

Pursue Your Passions with Sincerity and Purpose

Tai Ryang Shin

President, Swagger Foods Corporation

To my esteemed colleagues in the Korean American Scientists and Engineers Association, both present and especially future generations who will read this long after it has been published, it is my honor and privilege to share with you the story of Swagger Foods Corporation. This chronicles my journey of entrepreneurship in achieving my lifelong dream of establishing and growing a successful business here in the United States. It is my sincere hope that this story will inspire others with shared passions and interests in the sciences to pursue their own goals and dreams with sincerity of heart and a sense of purpose.

I immigrated to the United States from South Korea in 1973 and faced many hardships due to both language and cultural barriers. Despite these challenges, I came with focused ambition and perseverance, having faith in myself and God's plan for me and my family. Continuing my education, I received a Masters in Food Science from the University of Illinois Urbana in 1977 while working full time.

In 1978, when interest rates were at 23% and the overall business climate and economy very uncertain, I started Swagger Foods Corporation with the assistance of a Small Business Administration (SBA) loan out of our one-bedroom apartment in Chicago. We secured this loan by managing to save enough during this period for the initial investment to start Swagger Foods – the entirety of our life savings at that point in time. It was both the most exciting and riskiest period of my life. I invested everything I had into the effort, not only my savings but all of my heart and soul as well.

My vision was to develop and produce foods for the retail, foodservice & industrial markets, and provide high quality products at exceptional value. This vision developed from my graduate studies in food science, as well as from the encouragement and support of my wife, family, and friends. We worked tirelessly for five years upon first arriving to America. The economic environment was quite challenging. Unemployment was high and we were in the midst of a recession following a bear market earlier in the decade. As a result, many new businesses were failing under the pressures of high costs and slow growth.

Today, the company continues to grow and serve the retail, industrial and foodservice markets out of a 40,000 square foot facility in Vernon Hills, Illinois. We have cultivated many successful business relationships spanning decades, and pride ourselves on our ability to meet the specialized needs of our customers in a timely fashion with innovative, custom solutions.

I have always had an interest in health and nutrition, as well as a lifelong passion for education. I received a PhD in food science and human nutrition from the University of Illinois, Urbana at the age of 65 after answering my inner voice as well as those of my mentors at the College of Agriculture, Consumer and Economic Sciences (ACES) to return to the classroom. This pursuit was directed by a desire to help educate people on how diet and food play a critical role in our overall well being. Because of this, Swagger Foods currently has a strong Nutraceuticals focus with our mission carried by our values of trust, candor, and respect for life.

We are currently facing a health crisis in the United States with record levels of both adult and childhood obesity, as well as a surge in related medical conditions tied to this epidemic including hypertension and type-2 diabetes. I myself am a cancer survivor and have lived through challenging health my entire adult life, so I am keenly aware of how food plays a critical role in either contributing to or mitigating these health crises.

I consider it a great honor to live in this country and contribute in a meaningful way not only to the economic health of our nation, but also the health and well being of its people. This mission has provided me with a great sense of purpose as well as strengthened my faith that I am helping to fulfill God's plan for me. I have experienced that by always maintaining the right attitude and being focused and disciplined.

I am keenly aware and humbled by all the support I have received from others – family members, professors and school administrators, business associates and friends. It has always been my belief that to whom much is given, much is also expected in return. With that in mind, I have made a point throughout my career to give back to my community and to help support others, who like me, have their own dreams and visions to succeed.

I urge you to develop your own goals and mission, and pursue it with a passion that will drive you to succeed in your entrepreneurial endeavors and improve the world around you. Remember always that you are capable of achieving whatever you set your mind to, and you have the power to overcome obstacles you may encounter along the way.

Also, remember that to pursue your goals, you need to safeguard your health. With a balanced lifestyle including exercise and smart food choices based on both macro and micro-nutrients, you will realize many benefits including improved physical and cognitive functions. This will allow you to stay strong and focused.

Finally, remember that your love of education which has made you a scientist is a never-ending pursuit; education is a life-long process. Despite the degrees we achieve, we continue learning throughout our lives. Learning is also progressive: knowledge grows as it is shared with others and improved on through the contributions of all who participate in the learning process. As a food scientist, I have great respect and appreciation for the individuals who have preceded me and their body of work.

I only hope through my own studies and contributions to this field, I will be able to help build on the wealth of knowledge already established and pass this on to the next generation of food scientists who will follow me. I give thanks to God every day for the ability to study and contribute to this field, and I consider it a great responsibility to leave a positive impact on the field of food science and human nutrition through my own work and efforts.

Measuring the success of my business pursuits goes far beyond a profit and loss statement, although obviously an enterprise will not remain in business indefinitely if it is unprofitable. Success is ultimately measured in the value you bring to those customers you serve with your products or service. Personally, this value proposition of trying to improve the health and wellbeing of our nation is a great source of pride and motivates me.

I encourage you to pursue your dreams persistently with great determination. You control your destiny and will be successful if you are ambitious and persevere.

To quote Calvin Coolidge, the 30th President of the United States:

"*Nothing in the world can take the place of persistence. Talent will not; nothing in the world is more common than unsuccessful men with talent. Genius will not; unrewarded genius is a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent....*"

May you find great reward and success in pursuing your passions as I have, and may God bless you in your own unique journey.

Taking Risks for What You Want

Byoung I Suh

President and Founder of BISCO, Inc.

In In 1981, I founded BISCO, Inc., a dental materials company just outside of Chicago, IL. The company started with just 4 to 5 employees in a small rented office space with a few pieces of equipment. Ten years later, BISCO introduced a revolutionary new dental adhesive (All-Bond 2) that changed my life forever. Today, BISCO employs over 120 employees in a 91,000 square foot facility in Schaumburg, IL and sells to thousands of dentists in the U.S. plus customers in over 60 countries worldwide. In the last 30 years, I've traveled to over 40 countries and given more than 250 lectures, co-authored over 150 articles, and even received a Ph.D. in Dental Medicine. But how did this all happen? It was a series of crossroads in my life where following my passions guided my decisions despite the risks involved.

In 1955, I was faced with the questions of where to go to college and what to study. I applied to both the business school at Seoul National and the chemistry program at Sungkyunkwan University (SKKU)–and as it fate would have it, I didn't get into the business school. Chemistry was my favorite subject in high school, and so it seemed like the right move for me.

In 1963, I decided to study in the U.S. I felt that in order to further my career, I needed to get an advanced degree in chemistry. In 1960, I had gotten a job at the Chung Ju Fertilizer Company, a company opened under a U.S. initiative after the Korean War. It was at this job that I met several Americans, and developed the idea to study in the U.S., the land of opportunity. I first tried, unsuccessfully, to get a scholarship. I then went to the U.S. Embassy and searched for graduate schools in chemistry with the lowest tuition fees. I applied to two schools, and was accepted by San Francisco State, part of California State University. With the assistance of friends and family, including an American family I met in Korea, I managed to figure out a way to get to the U.S. and make things work.

I left Korea in January 1964 with $60 cash in my pocket and literally no idea where I would stay once I got to San Francisco. After spending my first night at the Chinatown YMCA (thanks to a kind gentleman who sat next to me on the airplane), I managed to find a shared apartment and work my way through school – as a bus boy, hotel bellman and then a teaching assistant. In 1968, I graduated with my M.S. in Chemistry, and found a job with a dental materials company in Chicago. At my new job, I was given the task of developing a dental composite material (commonly known as "*white fillings*") to compete with one that had just launched. Thus began my career in the world of dental restorative materials which would ultimately lead me to BISCO and All-Bond 2.

Over the next 10 years, my family life began and grew. I met and married my wife Minsook, and we had 3 wonderful daughters. It was during this time period that I joined the Midwest chapter of KSEA, which provided me with a great community of support and friendship. It was also when I started to think about my long-term future – should I work for someone else for the rest of my life, or should I do something for myself? If the latter, what if I failed? Realizing my struggle, my wife asked me what was troubling me, and I explained what I was thinking. And then she said that I should try working for myself, and that she would work two to three jobs to support the family, if needed. But then the catch: "*But you better succeed in 3 years!*" Rockefeller once said: "*If you want to succeed you should strike out on new paths, rather than travel the worn paths of accepted success.*" I decided to take the new path.

I resigned from my job in 1980, but I could not start my own business immediately due to a one-year geographic non-compete agreement I had signed. So I spent a year consulting in San Diego, and when I returned to Chicago in 1981, I founded BISCO, Inc. In retrospect, it is a good thing I respected the non-compete agreement, even though many now say that non-competes are not generally enforceable. By doing so, there were no potential outside claims to the eventual success of BISCO.

While I was busy getting BISCO up and running, I was still very active in the Chicagoland chapter of the KSEA. One of the accomplishments I am proud of was helping to initiate the chapter's scholarship program. I became the 13th chapter president in 1985, one year after the program began. Since then, over 250 students have received this scholarship, and a number of recipients have returned to the Chicago chapter as members.

When I had resigned, I already had a product idea in mind. The dental industry needed two adhesive products: one for bonding to metal substrates, and one for bonding to the tooth (dentin and enamel). I began looking for these two magic organic compounds. After synthesizing and testing many compounds, I found out that one compound (BPDM) could be used for both metal and dentin bonding. All-Bond was introduced in 1990, and All-Bond 2 in 1991. All-Bond 2 put BISCO on the map and helped to revolutionize dental bonding in the industry. During the 1990's, BISCO's sales skyrocketed, and the company grew very rapidly. As a result of the growth, BISCO built and moved into a new building, but we quickly outgrew even the new space and had to buy the building next door. In 1997, we moved into BISCO's current home in Schaumburg. Since All-Bond 2, BISCO has introduced several next-generation dental adhesives (One-Step, All-Bond Universal), as well as dental cements, composites, and most recently, our Thera-family of products.

While developing All-Bond 2, I did a tremendous amount of research. Because All-Bond 2 was so different from previous dental adhesives, I wrote many articles about my research. I also began to lecture extensively about my research, and why All-Bond 2 worked. It was through these activities that I developed a real enjoyment in education and promoting knowledge. Because of BISCO's financial success, we have been able to give support to various learning institutions such as UCLA, Yonsei University and SKKU, as well as support scholarship programs like the KSEA's. These partnerships also gave me an opportunity to share my knowledge directly with students as a visiting lecturer or adjunct professor. It was my love of education that also drove me to write a book in 2013, Principles of Adhesion Dentistry; I am currently working on the next edition.

Several organizations have recognized my research and contributions to the dental industry with various awards over the years. But one of the most gratifying honors came in 2005 from Tsurumi University in Japan. In recognition of all of the research I had done over the years, Tsurumi granted me a Ph.D. degree in Dental Medicine – an actual degree, not honorary. Before then, many people presumptively called me Dr. Suh anyhow. Now, at least I no longer had to correct anyone!

I know that immigrating to a new country and quitting a good job to start your own company are usually considered risky decisions in life. But because they were what I really wanted to do, my choices did not seem that risky to me. Upon reflection, BISCO and my financial success was a byproduct of my passion for scientific discovery. Having the support of the KSEA community also encouraged me to pursue my passion for science while building a company; and that is why I continue to support the KSEA every year. For me, dedication to scientific research and sharing knowledge are just as important as commercial success. Now, BISCO's marketing department calls sharing knowledge one of BISCO's brand pillars. It appears that my legacy will be part of the future of BISCO. These days, I am still involved with R&D at BISCO, and I still lecture from time to time, even though most friends my age have long since retired. Doing what I love keeps me young!

The Peaks and Valleys in My Life

Kook-Wha Koh

Founder of Chrysan Industries, Inc.

I was born at the base of Baek Du Mountain more than eighty years ago in North Korea. Along with my parents, I crossed the 38th parallel in late October, 1945 and settled in South Korea. I enrolled in the Engineering College, Seoul National University and earned a degree in Chemical Engineering. Again, I made a significant crossing, this time across the Pacific Ocean, and settled in the US and obtained a PhD in Chemical Engineering from the University of Iowa in 1970.

Among the numerous peaks and valleys in my life, I choose to share two major events: The founding of Chrysan Industries forty two years ago and the ascending of Mount Kilimanjaro in Africa.

Chrysan Industries was established on November 17, 1977 in Detroit, Michigan. My strong desire and dream to be my own boss made me an entrepreneur in industrial and automotive lubricants and I started the company in Detroit, the capital of the automobile industry. Kwang (my husband) and I had a combined fifty years of experience in the chemical industry and with trust in our hard-working personalities we did not doubt our success in the business. We did not have any idea of the brutal competition in the market place and the hardships for business survival and sustainability in the world. Later I found out the survival rate of a small business is just five percent. In order to overcome the lack of resources during our initial launch: capital, human, and facilities, Kwang and I had to wear many hats. I led the company as the R/D and technical director, sales representative and provided technical services to customers. He worked as the manager of maintenance and production, drove trucks, and additionally performed as an accountant. Even with these hurdles and obstacles, Chrysan penetrated slowly into the machining areas in GM, Chrysler, and Ford with metalworking fluids with specially developed products for unique applications of aluminum machining. These great results we owe to our passion for business development and passion for innovation in technology. I worked 80-100 hours a week tirelessly by keeping one short phrase in my mind, "*Passion can drill the rocks and passion does not change ages.*"

The success of Chrysan industries was not only built by the owner's and employees' hard work and their innovative products, but also from the assistance and the continuous support from customers, suppliers, mentors, bankers, and the Small Business Administration in Detroit, Michigan. The most important contribution to Chrysan's success, I should say is our employees' loyalty to Chrysan. The succession plan of Chrysan went very smoothly with Suk-Kyu Koh, our second son, taking over our business. By diversifying the business from metalworking fluids to industrial and automotive lubricants, he has expanded the business globally.

I've had the honor of holding many different positions at KSEA. In 1978-79, I served as an auditor and Michigan Chapter President. At that time, KSEA had a small budget but it was my responsibility to balance the accounts. In 1985-86, I served as a president of the KSEA Michigan Chapter. During my tenure, I focused on networking opportunities for the KSEA members. We held monthly seminars regarding engineering automotive designs, metallurgy of auto parts, and fuel alternatives. Many KSEA members in Michigan were employeed by the auto industry and contributed greatly to many of its most important innovations.

When my KSEA term was over, I continued to support KSEA national issues when my husband, Kwang Kuk Koh, served as KSEA HQ President from 1988-89. He had extremely exciting goals for KSEA, including financial independence from the Korean government, increasing communications between Korea and the U.S., encouraging Korean small businesses, and purchasing the KSEA building.

In 2006, Kwang and I retired officially from Chrysan. Since then we have traveled around the world for pleasure which brings us to the next story of ascending Mount Kilimanjaro in Africa on December, 2008.

Our bucket list for our travel plans always came from the list that National Geographic published about twenty years ago. However, ascending Kilimanjaro was not included in our original plan. The success rate to conquer the top of Kilimanjaro, Uhuru Peak with a 5895 meter height, is only fifty percent. We were more than seventy years old in 2008. It was not one of our normal pleasure travels. Our families, neighbors, and church members urged us politely to stop the plan, because of the extreme risk factors due to our ages.

We made the contract with a Tusker travel agent and prepared the gears which could sustain us for the five weather zones: Cultivation / Lower Slope Zone, Rainforest Zone, Heath and Moorland Zone, Alpine Desert Zone, and Arctic Summit Zone. We followed the instructions for diet and exercise and purchased the gears that the Tusker guide had suggested. They also provided a video and booklet. As 1 watched the video, my heart was racing with the great expectation of achieving the dream: conquering Uhuru Peak, and also the fear of ascending was rooted deep in my mind.

On December 10, 2008 Kwang and I left the office, leaving behind concerned friends and family.

On December 13, 2008 five climbers including Kwang and I started to ascend Kilimanjaro through the tropical rainforest including twenty nine porters and two guides. The temperature was falling down as we climbed higher, and higher and the air pressure was getting lower and lower. The sea of clouds covered our feet. Slowly, one step at a time, we ascended the mountain and passed the Lava Tower, the Barranco Wall, the Karanga Camp, the Barafu Camp, and Stella Point for eight days. Uhuru Peak was about one hundred meters away from the Stellar Point. At 3:30 in the afternoon on December 20, 2008, we reached the "Uhuru Peak" with a tremendous feeling of victory that we have conquered the top of Mount Kilimanjaro. I said "*I can do anything I want.*"

One thing I would like to say to women's engineers, "*Have a big dreams with Passion and Tireless efforts for your goals. There is nothing cannot be achieved as woman.*"

With my husband, Kwang ascending of Mountain Kilimanjaro in December, 2008

Houston Chapter's Early Days

Kun-Chee Youn

4th KSEA-South Texas President, served in 1976

In the early 1970s, the size of the Houston Korean community was about one-hundredth of what it is today. In Houston, the petroleum and chemical industries were booming. And in the medical field, Dr. DeBakey and Dr. Cooley were in the spotlight for Heart Surgery. At that time, about 50 compatriots were working in the field of science and technology. They held a social gathering occasionally. The gathering was growing and the necessity of organizing as a formal meeting made the group launch a chapter of KSEA on August 18, 1972. The original chapter's name was KSEA-Southwestern States, and the 1st president was Kwang-Gook Ko. At the beginning, our chapter used to meet once every few months to have dinner and fellowship, and to have a seminar for about an hour by selecting a speaker. In the meantime, interest in oil development in Korea increased along with the rumor that there was a possibility of producing crude oil in Ulsan, Korea, and inquiries about it began to come frequently to members of the Houston area. In response to this, the members decided to publish a "*Dictionary and Manual of Oil Field Development.*" After about 6 months, it was compiled and delivered to the Republic of Korea through our KSEA Southwestern States (South Texas) Chapter. The number of members and the local activities continued to increase in the 1980s. In 1985, under the guidance of Dr. Sundeok Tak, who taught mathematics, a "*mathematics contest*" was held by our Chapter for 1st to 12th-grade students in the Houston area. It ws a big success and the "*mathematic contest*" was held as an annual event with prize money, and English was added years later. With the help of Dr. Sundeok Tak, Dallas and the Minnesota Chapter were able to hold the same event. And, eventually, this Math competition spread out to be a national wide event held by KSEA. After that, the Houston branch, like many other organizations, went through the generational change process relatively well, and now, it continues to develop in various fields, led by young and energetic leaders.

"*How I did it*" Best practice sharing for getting Governor's Honor for NMSC

James S. Lee

Merck Vaccine Division,
Philadelphia Chapter

Dear KSEA members,

The purpose of this article is two-fold. First, is to share how KSEA Philadelphia Chapter was able to receive Proclamation Letters from Pennsylvania Governor Ed Rendell, which were awarded to the top three scorers in the 2009 National Math Competition. Second, is to inspire other chapters to do the same in preparation for the 2010 KSEA National Math and Science Competition.

First, let me briefly introduce myself and explain how I got involved with KSEA and the National Math Competition. My name is James S. Lee, and I am neither a Scientist nor an Engineer. I have a business background with an MBA and am a seasoned marketing professional having worked at Merck for over 10 years in sales and marketing in pharmaceutical and vaccines divisions. Through a personal contact (my church's deacon) who happened to be a KSEA member and KASBP (Korean American Society of Biotech and Pharmaceutical) Philadelphia

Chapter President, I became involved with KSEA and KASBP and currently serve KASBP as Vice President of the Philadelphia Chapter. My personal vision for KASBP is to expand membership to include Korean American marketing and business development professionals in the pharmaceutical and biotech industry. By cross-"*fertilization*" between researchers/scientists and marketing and business professionals, the capability of KASBP to achieve its core missions would be greatly elevated, resulting in generating greater value to its members through diversity and also to its sponsors in terms of what sponsors could get out of their association with KASBP.

Relatively speaking, KASBP Philadelphia Chapter was at its infancy in terms of the number of members and activities. However, there was significant potential to grow to make Philadelphia Chapter a pre-eminent chapter out of all KASBP chapters through 1) publicizing KASBP to many Korean-Americans that work in pharmaceutical and biotech industry in the greater Philadelphia area; 2) mobilizing and fostering close collaboration between Philadelphia KASBP and KSEA. With this vision in mind, KASBP Philadelphia chapter decided to take on a bold move to fully support in the preparation, execution, and post-event evaluation of the National Math Competition. I say "Bold" here because we decided to participate in the National Math Competition by holding the actual examination right here in Philadelphia as the first-ever event only 6 weeks before the actual testing date.

So you're probably wondering how I was able to pull-off contacting Governor Ed Rendell's office to educate them on the purpose of KSEA and the National Math Competition. Additionally, why should they be involved, not only develop the awards but also physically present the wards to the winners of the competition, all in a 6-week period.

Well, let me present a simple 5-step process that I've gone through.

Know Who Do To Conduct

In anything in life, great wisdom is "*Know who you are, and know who you want to please*." In Pennsylvania, Gov. Rendell founded the Governor's Advisory Commission on Asian-American Affairs under his administration and has staffed a core team of Asian-American advisors. So my first instinct

was to contact the Head of that commission, Mr. Harry Kao, Executive Director.

What To Say to the Contact

After identifying Mr. Harry Kao, I drafted an e-mail that explains:

a. Who I am (VP of KASBP Philadelphia)
b. Backround on the National Math Competition
c. Why the Governor's Honor Award would be good for the Asian-American Advisory Commission
d. How it would be inspiring and motivational not only for the Korean-American students but also to the general Korean-American Community

Do the Leg Work for Them

To ease the preparation by the Commission, I provided a draft content of the Governor's Honor Award. I provided some specifics to highlight in the Governor's Letter to save some time. Upon completion of the Award content, the Commission required two weeks to review and to be signed by the Governor.

Confirm the Logistics

The next step was to work out the logistics such as the location of the ceremony, invite reporters, confirm a representative from the Commission, and provide detailed logistics including driving directions to the Deputy Director of the Commission.

Thank and Close the Loop

Final step was to personally thank the Deputy Director and the Commission and remind them that this is an annual event and sincerely ask that future annual support will be greatly appreciated.

In closing, this may not work for other States, but I hope we have provided a good working "*map*" for you to navigate in your own State to secure your Governor's Award for 2010. I would strongly recommend that you start Step 1 now.

For specific questions or comments, please contact me at leejame@comcast.net

I love Math

Mitchell Lee

Thomas Jefferson High School (9th Grade)
Washington Metro Chapter

My name is Mitchell Lee and I am a 9th grader at Thomas Jefferson High School for Science and Technology (TJHSST) in Alexandria, Virginia. Established in 1985, TJHSST is a Virginia Governor's school whose main mission is to improve education in science, mathematics, and technology, similar to KSEA's main focus on promoting science and technology for students, professionals, and educators in an attempt to better society. My favorite class in school (you can probably take a wild guess here) is math (Calculus BC), though the AP Computer Science class is a close second. I live in Oakton, VA with my parents (1st generation immigrants), an older sister (10th grade), a younger sister (4th grade) and a younger brother (1 year old). One of my near future goals is to represent the United States in the International Mathematical Olympiad (IMO) as a Korean-American.

When asked to submit an essay for KSEA Letters, I was hesitant at first, as I couldn't think of any interesting topics. After all, I am neither an accomplished mathematician nor a renowned scientist like many of KSEA's members. What meaningful insight could I possibly provide? After some thought, I decided to write from a student's perspective for other students. Essentially, I wanted to explain why math and science is so personally interesting and important. I understand that promoting one academic discipline as more "*interesting*" or "*important*" is not much different than 2 children arguing about whose dad is stronger or smarter at a playground. But understanding the benefits of math, science, and technology within the context of our interests and goals is a big first step in answering the question we've been bombarded with ever since we were able to talk. Mainly, "*What will you do when you grow up*?"

Personally, I love math, and besides, I never gave much thought to becoming a firefighter or doctor anyway. It is the one discipline where its findings are static and do not waiver from one scholar from one generation to the next. As my friend who shares a passion for math reminds me, "*In Math, things that are true are true. In other subjects, things that are true can change in 20 years*." My interest in math was fostered by competition math, like those sponsored by KSEA and Mathematical Association of America (MAA), including American Math Competition (AMC), American Invitational Mathematics Examination (AIME) and United States of America Mathematics Olympiad (USAMO). So why all the fuss with Math? Why does our education systems commonly stress the importance of music and art, yet test us for our proficiency in only math and language as major predictors of success as we head off to college? I can carry a decent tune and also play the piano; however, I know that these skills will not be tested when I apply to college, regardless of what I plan on studying.

First, math, like great art, is beautiful. In this respect, math is somewhat more art than science. A solution to a problem can be elegant and efficient; conversely, the solution can be mechanical, and in some cases, the problem may even be tamed by sheer brute force. The straight-line approach to problem solving is what we're after here. It is like finding a better way to catch a mouse without taking any shortcuts. Like all good mouse traps, the mouse has to be caught in the end.

Second, math explains the way the world works. It builds the foundation for many other disciplines like Economics and Sociology, as well as other disciplines in the social and physical sciences. In fact, the great innovators and educators of our era all share a deep understanding and appreciation for math. Not surprisingly, it is said that many graduate studies in our universities all share a strong commitment to math, regardless of discipline.

In addition (no pun intended), math is extremely diverse. There is the study of numbers (Number Theory) and shapes (Geometry) and the list goes on and on. Other categories of mathematics exist but are barely, if-at-all, covered in our standard curriculum, like Set Theory, Combinatorics, and Graph Theory. Personally, I find Geometry very difficult and uninteresting. Some of my fellow students love Euclidean Geometry and can't stand Combinatorics (my favorite). If our standard math curriculum taught in your school has you less than interested, you owe it to yourself to look into the vastness that is math.

Lastly, teach a class or two to your children, as long as it's not Geometry of course. By encouraging students to undertake math, fosters not only the student's learning, but also guides us as we consider future careers. I feel quite an affinity to teaching and research and see myself at some university where the weather is warm and people are nice. If all goes as planned, I will someday become a "*contributing*" member of KSEA and perhaps teach a class or two to your children, as long as it's not Geometry of course.

Competitive Curiosity

Andrew Jung

Senior, Carnegie Vanguard High School, Houston TX

What I've learned from 12 years of KSEA NMSC and UCC competition participation. The competition that was my favorite and I have participated in is the annual Korean American Scientists and Engineers Association (KSEA) Math and Science competition. I have participated in this competition ever since I was in 1st grade till last year. It has been a competition I have always participated in every year without fail even though COVID-19 pandemic.

Every year I have always walked away with a podium place in the science competition. The science competition has always grabbed my attention as it had to do with constructing something out of craft materials. I have always been good at taking apart items and putting them back together. Since the science competition gave more of an open-ended answer allowing me to use my curiosity. These engineering challenges have always captivated me and pushed me to do my best. The competition always pushed me to do my best and has been a big part of my competitive spirit.

The math portion of the test has always been the weakest part when it came to the competition. Math has never been my strong suit but I would sometimes get a 3rd place price once in a blue moon. The math portion of the competition was the most challenging and the most competitive. I later got into enjoying the math section as improving from last year has always been my goal.

The KSEA Youth User Created Content (UCC) Competition was the one that I had the most fun competing against. Being able to have the freedom of choosing the way that we convey our ideas and our answer to the question was such a big part of it. I choose to do it with legos as I have always enjoyed using them. Like the science competition, the video competition has allowed me to use my creativity and building items. Although I only got to 3rd place it was my favorite competition that I competed in. This 3rd place also resulted in me getting into the newspaper. This was the first time that I was in the newspaper and has been one of my biggest accomplishments.

Overall the KSEA competitions have been an event that I look forward to every year as it allows me to show off my curiosity and compete against my peers to see how I compare.

Chapter 15

Outlook

- The 50th Anniversary of KSEA
- KSEA의 값진 반세기와 미래 50년의 바람
- Dream Towards 100 Years
  - Wishes of Younger Members Towards 100 Years of KSEA

The 50th Anniversary of KSEA

Sang-Kee Suh

President of Young Astronauts Korea

Hello everyone, my name is Sang-Kee Suh, and I am the president of Young Astronauts Korea (YAK).

First of all, let us together congratulate the 50th anniversary of the Korean-American Scientists and Engineers Association (KSEA) and thank the countless efforts of members of the organization who have worked together to reach this historical moment. I would also like to express my gratitude to the Historical Committee of KSEA who gave me the honor of delivering these congratulations among the many brilliant seniors, colleagues, and juniors representing the science and technology world.

UKC, the annual festival and academic conference held in the US-Korea science and technology field, is the largest event organized by the association and opens the horizon for cutting-edge knowledge and information from leading scientists. Over many years, it has faithfully served as a role model for the younger generation to forge a vision for the future.

Since I first became a member of the Korean National Assembly in 2004, UKC has held a special importance to me. I have attended the UKC every year and when working as a member of the National Assembly's Science and Technology Committee, I also enjoyed the pleasure of receiving a contribution award at the 2010 UKC in Seattle.

It all began back when I was studying abroad in the US as a graduate student and the first Student Membership was founded in Philadelphia in 1972. At that time, the association was just a group of 68 Korean-American scientists, but since then, we have grown to over 7,000 members, more than 100 times our beginnings. I would like to give special thanks to the early members who are with us today and a big round of applause to everyone in KSEA for their invaluable contributions.

Now, as we reach this landmark of KSEA's 50-year history, it is an appropriate time for scientists and engineers from both countries to write a new history of the next 50 years as partners sharing the goal of co-prosperity of mankind and earth. In envisioning what the future holds in store, I defer to Edward Fredkin, the MIT professor and founder of digital physics and digital philosophy, who posited that the three major events of 13.8 billion years of space history is the Big Bang, the birth of life, and the birth of AI. As the 4th Industrial Revolution flourishes, technological developments such as AI, 5G, and autonomous driving are truly at the forefront of innovation.

However, while I do not doubt that source technology and convergence technology will open the future, the resources we dedicate to our workforce and collaborative relationships are also crucial. For all of our efforts toward a desirable future to bear fruit, we must foster scientific and technological talent for the next generation, so I hope you will join us as seniors, mentors, and partners for both Korea and the United States. Aligned with this spirit, In 2016, Young Astronauts Korea (YAK) and KSEA signed an MOU that focuses on youth exchanges in both countries, such as the Youth Science and Technology Leadership Camp. There, middle and high school students selected from both countries participate in and lead

scientific projects with past Nobel Prize winners as well as other Korean and American scholars. In this way, we hope to nurture future leaders of the next generation of scientists and engineers across both countries.

Scientists and technologists! Our mission and KSEA's mission to support US-Korea scientific collaboration has been an essential part of our history, so let us look back and celebrate all that we have achieved together over these past 50 years, then look forward to build an even brighter future.

Thank you all and congratulations.

KSEA의 값진 반세기와 미래 50년의 바람

김 기 협

전 한국생산기술연구원장
현 Encore Korea Initiative Ambassador

재미한인과학기술자협회 (KSEA)의 창립 50주년을 진심으로 축하하면서 오랫동안 헌신과 기여를 하신 선후배 회원님들과 현재 왕성하게 활동하고 계신 현역회원들께 감사의 말씀을 드리지 않을 수 없다. 또한 이번에 50주년을 기념, 다양한 행사와 기념책자도 발간하게 되어, KSEA를 소중히 여기는 전 회원으로 바람을 얘기할 수 있는 기회를 갖게 되어 무척 고맙다. 1976년 보스턴에 거주할 때에 KSEA회원으로 등록, 활동을 시작해 83,84년에는 New England지부장으로도 봉사를 하였고, 1985년 귀국후엔 전 회원으로 지금껏 45년간 인연을 직간접적으로 KSEA와 맺어오고 있다. 지난 반세기의 KSEA의 활동을 돌아보고 오는 50년의 꿈과 희망을 피력하여, 현역회원들은 물론 은퇴 KSEA 회원들과 미래의 재미한인과학기술자들께서 KSEA를 통하여 더욱 교류하고, 성장함은 물론 한국과 미국, 그리고 나아가 인류 발전에 공헌하기를 진심으로 기원한다.

1971년 미국의 동부지역을 중심으로 출범을 한 KSEA는 그동안 미국전역에 걸쳐 지부창설은 물론 많은 회원확보를 통하여 성장하였다. 그간 회원 각자의 보람은 물론, 모국인 대한민국의 과학기술발전에 획기적인 기여를 지난 50년간 꾸준히 해오고 있다. 천연자원이 부족하고, 6.25 전쟁에 의해 황폐해졌던 우리나라의 경제발전을 위해 산업과학기술은 제조업을 육성, 수출산업을 통한 경제성장을 도모하는데 핵심 성공 요소였다. 선진국, 특히 미국에서 면학한 이공계 학자들과 산업계에서 경험을 한 과학기술자들은 산업기술토대가 거의 없던 우리나라의 기반부터 구축하는데 중추적인 역할을 담당하게 되었다. 그를 위해 KSEA는 한국의 대학, 대학원에서 필요로 하는 교수요원들, 왕성하게 증가하는 국공립연구기관에 필요한 고급연구인력들은 물론 80년부터 시작된 산업계의 연구소들에 필요한 다양한 분야의 수많은 연구개발인력을 국내에 소개, 정착하게 만드는데 중요한 역할을 담당하였다. 특히 과학기술의 최 선진국인 미국의 과학기술을 도입하여 산업경쟁력을 확보해야만 하였던 대한민국상황에 KSEA의 각종활동은 효과적인 중간자 역할을 했다고 평가할 수 있다. 60년대중반부터 제조업 발전초기 단계의 섬유, 화학, 화공, 기계, 재료, 전기, 토목, 건축 등은 우리 산업이 초기 역공학 (Reverse Engineering)을 통하여 기술을 확보하고, 점진개선 (Incremental Improvement)을 통한 경쟁력 우위확보를 통하여 세계수출시장을 공략해 나가는데 큰 기여를 하였다. 그후 80년부터는 전자, 바이오 등 첨단산업에 필요한 핵심기술인력의 국내유입은 물론 국내에서 자체적으로 그 인력들을 교육, 육성시키는데 KSEA도 적절하게 대응, 정부와 과학기술계에 적극적인 협조를 아끼지 않았다. 초기 국내에서 절실했던 선진기술의 추격 (Catch-Up)을 효과적으로 할 기술인력이었고 그는 큰 어려움없이 KSEA의 협조를 통해 확보를 하였다. 우리기업들이 Open Innovation을 통하여 경쟁력을 갖게 되는데 KSEA 회원들이 많은 기여를 하였다고 평가할 수 있다. 현재 우리나라의 IT산업, 특히 반도체, 디스플레이, 휴대폰 사업 등과 바이오 산업들은 초기에 그렇게 경쟁력을 확보하게 되었다고 하여도 과언이 아니라고 본다. 그에 따라 지난 50년동안 KSEA도 동반성장을 이루며, 많은 회원을 확보하였고, 다양한 프로그램을 통하여 회원들이 혜택을 공유하고 있다고 본다. 하지만 문제가 없는 것도 아니다. 평가해볼 때 초기의 1세대 KSEA 회원들과 같이

열정을 갖고 2세대나 3세대 KSEA멤버들이 활동하고 있는가 하는데에는 좀 아쉬움을 갖게 된다. 이에 KSEA는 그 동안 왜 더 많은 회원들을 유치, 왕성한 활동을 펼쳐 나갈 수 있는 기회를 부여하지 못하였는가를 분석해 봐야 할 것이다. 둘째는 재미과학기술자들이 긍지를 갖고, KSEA 활동을 할 수 있게끔 우리나라 정부와 기업들이 지속적으로 보다 적극적인 지원을 하여, 적합한 활동을 발굴, 유지, 발전해 나왔는가 하는 것이다. 50주년을 맞이하여 냉철한 평가 및 분석을 해보기를 권한다.

인류는 현재 총체적인 각종 위기에 당면해 있다. 계속되는 인구증가는 이미 지구인구를 75억을 넘게 하였고 2050년에는 90억까지 예견하고 있다. 그에 따라 지구환경, 특히 기후변화와 에너지문제는 더욱 심각하게 되고 있으며, 물 부족현상은 물론 지구온난화에 따른 해수온도의 상승과 해수면 상승 등 예견되는 엄청난 위협들이 중첩해 있다. 더구나 현재 진행되고 있는 코로나 바이러스 Pandemic 현상에서 보듯, 한곳의 문제가 생기는 경우, 그것이 Local에 그치는 것이 아니고, 급속히 지구전체로 확산되어 대처를 더욱 어렵게 하고 있고, 이제는 Global 협력을 하지 못하면 결국 인류는 살아남을 수 없을 지경에 이른 것으로 보인다. 최근 역병에 대처하는 각국정부의 전문가들의 대처능력과 방역결과를 평가해 볼 때 우리나라는 전세계국가들에 비해 그나마 잘 대응을 해 나가고 있다. 이를 종합해보면 EEWH (Energy, Environment, Water, Healthcare)문제해결을 위하여는 Global 공조가 절대적으로 필요하며, 그 핵심에는 과학기술이 자리잡고 있다. 미래 50년은 특별히 KSEA의 현재, 미래 회원들의 왕성한 활동으로 난제해결을 도모하기 바란다.

KSEA회원들은 동서양의 문화를 향유하여, 누구보다 잘 전세계를 이해할 수 있으며 Open Mind를 갖고 대응할 수 있다. 21세기 지금은 과학기술 특히 IT기술이 더욱 급속히 발전, Digital Transformation이 사회전반을 변화시키고 있다. 동서양의 문화를 이해함은 물론 우리 민족의 DNA에 흐르는 융,복합문화는 KSEA회원들이 앞으로 전개될 Technology Convergence 뿐만 아니라, 다양한 분야의 융합학문에도 확실한 소양을 갖추고 있다고 본다. 더 나아가 Meta-Science같은 분야에서 두각을 나타내는 KSEA 회원들이 나서기를 기대해 본다. 과학과 종교까지도 융합해 나가는 분야만 말로 동서양문화를 잘 이해, 구사할 수 있는 KSEA회원들에게 도전해볼 분야가 될 것이라고 본다. 둘째는 회원들이 더욱 Global Leadership을 갖고 첨단산업 과학기술분야에 도전하며 우리나라와 긴밀한 공조를 해 주길 기대한다. 우리나라는 더욱 커질 중국의 막강해지는 경제력에 흡수되지 않기 위해서는 중국에 앞서는 첨단산업기술을 확보해 나가야만 하는데, 이를 위해서는 KSEA회원들의 한국과의 협력이 절실하기 때문이다. 세번째 향후 KSEA에 바램은 우리나라의 ODA (Official Development Assistance)국제사업에 적극 참여하는 것이다. 특히 KSEA의 은퇴과학기술자들이 축적한 지식과 경험은 개발도상국들에 큰 도움을 주게 될 것이며, 이는 참여하는 여러 KSEA 회원들에게도 큰 보람을 갖게 할 것이다. 전세계의 많은 개발도상국들에게도 많은 도움이 되고, 같은 민족이지만 아직도 자유를 갖지 못하고, 정치, 경제, 사회적으로 너무나 열악한 환경에서 고통받고 있는 북한에 KSEA가 향후 큰 역할을 담당하면 좋을 것이다. 현재 핵무기 개발만으로 정권유지에 급급한 북한정권은 결국 도태될 것이고, 산업기술에 의한 북한의 경제개발이 조만간 필요해질 것이기 때문이다. KSEA 회원들이 자유와 민주, 평화의 개념을 시장경제와 함께 북한에 전파하는데 일익을 담당하는 것은 타 개발도상국에 도움을 주는 것 보다 더욱 보람 있을 것이다. 마지막으로 KSEA는 지금까지 계속해 오고 있는 Young generation을 위한 사업을 더욱더 다변화, 육성시켜 나가야만 한다. 대한민국과의 연계를 통해 성장하는 차세대 KSEA 회원들이 더욱 많은 활동을 해야만 미래 50년 KSEA는 성장할 수 있기 때문이다.

이번 축복의 50년을 맞는 KSEA에게 의미가 있는 사업의 하나로 향후 50년 KSEA 미래 Vision과 Roadmap 구축사업을 제안한다. 한국과 미국내 KSEA관련 산,학,연,관의 전문과학기술자들이 참여, 다양한 의견도출을 유도하고, 이를 종합해 중장기 계획안을 수립해 줄 것을 촉구한다. 그후 그를 꾸준히 실천해 나갈 구체적인 실행계획수립을 재촉하는 것으로 축하의 메시지를 대신하며 이만 줄인다.

모든 KSEA 재미한인과협의 과거, 현재, 미래의 모든 회원들의 건강과 행운을 다시 한번 기원하면서!

2021년 10월 7일

Dream Towards 100 Years

Young-Kee Kim

The 51st President

Happy 50th Birthday to KSEA! What a fantastic 50 years!! KSEA has grown to over 6,000 registered members with 59 local chapters and branches, 31 affiliated professional societies, 13 technical groups, and 20 young generation groups. It has built strong connections between the U.S. and Korea, providing opportunities for international cooperation, career development for the young generation, and community service. All of these are only possible because of the dedication of countless volunteers and KSEA staff with passion and a wonderful spirit of community service. I would like to take this opportunity to thank everyone who has contributed to the success of KSEA, in particular, the previous and current administrations.

While we celebrate the 50th anniversary of KSEA, we should also think about how KSEA should approach its future and prepare for the next 50 years. The world is rapidly changing and constantly evolving. More and more youth grow up in a technologically connected world. I look forward to KSEA's future activities that reflect globalization of science and engineering and increasing global mobility. I look forward to KSEA's continued efforts to bring together Korean-Americans across countries, generations, and cultures, its efforts to bridge industry, entrepreneurship, and academia, and its cultivation of leaders from the Korean-American community and beyond. I particularly look forward to KSEA becoming a diverse, inclusive, and equitable community, exemplary to others.

In what follows, I forward the wishes of some of our younger members who will shape the future of KSEA.

Wishes of Younger Members Towards 100 Years of KSEA

Dennis Cha
Google, YG Committee Chair

"I look forward to the next 50 years of KSEA, where we connect broader demographics with more impactful relationships"

Eddie Cho
Google

"I hope to see KSEA continue to cultivate leaders from the Korean-American community."

Stella Chun

Thermo Fisher Scientific

"Loved building relationships within KSEA and contributing back to the society through KSEA. In 50 years, I hope we can gather together to share the progress KSEA made and re-connect with everyone!"

Ahreum Amy Han

Discover Financial Services

"Congratulations KSEA on its 50th anniversary. I appreciate all of the passion, dedication, and support to educate and develop the next generations. I cannot wait to continue to witness the amazing contribution that KSEA could make in the future."

SM Jung

SEEK1ST, Seattle, WA

"KSEA's future is an organization that will lead with harmony not just in science and technology but between generations and cultures."

Clara Kim
PharmD, Novartis Oncology

"In the next 50 years, I look forward to KSEA's continuation of fostering a strong network of Korean-Americans that help each other thrive and serve as role models for each other."

Hee-Jeong Kim
University of Arizona

"I hope KSEA continues to be a foundation for bridging the Koreans and Korean-Americans network."

Jonathan Young Kim
CSX Technology

"Reading about the first 50 years of KSEA has convinced me that South Korea may not have become the global icon they are nowadays without the help of KSEA's "altruistic spirit of volunteerism." In the next 50 years, I can totally see KSEA branch out beyond just the United States and South Korea and help bring other countries and communities to the top of the world."

Joy Kim

University of Chicago Booth School of Business

“In the next 50 years of KSEA, I hope to continue to build foundations that allow us to provide support and mentorship for a wider audience of Koreans and Korean-Americans.”

Kevin Kim

Socotec US

"Thank you KSEA for an amazing 50 years of service to the Korean-American engineers and scientists community spanning the United States to Korea. Wishing for 50+ more great years of connecting and fostering the growth of KSEA"

Ryuhwa Stella Kim

Data Service Company

“To be successful, you need skills and knowledge on your own, but you also need people to support you and collaborate with you. I hope that KSEA will become an organization where various experts can create synergy together.”

DK Koh

Danger Devices Inc

"KSEA's greatest strength is in facilitating the gathering of talented individuals across a wide spectrum of specializations. Now is a particularly opportune time to capitalize on society's appetite for social interactions and look forward to KSEA taking the lead in facilitating future meetings, whatever the medium."

Benjamin C Lee

Weill Cornell Medicine, New York, NY

“Congratulations on KSEA for entering the next 50 years of developing careers of the next generations in industry, entrepreneurship, and academia. I look forward to more events to promote and share yet unknown discoveries and inventions from our members.”

Daniel S. Lee

BrightPlan San Francisco, CA

“KSEA is fostering relationships that will help elevate the next generation of Korean-American professionals. I am confident that we will find many KSEA members and alums in meaningful and influential positions in the near future through these connections.”

John Lee

Former YG Committee Chair

“I hope to see KSEA continue to be the fabric that brings together Korean-Americans across countries and generations, and between industry and academia.”

Jullia Lee

Genentech

"KSEA will be the organization where people can join a community that develops and supports Korean leaders in stem industries."

Ryan Shin

Honeydew Consulting

“I am looking forward to KSEA developing a larger network across the nation to help create more opportunities for Koreans and Korean-Americans in both academia and industry.”

Complementary Compendium

Early history of Forebears

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- 초기 미국 한인 유학생들과 그들의 정신

Early Years of Asian Immigration and the First Generation of Korean-American

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Synopsis

History and demography of US immigrants from Korea and neighboring Asian countries are reviewed to discuss the difficulties that the first generation of Korean immigrants experienced. A personal reflection from this review is presented on how the first generation of Korean immigrants coped and overcame the difficulties and achieved their current status. The influence from the historical background appears indispensable in understanding the first generation of Korean-American, in particular, the inherited volunteerism that manifested in founding the KSEA a half century ago.

1. Introduction

Forty years of experiences in US allowed me to see growing populations of second generation. In particular, a number of outstanding young researchers with the Korean ethnic background gave me favorable impressions for the future of Korean ethnic populations. Forthcoming generations deserve high hopes and expectations.

This year, we celebrate the 50th anniversary of KSEA, while twenty years ago, we encountered the centennial celebration of Korean immigrants to US. However, the actual history of Korean immigrants to US goes somewhat beyond hundred twenty years and the more general history of Asian immigrants to America goes much further past such as seventeenth century. Obviously, the celebration that we have now couldn't be realized without the painstaking sacrifice and struggle that the real early immigrants from Asian countries, especially China, Japan and Korea. Thus, it may be worthwhile to review some of such a painstaking history evidenced even in the present demography of Asian immigrants and discuss the lessons that one might learn from the history.

I'll first briefly review the demographic statistical background data in US collected at the dawn of the 21st century and discuss in particular the Asian population demographics. Then, based on my little knowledge learned in the past, I'll surmise the history of Asian immigrants, especially from Korea and neighboring countries such as China and Japan. Finally, a personal reflection on the first generation's motivation, challenges and disciplines to overcome the difficulties are discussed. Concluding remarks follow as an epilogue.

2. Demographics in US at the Dawn of the 21st Century

According to the US census 2000, the US total population was 281.4 million as of April 1, 2000. Among these populations, the Asian population was 11.9 million which correspond to 4.2 % of the total population. Among the Asian populations, the largest was the Chinese as 2.7 million and the next was the Filipino as 2.3 million. The Korean was the fourth largest population as 1.2 million and the Indian population of 1.9 million was between the Korean population and the Filipino population. In the next order, the Vietnamese population was about the same as the Korean population and slightly larger than the Japanese population of 1.1 million.

In 1990, however, the US total population was 248.7 million while the Asian population was 6.9 million. This shows that the US total population was increased by 13% while the Asian population grew by 72% in ten years. Thus, the growth of Asian population has been incredibly larger than the overall growth of US population although the Asian population is clearly still in the minority group.

Also, the median age of Asian is slightly younger than the overall US median age. The median age of US total was 35.3

years old while that of Asian only was 32.7 years old. If one takes into account the Asian in combination with one or more ethnic groups, the median age is even younger as 31.1 years old. Perhaps, these facts may indicate in general the healthier growth of Asian population in comparison with the overall US population.

The demography of Asian population dictates the past history of Asian immigrations. The first five most populated cities in US were New York (8 million), Los Angeles (3.7 million), Chicago (2.9 million), Houston (2.0 million) and Philadelphia (1.5 million). However, the most populated cities by Asian were somewhat different from the ones based on overall figures. Certainly, New York and Los Angeles were the most populated cities by Asians too, i.e. 873 thousand in New York and 407 thousand in Los Angeles, respectively. On the other hand, the next most populated cities were rather different from the general figure. San Jose (258 thousand), San Francisco (253 thousand), Honolulu (252 thousand) and San Diego (189 thousand) were more populated cities by Asian than Chicago which had 141 thousand Asian. In Houston and Philadelphia, the Asian populations were 114 thousand and 74 thousand, respectively, indicating that there were several other cities ahead of Philadelphia in Asian populations. The largest population of Asian among the ten largest cities in US could be found in San Diego, rather than either Los Angeles or New York. While Los Angeles and New York had about 11 % of Asian population, San Diego has 15 % of Asian population. Moreover, one should note that the largest population of Asian among the places of 100 thousand or more was found in Honolulu since 68% of the Honolulu population belonged to the Asians. All of these demographic figures manifest the past history of Asian immigration in US.

3. History of Asian Immigration

The reason why we had the centennial celebration of Korean immigration in US at the dawn of the 21st century was because the Korean King Kojong recognized the approval of Korean Immigration to US in 1902. However, the actual immigration of Koreans occurred somewhat before and in general the immigration of Asians began much earlier. The earliest history that Asians came to America may go up to seventieth century when Chinese and Filipinos reached Mexico on ships of Manila galleon, let alone the ancient history of American natives migrated from Asia. However, perhaps the first recorded settlement of Filipinos in America may be found in 1763 followed by the first recorded arrival of Asian Indians in US on 1790 and the first Chinese and the first Turk in US on 1820. In this section, I am going to review the history of Asian immigration rather lengthy starting from around these early times. However, it would not be possible to summarize all the history of about two hundred years concisely. Although I shall attempt to illustrate the events as much as I can, my review here would be quite limited.

In 1842, the opium war started and lasted the next ten years in China. As a result, Hong Kong was annexed to British Empire and over 20 thousands of Chinese came to California. During the opium war, the US-China treaty was signed in 1844 and the gold rush occurred in California, 1848. Thus, many Chinese minors arrived at California and California imposed the Foreign Minor's Tax against the Chines minors in 1850. Also, one may note that three Chinese students arrived at New York for schooling in 1847 and one of them graduated from Yale University in 1854. In the year 1852, when the opium war ended, besides the California minors of over 20 thousands, the first group of hundred ninety five Chinese contracted laborers landed in Hawaii.

US-Japan treaty was signed in 1854, which was ten years later than the US-China treaty. In the same year, People Hall ruled that Chinese couldn't testimony in court against Whites. This rule was not dropped until 1872. In 1859, Chinese were excluded from San Francisco public schools and in 1862 California imposed the Police Tax of $2.5/month on every Chinese. In 1865, Central Pacific Rail Road Co. recruited Chinese workers for the transcontinental railroad which was completed in 1869. In 1867, two thousand Chinese railroad workers went on strike for a week. In 1868, the Sunday school was open for Chinese in Hawaii. By the end of 1869, the Chinese workers represented 20% of California's labor forces and in 1870 Chinese railroad workers in Texas sued the company for failing to pay wages.

In 1876, US-Hawaii Reciprocity Treaty was signed and the Hawaiian sugar entered US as a duty-free item. Around this time, there was a depression and the anti-Chinese legislation was enhanced claiming "*They're taking away our jobs*". Even worse, in 1877, there was an Anti-Chinese Violence in Chico, California. In 1878, In re Ah Yup rules made Chinese ineligible for naturalized citizenship. However, in 1880, the US-China Treaty which didn't absolutely prohibit Chinese immigration was established. Nevertheless, California's Civil Code prohibited issuing licenses for marriages between Whites and "*Mongolians, Negroes, mulattos and persons if mixed blood*". Around this time, in 1882, just after Hawaiian King Kalakaua visited Japan in 1881 the Chinese Exclusion Law eventually suspended the US immigration of laborers for ten years.

This Chinese Exclusion Law was extended another ten years in

1892 by Geary Law and subsequently in 1902 another ten years and then finally the Chinese Exclusion was made indefinite in 1904 till the US Congress repealed all Chinese Exclusion laws in 1943. Thus, for sixty one years, the Chinese suffered from the Exclusion laws. The "*Chinese Must Go*" movement was so strong that Chinese immigration to the US declined from 39.5 thousand in 1882 to only 10 in 1887. One may note that there was a Lawsuit to San Francisco School board to enroll Chinese daughter (Mamie) in public school in 1884. Just a year later, in 1885, San Francisco built new segregated "*Oriental School*" in Mamie's case and many Chinese deaths were reported during the Anti-Chinese violence in Wyoming. In the same year, Japanese workers arrived in Hawaii.

However, in such a difficult period of Chinese immigration, Chinese community leaders were able to build six companies called Chinese Consolidates Benevolent Association (CCBA) in San Francisco. In 1883, the CCBA was also built in New York. Subsequently, in 1884, the CCBA was formed in Vancouver and the language school was built in San Francisco. In 1886, Chinese laundry men won in Yick Wo Hopkins case, which declared that a law with unequal impact on different groups is discriminatory.

In such a turmoil period of Chinese immigration, the US-Korea's first treaty was signed in 1882 which was about 40 years later than the US-China treaty. On November 2, 1886, The US approved the Korean immigration. Around this time, a small number of Korean students, political exiles, Ginseng merchants and the migration laborers began to arrive at US. However, the number of immigrants were less than 50.

In 1893, Japanese in San Francisco formed the first trade association, the Japanese Shoemakers' League while attempts were made to expel Chinese from towns in southern California. One may also note, in 1896, Shinsei Kaneko was a naturalized Japanese Californian. In the same year, due to the bubonic plague scare, Chinatown in Honolulu was burned.

In 1898, the Spanish-American War was ended in Philippines and Philippines became a protectorate of US according to the Treaty of Paris. Also, in the same year, Hawaii was annexed by US. Four hundred years of Spanish colonialism left Filipinos a blend of European and Asian and many of them migrated to Hawaii, some to mainland of US, where they often lived and intermarried with Mexicans. In the turn of new century, 1900, Japanese Hawaiian Plantation workers migrated to US while Chinatown in San Francisco was cordoned and quarantined due to the bubonic plague scare.

In 1902, when the Chinese Exclusion was extended another ten years, Korean king Kojong recognized the approval of Korean Immigration to US. On Jan. 13, 1903, 102 Korean immigrants came to Hawaii as a sort of trial case. Among them, 56 were men, 21 were women and 25 were children. On Feb. 26, 1903, evening bulletin in Hawaii posted the following remark about Korean workers: "*They appear to be hard workers, yet they are paid the least… would work 10 hours from dawn to sunset for 69 cents a day.*". Subsequently, in 1903, 7,000 Korean workers arrived in Hawaii as a strike breaker while 1,500 Japanese and Mexican sugar workers were on strike in California. The main motivation of Korean immigration at that time was to earn money and live a better life.

In the same year, Koreans formed a Korean evangelical society in Hawaii. Philippine students also arrived in US for higher education. In the year 1904, when a Chinese Exclusion was made indefinite and Punjabi Sikhs began to enter British Columbia, there was a Japanese organized strike in Hawaii.

During 1904-1905, the Russo-Japanese War raged on. In 1905, Korean Episcopal Church and Korean Methodist Church were built in Hawaii and California, respectively, and Koreans in San Francisco formed the Mutual Assistance Society known as Kongnip Hyop Hoe which was the first Korean political organization. In the same year, the Section 60 of California's Civil Code was amended to forbid marriage between Whites and "*Mongolians*". Moreover, San Francisco school superintendent Aaron Altmann advised the city's principals the following: "*Any child that may apply for enrollment or at present attends your school who may be designated under the head of Mongolian must be excluded and in furtherance of this please direct them to apply at the Chinese School for enrollment.*". As manifested in such advice of racial discrimination, Korean immigrants around this time faced not only racist exclusion in US, but also Japanese colonization at home in 1909. Some Korean patriots also settled in US as political exiles and got organized for Korean independence.

Among the total 7843 Korean immigrants who came to Hawaii around this time, 6,701 were men, 677 were women and 405 were children. Apparently the male was predominant and a way of solving the male dominance problem was the Korean "*picture brides*" since nearly 5,000 Korean bachelors were there. This term was rather frequently used during 1906-1924 since Korean men insisted on marrying Korean women only. They had to send pictures of themselves and have arranged marriages. As a consequence, 951 Korean "*picture brides*" immigrated to Hawaii. It perhaps reveals how royal Korean men may be to Korean women.

In 1906, there was a Major Earthquake in San Francisco which destroyed all municipal records including immigration

records so that Chinese immigrants were able to claim that they were US citizens and gained the right to bring wives and children to US. Around this time, there was also a Anti-Asian riot in Vancouver. While Japanese Scientists studied the aftermath of San Francisco earthquake, in 1907, Japan and US made the "*Gentleman's Agreement*" whereby Japan stopped issuing passports to laborers desiring to immigrate to US. Also, Ted Roosevelt signed the Executive Order 589 prohibiting Japanese with passports to Hawaii, Mexico or Canada to re-emigrate to US. However, Korean Presbyterian Church was built in Los Angeles around this time.

Also, United Korean Society was formed in Hawaii and Filipino laborers arrived in Hawaii. Japanese Association of America was formed in 1908 and 7000 Japanese plantation workers were on strike in Oahu for 4 months in the following year.

When Japanese occupied Korea in 1909, Korean Nationalist Association was formed and the Angel Island Immigration Station opened to process and deport Asian immigrants. In 1910, humiliating medical examinations and detailed interrogations broke out in the Angel Island. In the Detention Center at Angel Island, more than 100 poems were found on the walls in Chinese characters.

In 1911, Japanese Association of Oregon in Portland was formed and Chinese men in America cut off their queues following revolution in China as an eruption of revolt against Ching dynasty. More revolutionary activities went on this time. Finally, the Republic of China was founded in 1912. Around this time, Japanese in California hold a statewide conference on Nisei education.

In 1913, California passed alien land law prohibiting "*aliens ineligible to citizenship*" from buying land or leasing it for longer than three years. This law went on the next 43 years until it was repealed in 1956. In the same year of 1913, however, Asian Indians in California published a newspaper and Filipino Unemployed Association and Northwest Japanese Association of America were formed in Hawaii and Seattle, respectively. Nevertheless, Korean farm workers were driven out of Hemet, California.

In 1914, the first World War broke out. In the following year, Japanese Association of Southern California and Japanese Chamber of Commerce were formed. However, in 1917, the Immigration Law defined a "*barrier zone*" including India from which no immigrants could come to US. Around this time, Syngman Rhee, who became the first president in South Korea later, founded the Korean Christian Church in Hawaii. One may note here that another important political figure Do-San An Chang-Ho arrived at San Francisco with his family in 1902 and worked in California. Some comparison between Syngman Rhee and Do-San may interesting, but I am not going to make such comparison here.

Since the World War I ended in 1918, the Asian servicemen served in WWI received the right of naturalization. October Revolution of Russia occurred also in the same year. The Asian Indians formed the Hindustani Welfare Reform Association in Southern California around this time. In 1919, when the great activities for Korea to be free from Japan's annexation were enhanced in the home land (See **Fig.1** the March 1st Movement preparation in Daegu Jeil Church), the Federation of Japanese Labor was formed in Hawaii. In 1920, 10,000 Japanese and Filipino plantation workers went on strike and in 1921 Filipinos established companies in San Francisco and Honolulu.

fig. 1 Daegu Jeil Church where independence leaders discussed for the March 1st Movement, 1919

However, in 1922, Cable Act in US declared that any American female citizen who married "*an alien ineligible to citizenship*" would lose her citizenship.

Then, in 1924, the Immigration Act which is known as Oriental Exclusion Act denied the entry to US from virtually all Asians with the exception of Philippine nationals. However, US allowed Korean students to come and study in US. In the same year, 1600 Filipino plantation workers went on strike for 8 months in Hawaii. In 1925, Philippine Federation of America was formed and in 1928 Philippine American Christian Fellowship was also formed in Los Angeles.

After the Depression broke out in 1929, the Korean National Association of San Francisco moved to Jefferson Blvd in Los Angeles while the Anti-Filipino riot occurred in California, 1930. In 1931, the Amendment to Cable Act was made so that no American born woman who lost her citizenship (by marrying an alien ineligible to citizenship) could be denied the right of naturalization at a later date.

In 1934, Tydings-McDuffie Act spelled out procedure for

eventual Philippine independence and Filipino immigration was limited to 50 persons a year. In 1936, the Filipino-Mexican union of field workers was formed and in 1937 the last ethnic strike went on in Hawaii.

In 1939, the World War II began. A year later, Filipino Federated Agricultural Laborers Association was formed. On December 7, 1941, the Japanese attack on Pearl Harbor broke out in Hawaii and the next day, December 8, US entered the WWII.

Since then, Korean immigrants were reported separately in data. In 1942, Franklin Roosevelt signed the Executive Order 9066 against Japanese Americans. The Public Law 503 imposed penal sanctions on anyone disobeying orders to carry out Executive Order 9066. The Executive Order 9066 was carried out for the next 34 years until Gerald Ford rescinded it in 1976. In the year of 1943, the Congress repealed all Chinese Exclusion laws as discussed earlier and a very small immigration quota (105 per year) was granted to Chinese.

On August 6, 1945, an Atomic bomb was dropped on Hiroshima and a week later, August 14, Japan surrendered and the WWII ended. Finally, on August 15, 1945, the Independence of Korea from Japanese annexation was announced. Due to the end of WWII, the Nazism failed and the notions of white superiority became less acceptable. This opened up the opportunities for employment, education and housing especially for 2nd generation.

In 1946, Luce-Celler bill granted the right of naturalization and small immigration quotas were given to Asian Indians and Filipinos. Also, Wing Fi Ong became the first Asian American elected to state office in the Arizona House of Representatives. In the same year, Philippines became independent from US and the US citizenships were offered to all Filipinos living in US. In 1947, the Amendment to 1945 War Brides Act allowed the Chinese American veterans to bring brides into US.

In 1949, there was a Chinese Revolution and the Communist government designating Mao Tze Tung as the chairman was established. The Republic of China (ROC) moved to Taipei, Taiwan, and the US broke off diplomatic ties with People's Republic of China. Such broken relationship between People's Republic of China and US continued the next 30 years till 1979. Around the year of 1949, 5000 highly educated Chinese in US were granted the refugee status.

On June 25 ,1950, the Korean War began and the American solders that were stationed in Korea married Korean girls which were called "*War Brides*" or "*Peace Brides*". During the Korean War, in 1952, a clause in the McCarron-Walter Act granted the right of naturalization and a small immigration quota to Japanese. Since the Korean War ended in 1953, many Korean children were adopted to US. In 1956, the number of adopted children reached 140 thousand. In the same year, California repealed its alien land laws as mentioned earlier.

After Dalip Singh Saund was elected to Congress from Imperial Valley, California, in 1956, Daniel K. Inouye became a US senator and Spark Matsunaga became a US congressman from Hawaii in 1962. In 1964: Patsy Takemoto Mink became the first Asian American Woman to serve in Congress as a representative from Hawaii.

In this year, 1964, the Vietnam War known as Big War broke out and the war continued for the next nine years until it ended in 1973. In 1975, more than 130 thousand of refugees from Vietnam entered US. In the year 1978, a massive exodus of "*boat people*" from Vietnam was also made.

In 1965, the Immigration Law abolished the "*national origins*" as a basis of allocating immigration quotas. Asian countries became equal footing with others for the first time in US. Since then, 20 thousand of immigrants per country became the non-restrictive annual quota. Due to the Cold War, an eagerness of technology emerged also.

Motivations for Korean immigrants around this time were prospects of a higher standard of living and a better opportunity for their children's education.

In 1968, San Francisco State University went on strike to demand establishment of ethnic studies programs. Then, in 1969, UC Berkeley also went on strike for ethnic studies programs. Since the Vietnam War ended in 1973, the unification of Vietnam was made under Communism. One may also note around this time, March Fong Eu was elected as California's secretary of state and the Bilingual Education was established in 1974. In 1976, Gerald Ford rescinded the Executive Order 9066 as mentioned earlier. However, in 1977, Eilberg Act restricted the immigration of professionals. In the same year, the National Convention of Japanese American Citizens League called for redress and reparations for the internment of Japanese Americans.

In 1979, the Diplomatic relations between People's Republic of China and US reunited the long-separated Chinese-American families. Around this time, the number of Korean women married Americans reached to 50 thousand. In 1980, the Socialist Republic of Vietnam and the United Nations

High Commissioner for Refugees set up an Orderly Departure Program to enable Vietnamese to immigrate legally. However, the experiences of personal struggle, economic contribution, racial harassment and discriminatory legislation targeting Vietnamese fishermen in California's Monterey Bay during the 1980's were almost identical to those earlier generations of Japanese and Chinese fishermen who successively fished in Monterey Bay during the late 1800s and early 1900s. In 1981, the Commission on Wartime Relocation and Internment of Civilians set up by Congress hold hearings across the country and concluded the Executive Order 9066 as "*race prejudice, war hysteria and a failure of political leadership*.". However, one may also recall, a Chinese American draftsman, Vincent Chin, was clubbed to death with a baseball bat by two Euro-American men in 1982. It was around this time actually in 1986 that the Immigration Reform and Control Act imposed civil and criminal penalties on employers who knowingly hired undocumented aliens.

In 1987, when Korean immigrants peaked as about 36 thousand, the first formal signing was made for the Proclamation of Asian Pacific American Heritage Week by the White House. The US House of Representatives also voted 243 to 141 to make an official apology to Japanese Americans and to pay each surviving internee $20,000 in reparations. In 1988, when Seoul Olympic went on, the US senate voted 69 to 27 to support redress for Japanese Americans creating the Civil Liberties Act of 1988 and the American Homecoming Act allowed children in Vietnam born of American fathers to immigrate to the US. Furthermore, in 1989, George Bush signed an entitlement program to pay each surviving Japanese internee $20,000 and US reached an agreement with Vietnam to allow political prisoners to immigrate to US.

In 1990, the Immigration Act of 1990 (P.L.101-649) restructured the immigrant categories of admission and made other modifications to the Immigration and Nationality Act. The 1990 Act divided the preference classes into two general categories: family-sponsored and employment-based. Limits on the number of visas issued in these two categories are determined annually.

Since then, the number of Korean immigrants dropped. Improved economics, social and political conditions in South Korea may be largely responsible for the recent gradual reduction of Korean immigration. One should also note that, in 1992, Korean businesses were looted and burned as a result of riots in Los Angeles due to the outrage over Rodney King verdict. In 1993, the number of Korean immigrants dropped to approximately 18 thousand. In 2002, the Korea-Japan World Cup game was a great success in Korea, and many Koreans experienced an excitement from the unified support on the Korean team that became one of the top four strong teams in the whole world. More improved economics and social conditions are expected in Korea.

4. Challenges faced by Asian Americans and Personal Reflection on Korean-American First Generation

From the review of immigration history presented in the last section, perhaps one may note that the motivations for immigration changed as time went by. The motivation in early period such as around 1903 was to earn money and live a better life. However, the motivation in more recent years such as around 1980 was the prospects of a higher standard of living and a better opportunity for children's education.

To comprehend the difficulties experienced by early immigrants, let me remind an example of discrimination in education. In response to the challenge of changing demographics more than a century ago, the San Francisco School Board established a segregated Chinese Primary School for Chinese children to attend, including those who were American-born. By the turn-of-the century after Japanese immigrants had settled in the wake of Chinese exclusion, the School Board also applied the Chinese segregation policy to Japanese students. School superintendent Aaron Altmann's advice to the city's principals mentioned in the last section manifests the discrimination in education around this time.

Throughout their history, Asian Americans have confronted a long legacy of exclusion and inequity in relation to school policies and practices, particularly during periods of changing demographics, economic recession, or war. In spite of historic, linguistic differences, distinct Asian nationalities have been grouped together and treated similarly in schools and in the larger society. The grouping of Asian Americans together, then, makes sense in light of historic links from the past to the present developed by others. In this respect, it may be useful to recall what has been developed by The Asia Society. In the following, the difficulties that the Asian immigrants experienced are summarized according to the statements developed by The Asia Society as well as the review in the last section (**Section 3**).

Beginning in the 1850s when young single men were recruited as contract laborers from Southern China, Asian immigrants have played a vital role in the development of this country. Working as miners, railroad builders, farmers, factory workers, and fishermen, the Chinese represented 20% of California's labor force by 1870, even though they constituted only .002% of the entire US population. With the depression of 1876, amidst cries of "*They're taking away our jobs*!," anti-

Chinese legislation and violence raged throughout the West Coast. In 1882, Congress passed the Chinese Exclusion Act-the only US law to prevent immigration and naturalization on the basis of race-which restricted Chinese immigration for the next sixty years. The "*Chinese Must Go*" movement was so strong that Chinese immigration to the U.S. declined from 39,500 in 1882 to only 10 in 1887 as reviewed also in **Section 3**.

By 1885, following Chinese Exclusion Act, large numbers of young Japanese laborers, together with smaller numbers of Koreans and Indians, began arriving on the West Coast where they replaced the Chinese as cheap labor in building railroads, farming, and fishing. Growing anti-Japanese legislation and violence soon followed. In 1907, Japanese immigration was restricted by a "*Gentleman's Agreement*" between the U.S. and Japan.

Small numbers of Korean immigrants came to Hawaii and then the mainland U.S. following the 1904-1905 Russo-Japanese War and Japan's occupation of Korea. Serving as strike-breakers, railroad builders, and agricultural workers, Korean immigrants faced not only racist exclusion in the U.S. but Japanese colonization at home. Some Korean patriots also settled in the U.S. as political exiles and organized for Korean independence.

South Asian Indian immigrants also entered the U.S. as laborers, following Chinese exclusion. Recruited initially by Canadian-Pacific railroad companies, a few thousand Sikh immigrants from the Punjabi region immigrated to Canada which, like India, was part of the British empire. Later, many migrated into the Pacific Northwest and California, and became farm laborers. Ironically decried as a "*Hindu invasion*" by exclusionists and white labor, the "*tide of the Turbans*" was outlawed in 1917 when Congress declared that India was part of the Pacific-Barred Zone of excluded Asian countries.

By 1924, with the exception of Filipino "*nationals*", all Asian immigrants, including Chinese, Japanese, Koreans, and Indians were fully excluded by law, denied citizenship and naturalization, and prevented from marrying Caucasians or owning land.

With all other Asians excluded, thousands of young, single Filipinos began migrating in large numbers to the West Coast during the 1920s to work in farms and canneries, filling the continuing need for cheap labor. Filipinos were not legally excluded by the immigration laws because the Philippines was already annexed by the U.S. as a result of the 1898 Spanish-American War. Racism and economic competition, intensified by the depression of 1929, however, led to severe anti-Filipino violence and passage of the Tydings-McDuffie Act of 1935 which placed an annual quota of fifty on Filipino migration-effectively excluding their entry as well.

During the half century from 1882 to 1935, three waves of early Asian immigrants contributed their labor to the building of US but were eventually denied entry and not granted naturalization rights until 1952. Though coming from different countries and cultures, the pioneering Chinese, Japanese, Koreans, Indians, and Filipinos each faced similar conditions of exclusion which forged the beginnings of a common, shared Asian experience in America.

There are important parallels between European and Asian immigration history, especially in terms of how individuals responded to the "*pushes*" and "*pulls*" in their homelands and then faced contradictory experiences of discrimination and opportunity the US. However, the "*push-pull*" model commonly used to explain European immigration, like the melting pot paradigm of immigrant assimilation, does not explain the fundamental differences in patterns of Asian immigration and exclusion. These differences can only be understood by recognizing critical features of the historical period, including:

1) the reality of western colonialism and unequal power relations in Asia,
2) the insatiable need for cheap labor that accompanied manifest destiny of westward expansion and economic development in the US,
3) the influence on social policy and public attitudes that resulted from the lack of knowledge about Asian peoples, and racist notions of white superiority.

Though many are familiar with Ellis Island as a symbol of America's immigration history, few realize that Angel Island - a comparable immigration detention center for the West Coast - was the site where immigration policy was enforced during the Asian exclusion years. Angel Island represents an important counterpoint to Ellis Island and the saga of American immigration history. It is the subject of children's stories and documentary films as well as the classic text, Island.

Between 1910 and 1940, hopeful Chinese immigrants were detained at Angel Island where they were required to undergo humiliating medical examinations and detailed interrogations. Questions ranged from "*What are the birth dates of each member of your family*?" to "*Who lived in the third house of the second row of your village*?" Failed answers were

grounds for continued detainment and eventual deportation back to China.

In 1970, a park ranger discovered sets of Chinese characters carved into the wooden walls of the barracks. Now recognized as an historic landmark, the Angel Island detention center bears witness to the bitterness and frustration of excluded Chinese immigrants who carved more than one hundred poems into the walls.

Although minor reforms in immigration law, due to changing international relations, allowed for limited numbers of Asians to enter the US following the World War II era, US immigration laws remained discriminatory toward Asians until 1965 when, in response to the civil rights movement, non-restrictive annual quotas of 20,000 immigrants per country were established. For the first time in the US history, large numbers of Asians were able to come to the US as families. In addition, due to the United States' eagerness for technology during the Cold War, foreign engineers and scientists were also encouraged to emigrate to the US. The dramatic changes in the Asian Pacific American landscape during the past twenty years, particularly with the explosive growth of new Filipino, Korean, South Asian Indian, and Chinese populations have resulted from the liberalization of immigration laws in 1965.

Beginning in 1975, Southeast Asian refugees from Vietnam, Cambodia, and Laos have entered the US after escaping from war, social chaos, discrimination, and economic hardship. Roughly one million Southeast Asians, including about 30,000 Asian-American children of American servicemen and their families, have entered the US since then through a variety of refugee resettlement and immigration programs.

Refugees from Vietnam, Cambodia, and Laos each have distinct cultures, languages, and contexts of historical development. Although each country shares certain influences from their common history as a French colonial territory for nearly a century until 1954, Vietnam is much more culturally influenced by China while Cambodia and Laos have been more influenced by India. Within each country, there are Chinese and other ethnic minority populations such as the Hmong, Mien, and Kmhmu from Laos.

Also, many cases link the present to the past. Example of Vietnamese fishermen in California's Monterey Bay during the 1980s discussed in Section III may be one of those cases. According to Sociology Professor, Pamela Oliver, in University of Wisconsin, an epoch of Asian-American history may be the World War II as quoted below.

Before World War II (1940s), there was very little Asian migration to the US, although there was always a few Asians in the US. Asian immigrants couldn't become citizens, and immigration of Asians was tightly limited. From 1850 - 1882, most Asian immigrants were Chinese. 1882 Chinese Exclusion Act prohibited any Chinese immigration. Then Japanese immigrants predominated among Asians, but Gentlemen's Agreement in 1908 stopped Japanese immigration. Then Filipinos came since Philippines became a US colony after 1898, but Philippine independence in 1934 curtailed much of this immigration.

As presented in Section II, the demography in Hawaii reveals predominantly Asian, with Japanese as the largest group. The reasoning on such demography may be found from the immigration history of Asian-American presented in Section III. Native Hawaiians were Polynesian but too few to work plantations. Chinese and Japanese labor began in 1830s when plantation society had small minority of whites. Filipino labor came after 1908. Ethnic differences and conflicts, but class struggle was central and pidgin English was the local language among the majority of workers.

In the mainland US, Chinese migration began 1848s due to Gold Rush. Largely cheap labor and overwhelmingly male dominance were the characteristics of Chinese migration. Migrants fleeing from economic disaster, poverty and political turmoil came to US. Small as part of US total, but high percentages of several western states may be explained by the immigration history again. Due to explicit racism, hostile attacks and culminating in Chinese Exclusion Act 1882, Chinese here were largely isolated males, forced into the cities by hostility and violence.

Japanese emigration began in 1868 (Meiji Restoration). Younger sons and their wives were urged to migrate as part of development strategy and they were generally well-educated and skilled as farmers. They were often quite successful in US as farmers and business owners. Violence, hostility and explicit segregation laws were the difficulties that they had to go through. In 1906, California passed the law segregating Asians from whites in schools and in 1913 California law denied right to own land to "*persons ineligible for citizenship*." The 1920, 1923 amendments also prevented leasing or farming others' land. Thus, many were forced into cities. In 1924, absolute prohibition of immigration was set to "*persons ineligible for citizenship*." In 1920s and 1930s, Japanese American generation spoke English, identified themselves as Americans, sought full civil rights and proved the loyalty to US.

Philippines was annexed to US in 1898. 400 years of Spanish colonialism left them a blend of European and Asian. Many migrated to Hawaii, some to mainland, where they often lived and intermarried with Mexicans, but their population was smaller than Chinese or Japanese. A few Koreans migrated during 1903-1920. A few Indians who were mostly Sikhs also migrated.

During the World War II, Japan bombed Pearl Harbor. Internment of Japanese was imposed on West Coast, i.e. 2/3 citizens. War effort distinguished evil Japanese from good Chinese. Chinese and other Asians except Japanese were finally permitted to become naturalized citizens after the WWII. Japanese were also permitted after 1952. Chinese revolution 1949, however, made Chinese bad as communists.

The 1965 Immigration Act favored family members and skilled professionals or workers instead of previous quotas based on the national origin, which overwhelmingly favored Europeans. This was the first time when there was a quota on Mexican and other Latin American immigration. Since then, Asian immigration became much easier than the past.

The difficulties experienced by Korean immigrants may be summarized as the language barrier, the unfamiliarity to American customs, the economic restriction, the group not being large enough and the exclusion from Chinese and Japanese American organizations. The language barrier experienced by Korean immigrants may be different from other ethnic groups such as Indians and Filipinos because they have used English in their homelands. The cultural shocks were also experienced due to the unfamiliarity to American customs and the political inequality. Koreans didn't constitute a large enough group, which is different from Chinese, Japanese and Filipinos. Moreover, Koreans were excluded from these bigger Asian groups. To subjugate such difficulties, Koreans had little choice but to join non-ethnic or multi-ethnic main stream groups, learning from other cultures and from their own second generations and understanding the difficulties that other peoples went through as well.

5. Epilogue

First generations were the seeds for the next generations. Being a role model to the second generation has not been easy. Especially for the Korean immigrants, the difficulties that they experienced were not always similar to what other Asian groups experienced because they didn't constitute a large enough group. However, they stood up based on their own cultural root and based on what they have learned from their motherland. What should be then the future direction for them and their next generations?

Perhaps, the following poem written by some Korean monk may shed some light on this issue and thus I may conclude this paper by translating it.

Mountain tells me to live without talking.
Sky tells me to live without dirt.
Taking off the greed and taking off the anger,
Live and leave like waters and winds.

Early History of Asian Immigration

Year	Happens
1600s	Chinese & Filipinos reach Mexico
1763	First Filipinos in America
1790	First Asian Indians in US
1820	First Chinese in US
1848	Gold Rush in CA (Opium War 1842-1852)
1882	US-Korea First Treaty
1886	US approved Korean Immigration
1898	Philippine & Hawaii annexed to US
1902	King Kojong recognized approval of immigration
1903-05	6701men+677women+465children to Hawaii
1905	Kongnip Hyop Hoe, Kongnip Shinpo
1906	San Francisco Earthquake
1907	Japan-US "*Gentlemen's Agreement*"
1914-18	World War I
1939-45	World War II (Nazism failed)

After World War II

Year	Happens
1950-53	Korean War
1956	CA repeals its alien land law; Dalip Singh Saund elected to Congress from CA
1962	Daniel Inouye-US senator; Spark Matsunaga-US Congressman from Hawaii
1964	Patsy Takemoto Mink-first Asian American woman to serve in Congress
1965	Immigration Law abolishes "*National Origins*"; Asians become equal footing with others in US.
1974	March Fong Eu elected as CA's secretary of state
1975	Vietnam War ends.
1979	Diplomatic relation with People's Rep. of China
1982	Vincent Chin clubbed to death by two Euro-American men
1987	Korean immigration peaked
1990	Immigration Act of 1990; Korean immigrants ~18K/yr.
2002	Centennial Celebration of Korean Immigration to the United States
2008	Global HR Forum : Creative Talents for Global Collaboration
2021	KSEA 50th Anniversary

초기 미국 한인 유학생들과 그들의 정신

Kang-Wook Lee
The 37th President

서론

이 글은 19세기 말 한국에서 미국으로 건너와 공부한 초기 한인 학생들의 발자취와 그들의 정신 (spirit)을 요약한 것이다. 모든 유학생들의 공통된 정신과 목적은 각각 애국심과 국가 발전이었다. 대학에서 학위를 받은 기록이 있는 인물들에게 더 많은 비중을 두었다. 관련된 정보와 사진은 이미 알려진 문헌들과 2000년대에 Internet에 실린 미국 의회도서관, 신문, 대학, 종교 단체 등의 자료실에서 확인하거나 새로 찾았다. 이화역사관으로부터 이화학당 및 감리교 관련 자료들과 자료들의 출처를 제공받았고, 서울교육박물관으로부터 하란사 관련 자료들을 제공받았고, Archives & History of the United Methodist Church로부터 사진들과 선교사 기록들을 제공 받았다. 유학생들과 관련된 다른 역사적 사실과 미국에 도착하여 공부하였거나 공부하려던 의도가 있었던 인물들은 주석을 달아 기록하였고 사진들 일부는 부록에 실었다. 한글과 영어를 섞어 표기하였고 저작권이 있는 사진은 허락을 받아 사용하였다. 새로 부각되거나 판단된 사실들은 부록 마지막에 다시 요약하였다.

Key words: 보빙사, 유길준, 변수, 서재필, 서병규, 박에스더, 하란사, 김규식

조미수호통상조약 (1882년 5월 22일 체결)

1882년 5월 22일 제물포 화도진에서 조선 전권대신 신헌, 부대신 김홍집과 미국 전권공사 R.W. Shufeldt 사이에 조미수호통상조약이 체결되었다. 한국이 처음으로 서양과 정식 국교를 갖게된 것이다. 이듬해인 1883년에 초대 주한미국공사 Lucius H. Foote가 서울에 부임하였고 조선 정부에서는 답례로 보빙사 (報聘使)라는 이름의 사절단을 구성하여 미국으로 파견하였다. 이것이 한국이 서양에 보낸 최초의 외교사절단이었다. [1, 2]

보빙사 일행은 전권대신 민영익, 부대신 홍영식, 종사관 서광범, 수행원 유길준, 고영철, 변수, 무관 최경석, 현흥택, 미국인 비서 Percival Lowell, 청국인 및 일본인 통역 각 1명 등 총 11명으로 구성되었다. 그들은 1883년 7월에 미군함 Monocacy호로 일본으로 가서 한 달간 머문 뒤 (미국인 비서 로웰은 일본에서 합류) 상선 Arabic호로 태평양을 건너 9월 2일 샌프란시스코에 도착하였다. 여기에서부터 개통한 지 10여년 밖에 안되는 미대륙 횡단 철도를 이용해 9월 15일 Washington DC에 도착하였다. 그러나 당시 미국 대통령인 Chester Arthur가 뉴욕에 가 있어 17일 뉴욕으로 가서 다음 날 18일에 Fifth Avenue 호텔에서 Arthur 대통령을 접견했다.

그림 1. 1883년 9월 워싱턴에 도착한 조선의 첫 외교사절단 보빙사 일행. 앞줄 왼쪽부터 부대신 홍영식, 전권대신 민영익, 종사관 서광범, 미국인 비서 Percival Lowell. 뒷줄 왼쪽부터 무관 현흥택, 최경석, 수행원 유길준, 고영철, 변수. Photo courtesy of the American Geographical Society Library, University of Wisconsin Milwaukee Libraries

그들은 보스턴 무역 박람회, 산업 시설, 농업 및 방직 시설, 병원, 우체국, 철도 회사, 사진관, 신문사 및 학교 등을 시찰하였다. 한국 발전에 필요한 농산물 등을 구매하기도 하였다. 보빙사절단은 유길준을 유학생으로 남겨둔 채 홍영식 등은 10월 16일 워싱턴을 떠나 곧바로 귀국하였다. 그리고 민영익, 서광범과 변수는 Arthur 대통령의 도움으로 미군함 Trenton호를 타고 12월 1일 뉴욕을 출발하여 유럽 등을 거쳐 1884년 5월 31일 한국에 돌아왔다. 그들이 방문한 나라는 프랑스, 영국, 이탈리아, 이집트, 예멘, 실론 (스리랑카), 인도, 싱가포르, 홍콩과 일본 등 10여개국이었다. [1-5]

보빙사는 한국 역사상 최초로 미국과 유럽을 견문, 시찰하였으며, 파견 목적의 하나는 "*청국이 한국을 속국으로 다루려고 하는 데 대하여 독립된 국가로서 국제사회에 진출*"하려는 것이고, 다른 하나는 "*서양문물을 수용하여 개화*"한다는 것이었다. 서양문물의 주요한 부분이 **과학과 기술**이었다. [2]

주) 관련 역사: 초대 주미공사 박정양은 1888년 1월 워싱턴에 부임하였다. 그는 청국공사관과 상의없이 미국정부를 상대하다 청국의 불만과 압력으로 같은 해 11월에 귀국하였다. 당시 청국은 조선을 속국으로 다루려고 하였고 조선 관리들은 이에 저항하였다. 그후 이하영, 이완용, 이채연 등이 대리공사를 맡았고, 이승수, 민영환, 서광범, 이범진, 이용태, 박정양, 조민희 등이 공사를 역임하였다. 그러나 을사늑약으로 일제에 의해 외교권이 박탈되고 마지막 대리공사 김윤정이 1906년 2월 귀국함으로써 미국과 외교관계가 단절되고 말았다. [1]

유길준 (1856-1914): 최초 한인 유학생 (entered a high school in 1884)

유길준 [2, 6, 7] (Kil Chun Yu)은 보빙사 일행이었으나 한국으로 돌아가지 않고 미국에 남았다. 먼저 영어를 배우고, 고등학교 졸업과 동등한 자격을 얻고, 대학에 입학하여 4년 과정을 이수하려 하였다. 그가 보빙사 수행원으로 미국을 시찰할 때 단독 인터뷰한 1883년 10월 8일자 기사가 있다 [7]. 미국인 통역 Percival Lowell의 비서인 미야오카 쓰네지로 (17세의 동경대생. Lowell을 돕는 그의 비서)가 주로 통역하였다. 미국 기자가 영어로 질문하면 미야오카가 일어로 통역하고, 유길준이 일어로 대답하면 미야오카가 영어로 통역하는 3개국어 통역이었다. 유길준은 일본 유학을 하여 일어는 잘하지만 영어는 못하였다. 많은 질문과 답변 중 한가지만 소개한다.

기자: "What has most impressed you in this country?"
유길준: "The educational system that I find in this country. I find that all the luxuries and conveniences which you have are the result of your knowledge of the sciences. If I can only take back your method of education to Chosun and set it working, we can have all the good things which it has brought you." (통역을 통한 답변)

유길준이 미국의 교육과 과학의 우수성을 깨닫고, 그 교육 방법을 한국에 적용하면 한국도 미국같이 발전할 수 있다고 믿었던 것이다. 유길준은 100년 앞을 내다보는 혜안을 갖고있었다. 그리고 그 역할을 하려고 영어도 못하면서 미국에 남아 공부하겠다고 자원한 것으로 추정된다.

먼저 영어를 배운 후 1884년 9월 당시 28세의 유길준은 보스턴 북쪽 33마일에 있는 Byfield, MA 소재의 Governor Dummer Academy 고등학교 졸업반으로 입학하였다. 그러므로 유길준이 **최초 미국 한인 유학생**이다. 학비와 생활비는 국가에서 제공한 것으로 알려졌다. 그는 4년제 대학까지 졸업하고 귀국할 계획이었다. 하지만 같은 해 12월 갑신정변 소식을 듣고 즉시 미국을 떠나 유럽과 아시아를 경유하여 1885년 한국에 도착하였다. 갑신정변은 홍영식이 총판으로 있는 우정국 (우체국) 개국 축하연을 이용하여 개화파가 주축이 되어 일으킨 정변이었다. 하지만 청나라의 개입과 명성황후의 반대로 3일만에 실패하였다. 1884년 11월 서울과 인천 간 시작된 한국 최초 우편 업무도 중지되었다. 총판 홍영식은 국왕 곁에 남았다가 학살당하였다. 유길준은 귀국하자 개화파라는 명목으로 체포되어 1892년까지 7년간 유폐 생활을 하였다. 그 동안 서유견문 20편을 준비하였다. 이 책은 국한문 혼용체로 1889년에 완성되었고 1895년에 출간되었다. 그는 1895년 내무대신서리에 이어 다음 해에 내무대신이 되었다. 그러나 같은 해 2월 아관파천 후 친러내각이 들어서며 일본으로 망명하였다가 1907년 귀국하여 국민 계몽 및 산업 발전에 주력하였다.

변수 (1861-1891): 최초 한인 학사 (received a Bachelor of Science degree in 1891)

변수 [8-15] (Su Penn or Su Pyon, BS)는 보빙사 일행으로 민영익, 서광범과 함께 1883년 12월1일 뉴욕을 출발하여 영국, 프랑스, 이탈리아, 홍콩 등을 거쳐 1884년 5월 31일에 귀국하였다. 그는 12월 갑신정변에 참가하였다가 정변이 실패하자 김옥균, 박영효, 서광범, 서재필 등과 함께 일본으로 피신하였다. 그 후 1886년 1월 중국에서 공부하던 민주호, 윤정식과 함께 미국으로 건너왔다. Berlitz School에서 영어를 배운 뒤 1887년 9월 Maryland Agriculture College에 입학하였다. 1883년 보빙사 일원으로 산업 시찰할 때 농업에 특별한 관심을 표명하였으니 그의 관심사가 농업이었다. 지식을

그림 2. 왼쪽: 변수, 1891년 졸업 앨범 사진; photo courtesy of the University of Maryland and also in ref 11. 오른쪽: 변수 묘지; 저자가 2010년 촬영한 사진

습득한 후 한국에 돌아가 고국의 농업을 발전시키려는 의도가 있었다. 그는 4년 과정을 무사히 마치고 1891년 6월에 이학사 (BS) 학위를 받았다. **변수는 한국인으로는 처음으로 미국에서 학사 학위를 받은 것이다** [8-11]. 그는 1891년 6월 24일 졸업식에서 "*Commerce*"란 주제로 연설 (oration)을 하였다 [12, 13]. 미국 대학에서 한인으로는 처음으로 학사 학위를 받으며 **졸업식 연설**을 한 것이다.

그는 졸업한 해 7월부터 미국 농무부 차관인 Willits의 특채로 consultant로 일하였다. 그의 4개국어 (한국, 미국, 중국, 일본) 능력과 농업, 통계 등의 학문적 지식이 크게 도움이 될 수 있다고 판단한 것이다. 그가 작성한 "*일본의 농업*"에 대한 논문이 미 농무부 통계월보 제89호 (1891년 10월)에 실렸다. 그의 논문이 상대적으로 우수하다고 인정받았고 후속 사업으로 중국 농업에 대해 연구하기 시작하였다. 농무부와 처음 90일 간의 계약기간 (probationary term)이 만료되며 재임명을 받았다. 신문기사에 의하면 본인은 언제든 기회가 오면 즉시 한국으로 돌아가려고 정규직을 원하지 않았다고 한다 [14].

1891년 6월 이학사 학위를 받고 7월부터 농무부에서 일하던 그 해 10월 22일 College station (메릴랜드 대학이 있는 College Park 기차역)에서 기차 사고로 사망하였다. Charlton Heights에 있는 집으로 돌아가려고 기차를 기다리다 스케줄보다 늦게 온 급행열차에 부딪치는 사고였다 [14, 15]. 무덤은 워싱턴 DC 교외 Beltsville의 Ammendale Road에 있는 가톨릭 교회 묘지에 있다. **그림2**에서 볼 수 있는 비석에는 "*벤수 In memory of Penn Su. A Corean attached to the first Embassy to this Country. Graduated at the MD Agr'l College June 1891. Killed by a locomotive at College Station Oct 22, 1891*"이라 새겨져 있다.

변수는 갑신정변 실패 후 일본으로 도피하여 머무르다 1886년 민주호와 윤정식이 프랑스 은행 홍콩 지점에 민영익이 보관하고 있던 $16,000을 훔쳐 일본으로 와서 그들과 함께 미국으로 건너왔다. 변수는 도피하던 신분이라 조선 주미공사관에서는 그의 존재를 모르는 것으로 미국 대학, 농무부 및 언론 등에 알려졌던 듯하다. 공사관 직원 아무도 그들 알려하거나 만나려 하지 않았다고 한다. 그것이 당시 그가 처한 상황이었다. 그래서 장례도 대학 친구 아버지인 Ammen 제독의 주선으로 이루어졌고 묘지도 Ammen 제독이 다니던 교회에 있는 것이다. 그 도로도 Ammen 제독의 이름을 따라 Ammendale Road라 명명되었다. 그의 비석에 새겨진 "벤수"라는 한글은 누가 제공했는지 알 수 없다.

주) 1886년 한국에 파견된 선교사 연봉이 $600-$750정도이었으니 $16,000은 매우 큰 돈이었다. 1887년 당시 17세의 민주호도 변수와 함께 메릴랜드 농과 대학에 입학하였다가 초대 주미공사 박정양의 권유로 1888년 귀국하여 사면을 받았다. 그 후 이름을 민상호로 바꾸었고 대한제국 정부의 학부협판, 농상공부 협판, 한성부 판윤, 통신원 총판 등 요직을 두루 거쳤다. 일제시대 적극적 친일 활동을 하여 친일반민족행위자로 규정되었다.

한국의 개화 및 농업 발전을 간절히 원하는 그의 열망은 1883년 보빙사로 파견되었을 때나 1887년부터 대학에 다닐 때나 한결같이 대단하였다. 보빙사로 파견되어 Newark NJ에 있는 방직공장을 방문하였을 때 그에 관한 1883년 11월 16일자 New York Times 기사가 이광린 논문에 실렸다 [9].

"Mr. Pyun Suh, the attache to the legation who had previously some experiences in the manufacture of raw silk in Japan, was particularly pleased and asked many intelligent questions."

그의 사망에 관한 1891년 10월 23일 The Evening Star에 실린 기사이다 [14].

"--- reached the United States and it was then that Su Penn saw, for the first time, methods which if introduced and operated in Corea would do more to relieve poverty and exalt the farmer than any other plans that could possibly be contrived. --- The search for agricultural knowledge finally brought the Corean to the Maryland Agricultual College and for four years he studied therein."

변수는 열심히 공부하여 농업 지식을 습득한 후 기회가 오면 한국에 돌아가 국가 발전을 위하여 헌신하려고 하였다. 그러나 아깝게도 30세 나이에 기차사고로 사망한 것이다.

주) Pyon-Chen Hall : University of Maryland에 변수와 중국 유학생 Chunjen Constant Chen을 기념하기 위하여 기숙사 Pyon-Chen Hall을 지어 2021년 개관하였다. 현대식 6층 건물로 450명을 수용할 수 있다. 변수는 1887년 입학하여 1891년 졸업하였고 Chen은 중국인으로는 처음으로 1915년 입학하였다. http://reslife.umd.edu/halls/heritage/pyon-chen/.

서재필 (1864-1951): 최초 한인 의학사 (received a Medical Doctor degree in 1892)

그림 3. 왼쪽: 서재필 (서재필 기념관 소장). 오른쪽: Washington DC 한국 총영사관 앞에 있는 서재필 동상

서재필 [16-22] (Philip Jaisohn, MD)은 갑신정변 가담 후 일본을 거쳐 박영효 서광범과 함께 미국에 망명하였다. 그는 펜실베니아주 Wilkes Barre에 소재한 Harry Hillman Academy라는 명문 고등학교를 졸업하고, 1888년 가을 워싱턴 DC에 소재한 Columbian College Corcoran Scientific School에 입학하여 1년간 공부하였다 (모든 학위 수여자 기록에 서재필은 없는 것으로 보아 학사 학위를 정식으로 받은 것은 아니다). 그 후 1889년 Columbian Medical College (The Columbian University became The George Washington University in 1904)에 입학하였다. 당시 워싱턴으로 갔을 때 그는 매우 가난하였으나 Surgeon General's office에서 연봉 $1,000을 받으며 3년여간 일할 수 있었다 [16, 22]. 의대생 서재필에게 매우 큰 재정적 도움이 되었다.

1892년 3월 의과대학 3년 과정을 무사히 마치며 의대 졸업생 총 26명 중에 3등으로 졸업하였다 [22]. 그 후 가필드병원 (Garfield Memorial Hospital)에서 Walter Reed 지도 하에서 1년의 수련 과정을 거친 후 1893년에 의사면허증을 받았다. 가필드병원은 당시 워싱턴에서 제일 큰 병원이었다. 그 후 의사 개업을 하였으나 성공하지 못했다. 1895년에 서재필은 병리학자로 가필드병원에 신설된 병리학 및 세균학 실험실의 책임자로 임명되었으며 모교인 Columbian 대학의 겸임교수 (adjunct professor)로 학생들에게 세균학을 가르쳤다. 한국인으로는 최초로 미국 대학에서 의학사 학위 (MD)를 받았고, 의사 자격증을 얻었고, 병리학자로 큰 병원에서 실험실 책임자로 일했고, 대학 겸임교수이기도 하였다.

그는 1888년 Philip Jaisohn으로 개명하였고, 1890년 미국 시민권을 받았다. 조선 출신 제1호 미국시민이다. 1895년 말 고종의 부름을 받고 한국으로 돌아갈 때 **그의 바램은 미국인들의 투자를 받아 한국에 철도 건설, 기계 공업 육성, 전신 및 전차 등을 설치하여 국가를 현대화하는 것이었다** [22]. 실제로 1899년 서울에 전차가 개설되었다.

주) 관련 역사: 전차는 일본 교토에는 1895년에 그리고 도쿄에는 1903년에 개설되었다고 한다. 그러니까 서울 전차는 아시아에서 두 번째이다. 당시 대한제국의 근대화 의지와 수준을 말해준다.

그는 한국에서 **독립신문 (1896-1899)을 창간**하였고 배재학당에 나가 이승만, 김규식 등을 가르쳤다. 정부와 계약이 파기되어 1898년 미국으로 돌아왔고 1900년대 초에는 사업을 하며 독립 운동을 도왔다. 1926년 그의 나이 62세때부터는 다시 의사로 활동하였다. 1945년 해방 후 한국에서 미군정 의정관과 하지 중장의 최고 고문을 지내기도 하였다. 이 때 민주주의, 교육 및 과학의 중요성을 라디오 방송을 통하여 강조하기도 하였다. 1977년 대한민국 정부에서 건국훈장 대한민국장을 추서하였다. 펜실베니아 Media에 서재필 기념관 (The Philip Jaisohn Memorial House)이 있다. 서재필은 오래 살며 한 일도 많고 업적도 많다. 그래서 그에 관한 논문도 많다. 여기에서는 간단히 소개만 한 것이다.

서병규 (1872-1952): 최초 한인 문학사 및 문학 석사 (received a Bachelor of Arts degree in 1898 and a Master of Arts degree in 1899)

그림 4. 서병규; Photo from the 1900 Baltimore Herald, reference 30

서병규 [23-30] (Beung Kiu Surh, MA)는 1894년 1월 버지니아 살렘 소재 Roanoke College에 입학하였고 1898년 6월 문학사 학위를 받았다. 한인 문학사 (Bachelor of Arts) 제 1호이다. 1898년 그의 졸업식에 의친왕 이강과 주미공사가 참석한다는 신문기사가 있다 [23]. 그 후 그는 Princeton University로 가서 Woodrow Wilson 지도하에 1899년 정치학 석사 학위를 받고 귀국하였다. [24-27]

주) 관련 역사: Woodrow Wilson (1856-1924)은 1890년 프린스턴 대학 (Princeton, New Jersey) 교수, 1902년에는 총장에 올랐다. 1910년 New Jersey 주지사를 거쳐 1912년 미국 제28대(1913-1921) 대통령이 된다. 프린스턴 대학에서 서병규가1899년 석사 학위를 받았고 이승만은 1910년 박사 학위를 받았다. 그들이 각각 최초 한인 석사 및 박사이었다. 서병규는 Wilson을 오랜 기간 매우 존경하였다고 알려졌다.

서병규는 유학을 목적으로 1891년 미국에 왔다. 처음에는 샌프란시스코에 있는 초등학교에 입학하여 2년 동안 공부하였다 [26]. 그는 워싱턴에 가서 공부하다가 학비를 벌기 위하여 1893년 콜럼비안 세계박람회 (The World's

Columbian Exposition)가 열릴 시카고에 가서 4월 29일 한국 대표 정경원을 만나 박람회 도우미로 취업하였다. 그는 박람회가 끝난 다음 주미조선공사관 초청으로 워싱턴 DC로 갔다. [27]

서병규가 Roanoke 대학에 입학하게 된 배경에는 19세기 말 당시 총장이던 Rev. Dr. Julius D. Dreher의 역할이 컸다. Dreher총장은 인디언, 멕시코 및 일본 유학생들을 이미 입학시키고 있었다. 상당히 진보적인 교육자이었다. 그는 1892년 3월 주미조선공사관에 직접 가서 대리공사 이채연을 만났다. 그 때 이채연은 Roanoke를 방문하고 싶다고 하였다. Dreher의 초청으로 이채연과 그의 부인이 같은 해 7월에 Roanoke을 방문하였다. 그로부터 12년 후에 Dreher는 다음과 같이 회고하였다 [28].

"*The visit of Mr. and Mrs. Ye was a genuine pleasure to us and they seemed to enjoy every day of it, so that the week seemed to pass all too quickly. Meeting them was for me the beginning of an interesting acquaintance with the Korean officials – and a number of young men who became students of Roanoke College.*"

서병규는 시카고 박람회 후 워싱턴으로 가서 공사관에서 Roanoke 대학 Dreher 총장과의 인연을 전해 들었다. 그리고 공사관 추천으로 다음 해 1월 이 대학에 입학하게 된다. 그는 대학 재학 중 주미공사관 일을 하여 학비를 조달하였다. 서병규가 Roanoke에 온 후 박병희, 이철희 (또는 이희철), 오순성, 김규식, 이용기 등이 이 대학에 입학하였다 [28]. 서병규는 학원이나 개인지도 등의 고등 교육을 받지 못하였는데도 불구하고 4년 5개월만에 문학사 학위를 받으며 대학을 졸업하였다. 그리고 1년 후에 프린스턴에서 석사 학위를 받았다. 그는 머리도 좋고 공부도 열심히 하였을 것이다.

서병규는 귀국하여 처음에는 국가가 설립한 대규모 과일 및 가금류 농장의 감독관으로 일하였다. 당시 한국은 "*Hermit Nation*"으로 서양에 알려졌는데 서병규는 Hermit Nation의 젊은 지도자들 중 한 명이라는 신문기사가 있다 [30]. 그는 1902년 11월 유민원 총무국장 주임 5등에 임명되어 1903년 하와이에 약 6,000명을 이민보내는 역할을 하였다 [27]. 그는 한일합방 후 중국으로 망명하였다가 해방 후 귀국하였다.

위에서 언급한 Dreher 총장의 회고문 (1904년 3월 발행된 Boston Evening Script에 실렸음) 마지막에 그는 다음과 같이 썼다 [28].

"*I cannot help hoping that Korea may remain an independent nation, and that her young men hasten the day when their country will be included among the enlightened nations of the highest modern civilization.*"

노일 전쟁 (1904년 2월 8일 - 1905년 9월 5일) 후에도 한국이 독립국가로 남아있고 한국의 젊은이들이 노력하여 국가 근대화하는 날이 곧 오기를 바라는 희망의 메시지이다. **미국 대학 총장을 지낸 Rev. Dr. Julius Dreher는 한국이 일본의 지배를 받지않는 독립된 국가로 남아 있고 빠른 근대화를 바랐던 것이다.**

박에스더 (1877-1910): 최초 한인 여성 의학사 (received a MD degree in 1900) 및 최초 한인 감리교 선교사

그림 5. 왼쪽: 1893년 결혼 후 박에스더와 남편 박유산; Photo from reference 31 . 오른쪽: 의사 박에스더; Photo courtesy of the General Commision on Archives and History of the United Methodist Church (UMC)

박에스더 [31-46] (Esther Kim Pak, MD)의 본명은 김점동이고 세례명이 에스더이다. 결혼 후부터 남편 성을 따라 Esther Kim Pak으로 불렀다. 이화학당이 1886년 설립되었는데 박에스더는 같은 해 11월에 이화학당 학생이 되었다. 첫해 이화학당에 입학한 학생이 총 5명이었는데 그녀는 네번째 학생이다 [31, 38]. 1886년부터 1893년까지 감리교 교육선교사 Mary F. Scranton, Louisa C. Rothweiler, Josephine O. Paine, Margaret Bengel 등으로부터 영어, 구약성경, 신약성경, 산수, 지리, 과학 등을 배웠고 의료선교사 Rosetta Sherwood Hall (MD)로부터 의료를 배웠다. 재학 중 콜레라에 걸린 동료 학생을 간호해주기도 하였다. 결혼 후 1894년에는 Dr. Hall을 돕고 전도부인 역할을 하는 명목으로 감리교 해외여선교회 (Woman's Foreign Missionary Society: WFMS)로 부터 $50의 재정적 후원을 받기도 하였다 ("*Bible woman, medical, Esther Pak -- $50*" from the WFMS Philadelphia Branch). 이화학당 재학생이나 졸업생이 전도하는데 대한 연간 후원금도 1인당 1년에 $50정도이었다. [43]

그녀는 남편 박유산과 함께 1895년 1월 Rosetta Sherwood Hall을 따라 미국에 왔다. 다음 달 2월부터

NY Liberty에 있는 공립학교에서 공부하기 시작하였다. 같은 해 9월부터 1년간은 뉴욕시 Nursery and Child's Hospital에서 일하며 생활비를 벌었고, 그 병원의 감리교 여성지도자 (matron)인 Mrs. Walberg의 개인 지도로 라틴어, 물리학, 수학 등을 공부하며 대학 진학을 준비하였다 [32, 39]. 박에스더는 정식으로 한국 정부의 허락을 받고 미국 유학왔으며 **의과대학 졸업 후 한국에 돌아가 한국 여성 진료 및 계몽 등 여성 이익을 위하여 일하겠다고 하였다** [40]. 1896년 10월 The Woman's Medical College of Baltimore에 입학하여 1900년 5월 의학사 학위를 받으며 졸업하였다. 당시 만 23세였다. 이 졸업식에 주미공사관에서 두 명의 대표가 참석하고, 졸업식 전날 대학 secretary of the faculty가 주최한 대학 교수진 간부 만찬에 박에스더와 주미공사관 두 대표가 초대되었다는 기사가 있다 [41].

주) 관련 역사: Baltimore 소재 Goucher College 총장인 Rev. Dr. John F. Goucher와 보빙사 전권대신 민영익이 1883년 9월 시카고에서 워싱턴으로 향하는 기차 안에서 만나 한국 선교 등에 대한 대화를 나누었다. 그 후 미국 감리교는 일본에 파견된 선교사를 시켜 한국을 시찰하게 하였다. 그리고 Goucher는 한국 선교를 위하여 $2,000을 기부하였다 [43]. 당시에 교육과 의료를 통한 해외 선교가 활발하였다. 여러 기부금들을 토대로 1885년 처음으로 파견된 감리교 선교사가 Rev. Henry G. Appenzeller, Dr. William B. Scranton, Mrs. Mary F. Scranton 등이다. 목사, 의사 및 교육자를 파견한 것이다. 장로교에서는 Rev. Horace G. Underwood, Dr. Horace N. Allen 등을 파견하였다.

1896년 박에스더는 뉴욕시에서 의대 입학을 준비하고 있었다. 그녀의 스승인 Dr. Rosetta Sherwood Hall도 1895-1896년에 뉴욕주에 머무르고 있었다. 그 당시 미국 감리교 해외여선교회 (Woman's Foreign Missionary Society)에 약 11개 지부가 있었는데 New England, New York, Baltimore, Philadelphia, Cincinnati, Northwestern 등이 한국 선교에 재정적 지원을 활발히 하였다. Baltimore는 뉴욕시와 가깝고 Goucher 총장도 그 곳에 있었다. 교육과 의료 선교의 대표적 산물인 박에스더가 Baltimore 여자의과대학에 입학하는 배경을 짐작할 수 있다. 의과대학 졸업 후 박에스더는 Philadelphia 지부의 재정 후원으로 감리교 선교사로 한국에 파견되었다 (1894년 박에스더에게 $50을 보냈던 지부도 Philadelphia이었다). 그러므로 박에스더는 최초 한인 감리교 선교사이다.

1897년 뉴욕에서 출판된 책 "The Life of Rev. William James Hall, MD: Medical Missionary to the Slums of New York and Pioneer to Pyong Yang, Korea" [31]에 한인들이 쓴 6 통의 편지 또는 글이 있다. 박에스더가

그림 6. 최초 한인 여성 미국 유학생이고 4년제 의대를 졸업한 한국 최초 여의사인 박에스더가 뉴욕에 살던 1895년 사진. 뒷줄 왼쪽부터 박에스더, Rosetta Sherwood Hall (MD), 박유산 (박에스더 남편). 앞줄은 Rosetta Hall의 아들 Sherwood Hall과 딸 Edith Hall. William James Hall과 Rosetta Sherwood Hall 부부와 그들의 아들 Sherwood Hall과 며느리 Marian Hall은 모두 정식 의사이며 한국에서 의료선교사로 활동하였다. Rosettal Hall은 1890년부터 은퇴하던 1933년까지 주로 서울과 평양에서 환자들을 치료하며 선교 활동을 하였다 [31, 32, 43]. This photo is from the reference [32] with a courtesy of Mrs. Phyllis Hall King, a granddaughter of Dr. Rosetta Hall, at MCL Associates

이들을 영어로 번역하였다. 그는 의대 재학 중에 여러 감리교회 행사에 나가 연설도 하였다. 미국 신문에는 똑똑하고 유능한 한국인으로 소개되었으며 미국 젊은 여성들의 해외 선교를 주제로 연설하였다 [42]. 선교 활동의 산물이며 증인인 박에스더가 젊은 여성들에게 해외 선교 활동을 홍보하였던 것이다.

그녀는 졸업 후 미국 감리교 선교사가 되어 1900년 10월부터 평양 여성병원과 서울 보구여관(이화여대 부속병원 전신) 등에서 의료 활동을 하였으며, 지방순회 선교활동과 성경학교에서 교사로 활동하였다 [43]. 박에스더가 치료한 환자 수는 매년 3,000명 내지 8,000명이었다고 한다.

그녀는 첫 한인 여성 미국 유학생이고, 4년제 의대를 졸업한 첫 한인 여성 의학사이고, 미국 감리교 선교사로서 한국에서 환자를 돌보고 치료한 최초 한인 의사이다. 1895년 1월부터 1년 9개월간 뉴욕주에서 살았으니 뉴욕주 거주 최초 한인일 것이다 [44]. 그리고 1895년 7월에 Rosetta Sherwood Hall과 함께 캐나다를 방문하였다 [32]. 아마 정식으로 캐나다를 방문한 첫 한인으로 추정된다.

그녀는 1909년 5월 28일 고종으로부터 은장 (훈장)을 받았다. 외국에서 공부하고 돌아온 하란사, 윤정원과 함께 받았다. 1900년에 의학사 학위를 받고 귀국하여 한국 여성 의료에 심혈을 기울였으나 1910년 한창 나이인 33세에 결핵으로 사망하였다. 미국 감리교 해외여선교회 1910년 보고서[43]에 다음과 같이 그의 사망을 알렸다.

"During the year Dr. Esther Kim Pak has been called home. She was the first Korean woman to leave her native land to seek higher education. She came to this country (USA) with Dr. R.S. Hall in 1895. After completing her course in medicine, she returned in the fall of 1900 to labor for her sisters. Her help in medical work will be much missed. --- Dr. Esther Kim Pak did her last public work in the fall Bible institute (in PyongYang). She entered into the work with enthusiasm, and had good success."

해외여선교회 1940년 보고서에 1869년부터 1940년까지 활동한 모든 선교사 이름, 파견 지부, 파견 지역, 파견 연도, 은퇴 및 사망 연도 기록이 있는데 한인 선교사로 한국에 파견된 선교사는 박에스더 뿐이다.

저자가 현재까지 발견한 박에스더에 관한 미국 신문 기사는 모두 9개이다 [39-42, 45, 51]. 모두 1895년부터 1900년에 실린 것이다. 그 중 4개의 기사는 박에스더에 초점을 둔 장문의 특별 기사이고 그녀의 자세와 노력을 칭찬하였다. 이런 신문기사들과 한국에서의 활동 기록이 박에스더의 한국 여성 사랑과 고국 근대화에 기여하려는 의지를 증명해주고 있다. 박에스더는 이화학당 창설 첫해부터 학생으로 공부하며 두각을 나타냈고, 의료선교사의 통역 및 간호 보조원으로 일하였고, 19세기 말부터 20세기 초까지 한국 여성 의료에 막대한 공헌을 한 감리교 의료선교사 Dr. Rosetta Sherwood Hall (33 years, 1890-1933, in Korea mission [32])과 Dr. Mary M. Cutler (31 years, 1892-1933, in Korea mission [43])를 본받아 [38] **한국 여성 건강 및 국가 발전에 공헌하려고 어려운 유학 길에 올랐고, 열심히 준비하여 의대 입학에 성공하였고, 의대 재학 중에도 감리교의 선교활동을 도왔고, 어려운 의대 4년간의 과정을 무사히 마치며 의학사 학위를 받았고, 미국 감리교 선교사로 고국에 돌아와 여성 진료 및 계몽에 헌신하였다. 매우 훌륭한 학생, 유학생, 의사 그리고 선교사이었다.**

주) 박에스더 자손: 1896년 5월 20일자와 1897년 3월 31일자 두 신문기사를 종합하면 박에스더의 둘째 딸이 1896년 2월 21일 출생하였고 1897년 3월14일 사망하였다. 그녀의 이름이 Rosetta (박에스더 스승인 의료선교사 Rosetta Sherwood Hall의 이름을 따라 지음)이었고 , 박에스더가 의과대학 진학 전에 한국에 있는 할머니에게 그녀를 보낼 계획이었으나 실제로는 의과대학을 다니며 계속 데리고 살았던 것이다 [39, 45]. 이화역사관 자료에는 첫째 딸도 출생 후 사망하였다고 되어있다 [38]. 그래서 박에스더 자손은 없다.

주) 관련 역사: 1893년 시카고 만국박람회 (The World's Columbian Exposition)에 조선에서는 10명의 악사를 파견하여 전통적인 붉은 의상을 입고 전통가락을 연주하는 등 음악문화를 선보였다 [47]. 1896년 당시 유학생인 안정식, 송영덕 및 이희철이 부른 한국 노래가 실린 원형 음반이 미국의회 도서관에 소장되어 있다. 지금까지 알려진 바로는 한인 최초의 음성이다 [48-50]. 박에스더가 의대 입학 직후 1896년 10월 7일에 열린 감리교 해외여선교회 볼티모어지부 (Methodist Woman's Foreign Missionary Society Baltimore Branch) 연례행사 및 축하연에서 한복을 입고 연설하고 한국 노래도 불렀다 [51]. 그 당시 이미 한국 음악문화가 미국에 알려졌다고 볼 수도 있다.

하란사 (1872-1919): 최초 한인 여성 문학사 (received a Bachelor of Arts degree in 1906; studied at the Howard Collge in 1896)

그림 7. 왼쪽: 이화학당 총교사 시절 하란사; 김란사 기념사업회장 김용택 제공. 오른쪽: Ohio Wesleyan University 재학 시절 Monnett 기숙사에서의 하란사 (Nansa Kim Ha) – 벽에 태극기가 보인다; 이화역사관 제공

하란사 [37, 38, 52-61] (Nansa Kim Ha, BA)는 기혼자로 이화학당에 1894년에 입학하여 1년 정도 공부하였다고 추정된다 (아래 주석 참조). 이화학당에서 감리교 선교사 Jesephine O. Paine, Lulu E. Frey, Mary W. Harris 등으로부터 교육을 받았을 것이다. 그녀는 1895년 3월에 자비로 일본으로 건너갔다. 조선정부에서는 같은 해 4월과 5월에 대규모 관비유학생을 파견하였다. 이미 일본에 머무르고 있는 하란사는 조선정부의 요청에 따라 일본에서 관비유학생으로 대우받으며 게이오기주쿠 대학에서 1895년 9월부터 다음 해 3월까지 공부하였다. 1896년 1월에 주일공사관에서 찍은 '대조선인 일본 유학생 친목회' 단체 사진에 하란사가 있다. 개인 사정으로 일시 귀국하였다가 1896년 여름 미국 유학길에 올라 워싱턴 DC에 위치한 하워드 대학에 입학하였다. 1896년 가을 학기 Howard University Catalogues에 "*Nan-sa Kim-Ha*"로 기록되어 있고 하란사가 있는 사진 (**그림 8**)이 같은 Catalogues

그림 8. 뒷줄 중앙에 있는 여성이 하란사. 이 사진은 1896년 Howard University Catalogues에 포함되어있고 하란사는 Nan-sa Kim-Ha로 되어있다. 다른 한인 학생들은 김헌식, 안정식, 강태응, 김윤정, 송영덕, 서도희 등이고 그들의 선생 Mrs. Rankin이 보인다. Mrs. Rankin은 당시 대학 총장 Dr. Jeremiah Rankin의 형제인 Andrew Rankin의 부인으로 추정된다. Photo courtesy of the Howard University

에 포함되어 있다 [52]. 1897년과 그 후의 Howard University Catalogues에 그녀의 이름은 없다. 그녀는 Howard에서 1-2학기 정도 공부하였다고 추정된다. 그 후 한국으로 돌아와 잠시 머물렀다. 그 후 그녀의 미국 출입국 기록과 신문기사로 보면 1897년 11월 요코하마를 출발하여 12월에 샌프란시스코에 도착하여 워싱턴으로 향하였고, 1899년 4월에는 Washington DC에 소재한 감리교 목사 여성보조자의 집 (Deconess Home)에 머무르며 Lucy Webb Hayes Training School에서 공부하였다 [53, 55]. 1899년 신문기사에 그녀의 이름이 "*Nansa Kim Ha*"로 되어 있다. 그 후 1900년 1월 Ohio Wesleyan University에 입학하였다. 같은 대학 출신 스승인 Lulu E. Frey의 영향과 도움을 받았을 것으로 추정된다. Frey는 하란사의 대학 입학 전인 1899년 4월부터 12월 초까지 고향인 오하이오에서 휴가를 보낼 때 하란사를 만났을 것으로 추정되고, 1906년 휴가 중에도 자신의 모교에 재학 중인 하란사를 방문하기도 하였다 [55, 57]. 1906년 6월 졸업하며 문학사 학위 (Bachleor of Arts degree)를 받았다 [52]. 그녀는 **최초의 한인 여성 문학사**이다.

주) **이름 김란사와 하란사**: 하란사의 본래 성은 김이다. 하상기와 결혼하였고 1891년 12월에 딸을 낳았다. 기혼자로 1894년 초 이화학당에 입학한 후 또는 입학 바로 전에 세례를 받았고, 세례명이 Nancy이었고, 한자 이름을 '蘭史' (란사)로 쓰기 시작하였다. 1896년 미국에 처음 오면서 남편 성을 따라 'Nan-sa Kim-Ha'로 하였다. 3년 후 인 1899년 워싱턴 신문기사 및 1900-1906년 Ohio Wesleyan University 기록에는 모두 'Nansa Kim Ha'로 되어 있다. 이화역사관에 의하면 "1912년과 1916년 중학과 (high school) 졸업증서 및 1937년 대학일람의 직원 명단에 교사들 이름이 기재되어 있는데 한자 '河蘭史' (하란사)라고 쓰여져 있고, 졸업증서 교사 이름 밑에 날인된 도장에도 한자 '하란사'로 되어있다" 고 한다 [57]. 반면 1895년 3월 일본 유학할 때는 김란사라고 하였다. 또한 일제강점기에 등재된 재적등본에도 '金蘭史' (김란사)로 되어있고 대한민국 정부가 수여한 건국훈장애족장에도 '김란사'로 되어있다. 원래 이름은 '김란사'이지만 이 글에서는 유학생 시절 본인이 쓰던 영문 이름과 이화학당 교사 시절 공식적으로 사용한 한자 '하란사'를 한글 이름으로 기록하였다. 글의 목적에 따라 본명 김란사 또는 활동명 하란사로 쓸 수 있다. 둘다 맞는 이름이다. 다른 예로 김점동은 박에스더로 그녀의 남편 박여선은 박유산으로 쓰인다.

주) **하란사의 이화학당 입학 시기**: 하란사가 1894년 1월 중순부터 가르치기 시작한 Lulu E. Frey를 만나 입학 요청을 하였고, 그 후 교사들이 회의하여 결정하였고, 1895년 3월에는 이미 일본에 있었으므로 이화학당 입학시기는 1894년 1월 말부터 1895년 2월까지가 물리적으로 가능하다. 감리교 해외여선교회 보고서 및 선교사 회고록 등에 있는 글로 보아 최소 1 년 정도는 이화학당에서 공부하였을 것이다. 그러므로 "*1894년 입학하여 1 년 정도 공부하였다*"라고 하는 것이 합리적이다. 하란사의 입학 과정이 2년 후인 1896년 해외여선교회 보고서에 실렸는데 결혼한 여인의 의지와 목적 때문에 입학을 허락할 수 밖에 없었다는 회고인 듯하다. 게이오기주쿠 대학에서 6개월 정도 공부한 후 귀국하여 1896년 5월부터 6월까지 이화학당에서 청강하였다.

문학사 학위를 받고 귀국하여 Mary F. Scranton이 관할하는 상동여자매일학교에서 1년 동안 영어와 성경을 가르쳤다. 1907년 9월부터 1년간 이화학당 학감 (현재 교감)으로 학생들을 가르쳤고 그 다음 3년간은 종로성서학원 (Bible-Woman Training School) 교사이었다. 1911년 9월 이화학당 총교사로 임명되어 1919년 사망할 때까지 학생들을 지도하는 교육자로 살았다. 감리교 해외여선교회 보고서에 하란사가 교사로, 선교사로, 여러 분야의 조력자로 열심히 모든 일을 잘 하였다고 기록되었다. 전국 여성 교육을 위하여 이화학당의 여러 지교 (Ewha Haktang Schools' in a Methodist Report)가 서울에 신설되며 그 곳에 나가 영어와 성경을 가르쳤다. **이화학당 출신으로 미국에서 문학사 학위를 받고 고국에 돌아가 모교 및 여러 학교에서 가르친 것이다.** 미국 감리교 총회 저널에 의하면 1915-1916 학년도 이화학당 학생수가 유치원생 70명 포함 총 343명이고 여러 지교들의 학생수가 622명이었다. [37, 43, 55, 57, 59, 61].

19세기 말과 20세기 초 한국에 파견된 대부분의 교육 선교사들이 1인 다역을 하였듯이 하란사도 이화학당 교사, 학감, 총교사, 매일학교 교사, 부인성서학교 (bible-woman training school) 교사 등을 하였다. 해외여선교회 (Woman's Foreign Missionary Society: WFMS) 예산 배정은 한 선교사의 여러 역할 중 주된 역할을 하는 곳으로 월급 및 경비를 보냈다. WFMS 재정 기록도 위에서 언급한 여러 감리교 학교 교육자

역할과 일치한다. WFMS의 필요에 따라 학교를 옮기며 가르치도록 한 것이다. 해외여선교회 1911년 연봉은 미국 선교사는 $700, 하란사는 $300 (from the WFMS Northwestern Branch), 한문 교사는 $90, 한글 교사는 $75, 매일학교 한인 교사와 전도부인과 이화학당 재학생 교사는 $50-$60이었다 (참고로 1911년 정동 이화학당 전체 건물 총 평가액이 $13,000이었다. 그림13에 메인 빌딩 사진이 있다. 인도, 중국 및 일본에 파견된 여선교사 연봉은 각각 $600, $650 및 $700이었다). 박에스더는 정식으로 파견된 선교사이었지만 하란사와 동일한 연봉을 받았다. 1886년부터 1916년까지 30년간 한국에 파견된 해외여선교회 선교사 연봉은 오르지 않았다.

미국의 연합감리교 기록(United Methodist Church Archives)에 1914년 이화학당 대학과 첫 졸업생 3명, 학당 전체 학생, 대학과 재학생, 교수진과 메인 빌딩 사진들이 있다 [58]. 그림 9 교수진 (faculty) 사진에 하란사가 보인다. 이 사진과 같은 날 찍은 것으로 분석되는 이화학당 전체 학생 사진 (부록에 게재)에도 하란사의 모습이 보인다. 그녀는 1916년 5월 미국에서 열린 세계 감리교 총회에 한국 평신도 대표로 참석하였다. 그 총회 저널에 영문 이름이 "*Nansa K. Hahr*"로 기록되어 있다. 1912년에 이승만 박사가 한인으론 처음으로 평신도 대표로 참석하였고 하란사가 두 번째로 참석한 것이다 [59]. 하란사가 방미 중에 정동교회에 설치할 파이프 오르간 모금 운동을 시작하였고 실제로 정동제일교회에 1918년에 설치되었다. 당시 모금을 위하여 쓴 장문의 편지에 본인도 $100 (하란사 연봉의 1/3)을 기부하고

그림 9. 1914년 4월 1일 졸업식 날 바로 전이나 후에 찍은 것으로 분석되는 이화학당 교사들 사진. 앞줄 맨 왼쪽이 하란사이다. 중간줄 오른쪽에 Lulu E. Frey 당장이 보인다. 다른 교사들은 부록에서 언급하였다. Photo courtesy of the General Commission on Archives and History of the UMC

재정은 Miss L.C. Rothweiler가 담당한다고 되어있다. Rothweiler의 endorsement 편지도 함께 있다 [37, 55]. 그녀는 1909년 5월 28일 고종으로부터 은장 (훈장)을 받았다. 1918년 경 고종황제는 의친왕과 하란사를 파리강화회의에 극비리에 밀사로 파견하여 일본의 침략에 대한 부당함, 한국의 억울함 및 독립의지를 알리려는 계획을 세웠다. 그런데 고종황제가 1919년 1월 붕어하면서 계획은 중단되었다. 그럼에도 불구하고 하란사는 파리회의에 참석하려 했고 함께 갈 독립지사를 만나기 위해 베이징을 거치게 되었다. 그 곳에서 47세 나이로 의문의 죽음을 맞이했다. 시신이 검게 변해 있었다는 것으로 보아 타살로 추정된다고 한다. 당시 파리강화회의 참석을 막으려는 일본의 감시와 움직임이 있었다. 하란사는 대한민국 정부로부터 건국훈장애족장을 받았다. [55]

부록 IV에 실은 하란사의 이력서 (저자와 이화역사관 손현지가 새로 만들었음)를 보면 알 수 있듯이 그녀는 기회를 만들어 공부하려고 끈임없이 노력하였다. 한국에서는 기혼자로 이화학당에 입학하려 노력하여 이루었고, 일본에서는 게이오기주쿠 대학과 갓스이여학교에 입학하였고, 미국에서는 Howard 대학, Lucy Webb Training School에 이어 Ohio Wesleyan 대학에 입학하여 문학사 학위를 받았다. 22세란 늦은 나이에 시작하여 12년 후인 34세에 자신의 목적을 이룬 것이다. 하란사는 이화학당, 이화학당 지교 (감리교회 학교) 및 부인성서학교 등에서 한국 여성 교육 및 개화에 열성을 다 하였다. 그녀의 후배 여성들이 그녀를 보며 자부심을 느꼈다는 글도 있다 [43, 61]. 미국 감리교 해외여선교회 1908년과 1912년 이화학당에 관한 보고서에 교사 하란사를 칭찬하는 다음과 같은 글이 있다.

"*Mrs. N.K. Ha, a former pupil, later a graduate of the Ohio Wesleyan University, has been a most efficient helper and teacher during the last year (1907).*"

"*Mrs. Ha's work has been more than satisfactory, fitting so willingly and efficiently into any place of need.*"

하란사의 교육 과정은 노력의 상징이고 그녀는 1900년대 초 한국 여성 교육, 선교, 개화 및 독립운동에 최고로 기여한 한인 교육자라 할 수 있다.

주) 관련 역사: 1896년 5월 11일자 신문기사에 한인 7명 (임병구, 이희철, 이범수, 이하영, 안정식, 김헌식, 여병헌)이 주미공사관에 숙박하며 공부할 방법을 찾고 있었고 Howard 대학에서도 외국인의 입학을 장려하고 이들을 도우려는 의도가 있었다는 기사가 있다 [62]. 방선주의 저서 "*재미한인의 독립운동: 김헌식과 3.1 운동*"에 이들 7명이 찍은 사진이 있고 이들이 당시에 쓴 글들도 있다 [63]. 그리고 그림 8에 보면 7명의 Howard 대학 한인 학생이 있는데 **안정식만** 두 사진에 모두 있다. 그러니까 1896년 당시 학생

또는 학생이 되려는 한인이 최소한 13명이나 Washington DC에 있었던 것이다. 당시 주미공사 서광범이 한인들이 공부할 수 있도록 도와주었다는 기사가 있고, 서광범 묘비에도 일본에서 건너 온 10여명의 학생들을 금전적으로 도왔다는 구절이 있다 [48].

주) **안정식**은 최초의 음성을 남긴 3인 중 한 명이고 [48-50], 1896년과 1897년 Howard University Catalgues에 포함되어 있고, 1896년 교회 모임에서 찍은 사진에도 있고, 1897년 및 1901년 주미한국공관이 본국에 보고한 미국 유학생 명단에도 포함되어 있으나 그의 대학 학력이나 활동 기록은 아직까지 찾지 못 하였다.

주) **하란사 스승이며 동료 교사인 Lulu E. Frey**: 하란사의 스승이자 동료 교사인 Lulu E. Frey는 Ohio Wesleyan University에서 학사 학위를 받고 선교사가 되어 1893년 말에 한국에 왔다. 1894년 경 기혼자인 하란사의 이화학당 입학을 도와준 교사이기도 하다. 하란사는 Ohio Wesleyan 대학이 있는 Delaware Ohio로 1899년 9월 경에 왔고 Frey는 자신의 고향인 Bellefontaine Ohio에서 1899년4월부터 12월 초까지 휴가 중 (on furlough)이었다. Delaware와 Bellefontaine의 거리는 65km이다. 그 때 Frey는 자신의 모교인 Ohio Wesleyan에 하란사가 입학하도록 도왔을 것으로 추정되다. Frey는 그녀의 다음 휴가 중 (1905.7-1906.7)에도 Rothweiler와 함께 재학 중인 하란사를 찾아가 만나기도 하였다.

그림 10. 감리교 교육선교사 Lulu E. Frey. **1893년** (왼쪽 상단; 한국으로 파견 전), **1909년** (오른쪽 상단; 이화학당장 시절 감리교 선교사들과 찍은 단체 사진에서 발췌), **1914년** (왼쪽 하단; 이화학당장 시절 교사들 단체사진에서 발췌), **1918년**으로 추정 (감리교 flashlight group 사진에서 발췌). Photo courtesy of the General Commission on Archives and History of the UMC

그림 10의 사진들을 보면 약 27년간 이화학당에서 한국 여성 교육에 헌신한 세월이 느껴진다. Frey는 1893년 이화학당 교사로 임명되었고, 1907년부터 1921년 (53세) 사망할 때까지 이화학당장이었다 [64]. 1900년대 초에 이화학당 학생수가 갑자기 증가하며 학당 체제를 유치원, 보통과, 고등과, 중학과 (후에 대학예과)와 대학과로 만들고 교사 수도 많이 늘려 학당의 근대화에 최고로 공헌한 교육선교사이다. 20세기 초 이화학당은 미국 감리교 해외교육선교 사업에서 제일 성공한 모범적 사례이다. M.E. Church와 R.L. Thomas가 1929년 쓴 글에 의하면 Frey는 병세가 악화되어 보스턴에 돌아와서도 여러 학생들 이야기를 밤늦게까지 하였고 잠들기 전에 항상 하였던 말이: "*If I can only go back even for a short time, I'll ask for nothing more.*" 그녀가 학생들을 얼마나 사랑했는 지 알 수 있다.

주) 이화여대 전 총장 김활란 박사는 1914년에 이화학당 중학과를 1918년에 대학과를 졸업하였다 [64]. 하란사가 1911년 9월부터 1919년 초까지 이화학당 총교사였으니 하란사가 김활란의 스승이기도 하다. 유관순이 1916-1919년 이화학당 학생이었니 유관순도 하란사의 제자라고 할 수 있다 [55]. 하란사, 유관순, 김활란의 공통점은 목적을 이루기 위하여 끈임없이 노력하는 것이라 여겨진다. 하란사에게 딸이 있었으나 미혼으로 24세에 사망하여 후손은 없다 [55].

주) **하란사 인생의 전환점 (추정)**: 하란사가 조선 정부 관리의 부인으로 가정을 꾸미고 아이를 키우며 사느냐 아니면 정식 교육을 받고 한국 여성 계몽에 앞장 서느냐의 전환점은 이화학당 입학 허가이었다. 하란사가 제물포에 살며 제일 먼저 접촉한 선교사는 Rev. G.H. Jones의 부인이었을 것이다. Mrs. Jones는 1890-1892년에 이화학당 교사였던 Margaret Bengel이다. 1893년 5월부터 제물포 지역에서 선교 활동을 하며 한인 여성들을 접촉하고 있었다. 두살배기 딸을 가지고있던 하란사는 Rev. Jones를 통하여 이화학당 입학을 문의하였다. 서면으로 입학 허가를 못 받자 찾아가서 교사를 만나라고 충고한 사람도 Mrs. Jones이었을 것이다. Mrs. Jones가 느끼기에 하란사를 직접 만나보면 교사들 생각이 바뀔 수 있다고 믿었을 것이다. 이화학당의 당장인 Paine의 입장에선 새로 부임한 교사 Lulu Frey와 Mary Harris의 의견이 중요하였을 것이다. 그래서 하란사가 이화학당에 왔을 때 제일 젊은 Frey에게 만나보라고 하였을 것이다. 서면으로 보았을 때는 미혼 여성만 입학하는 원칙을 지키려 하였으나 젊은 교사인 Frey는 겨우 네 살 아래인 하란사를 만나보니 그녀의 의지와 카리스마를 느꼈을 것이다. 어두운 밤에 Frey를 만난 하란사는 하인이 들고 있는 초롱불을 가르키며 "*Our country is like that lantern. It is very dark and how can it ever become anything else until the mothers know something so that they can teach their children?*"라고 설득하였다. 또한 1894년에는 정치 상황 때문에 학생수가 줄어들고 있을 때이었다. 이화학당 상황과 하란사가 주는 인상이 교사들의 마음을 바꾸었을 것이다. 그 입학 결정으로 하란사의 인생은 내조의 역할에서 지도자의 역할로 바뀌게 된다.

김규식 (1881-1950): 문학사 (Received a Bachelor of Arts degree in 1903) 및 명예 법학박사

그림 11. 김규식; 대한민국 국가보훈처 website에서 발췌

김규식 [65-67] (Kiusic Soho Kimm, MA)은 대한민국 임시정부에서 이승만, 김구 등과 함께 독립운동을 하였다. 한국에 매우 잘 알려진 인물이다. 그는 어려서 고아가 되었을 때 Horace Grant Underwood 장로교 목사의 도움과 지도를 받았다. 1897년 미국에 와서 Roanoke College 예과 (예비 고등학교 과정)에 입학하였고, 1898년 정식으로 입학하여 1903년 문학사 학위를 받았다. 졸업식 당시 졸업 기념 연사 네 명 중의 한 명으로 선발되어 'Russia in the Far East'이라는 주제로 강연하였다. 이때 그는 일본의 러시아 공격과 러일전쟁의 결과를 추측하고 분석하였다. 이 연설 전문이 Roanoke Collegian과 The Sun (NY) 신문에 실렸다. 그의 예상대로 1905년 일본은 러일전쟁에서 승리하였다. 김규식은 영어로 연설을 잘하는 것으로 알려졌고, 실제로 대학 3학년 때 연설경연에서 상을 받았다 [28].

그는 1904년부터 한국에서 활동하다 1913년 중국으로 망명하여 독립운동을 계속하였다. 그는 파리강화회의에 참석하려고 1919년 3월에 파리에 도착하여 한국 독립을 주장하는 인쇄물을 각국 대표에게 홍보하였다. 같은 해 4월 상하이에서 수립된 임시정부의 외무총장으로 임명되며 임시정부 대표로 파리강화회의에 참석하려고 노력하였으나 성공하지 못했다. 그는 1919년 12월 미국 워싱턴의 한 교회에서 연설하며 "*there will never be peace in the East as long as 20 million Korean are held under the bondage of Japanese rule*"이라고 선언하였고 그는 "*Commissioner to America and Europe for the Republic of Korea*"로 소개되었다 [67]. 1919년에 미국 신문에서 "*Republic of Korea*"라는 국가명을 쓴 것이다. 1923년에도 미국을 방문하여 각 지역에서 연설을 통하여 독립활동을 하였고 모교인 Roanoke에서도 연설을 하였다. 그의 독립운동과 사회활동에 대한 공로가 인정되어 1923년 Roanoke College에서 명예 법학박사 학위를 받았다.

그는 1944년 임시정부 부주석 (주석: 김구)에 임명되었다. 광복 전과 후 그의 활동은 잘 알려져 있고 그는 사후 남한과 북한에서 각각 공로 훈장을 받기도 하였다.

주) 김규식이 1897년 Roanoke 대학 예과에 입학하였을 때 서병규는 같은 대학 졸업반이었다. 이미 여러 명의 한인 학생이 그 대학에서 공부하고 있었고 그 대학 총장도 외국인 입학을 장려하고 있었으니 김규식도 그 대학에 입학하게된 것으로 추정된다. 의친왕 이강이 1900년-1901년 1년 동안 Roanoke 대학 특별 학생으로 공부했고 김규식과 함께 찍은 사진이 있다.

서광범 [1, 2, 62, 68] (Kwang Pom Soh; 1859-1897)은 보빙사 일행이었고 1884년 5월 귀국하여 12월 갑신정변에 참가하였다. 갑신정변 실패 후 일본을 거쳐 1885년 미국으로 망명하였다. 1886년 10월 6일자 The Central Presbyterian 신문 기사에 의하면 서광범은 NJ New Brunswick 소재 대학 (Rutgers University로 추정)에 가서 공부할 것으로 예상한다고 하였다. 1888년 워싱턴 주소록에 의하면 그는 워싱턴 13th Ave, NW에 살고 있었고 직업은 학업으로 기록되어 있다. 뉴저지에서 공부하다 워싱턴으로 갔는지 아니면 워싱턴으로 바로 갔는지는 확인되지 않았다. 또한 정식 학생으로 공부하였다는 미국 대학의 기록도 찾지 못하였다. 그러나 1896년 주미공사로 재직 때 Roanoke 대학에서 명예 석사 학위를 받았다 [1, 27].

그는 1891년 한국의 정황과 교육에 관한 "*조선 교육론* (*Education in Korea*)"을 미국 정부 간행물에 게재하였다. 그리고 1892년 미국 시민권을 받았다. 서재필이 시민권 제 1호이고 서광범이 제 2호인 것이다. 1894년 갑오경장 후 귀국하여 법무대신, 학부대신을 역임하다 명성황후 (민비)의 폐서인 문서에 서명한 것이 문제되어 1895년 12월 주미 전권 특명 공사를 자청하여 다음해 2월 15일 워싱턴에 부임하였다. 주미공사인 서광범이 한인들이 공부할 수 있도록 도와주었다는 기사가 있고, 서광범 묘비에도 일본에서 건너 온 10여명의 학생들을 금전적으로 도왔다는 구절이 있다 [48, 62, 63]. 그는 본국 정부의 아관파천 후 부임한 지 5개월만에 다시 귀국 명령을 받았으나 이에 따르지 않고 워싱턴에서 망명생활을 하다 다음 해 8월 지병인 폐병으로 사망하였다.

윤치호 [1, 69-71] (Chi-Ho Yun; 1866-1945). 일본 외무대신 이노우에 가오루의 알선으로 1881년 4월 도쿄 도진샤에 입학하여 게이오기주쿠 대학에 입학한 유길준, 유정수와 함께 우리나라 최초의 도쿄 유학생이 되었다 [1]. 1883년 5월 조미수호통상조약에 따라 조선에 부임하는 초대 주한미국공사 Foote의 통역이 되었다. 갑신정변에 참가하지는 않았으나 그는 갑신정변 주역들과 각별한 사이이고 성향도 비슷하여 화를 모면하기 위하여 한국을 떠나 상하이에서 공부하였다. 장로교회의 도움을 받아 미국 유학을 떠났고 미국에서도 장로교회의 도움을 받아 공부하였다. 1888-1890년까지 Vanderbilt 대학에서 수강하였고 1890-1893년까지는 Emory 대학에서 공부하였다.

그의 일기에 의하면 1888년 미국에 처음으로 입국하여 샌프란시스코에서 Vanderbilt 대학이 있는 테네시 내슈빌까지 여러 날 기차 여행을 하며 여러가지 무시나 차별을 받았다고 한다. 당시 불법으로 들어온 청국인들을 차별했는데 윤치호도 청국인으로 알고 무시 및 차별 받았다고 본인 일기에 기록하였다. 예를 들어 내슈빌에 가는 길에 호텔이나 여관에서 받아주질 않아 기차역에서 노숙한 날도 있었다 [70].

그는 미국 유학을 마친 후 상하이로 건너가 중서서원에서 1895년까지 영어를 가르쳤다. 1895년 2월 귀국해 갑오개혁에 동참하며 총리대신 비서, 외부협판, 학부협판 등을 역임하였고 1898년 독립신문사 제2대 사장이 되었다. 이 때 서재필에 이어 독립협회 제2대 회장이 되었다. 1905년 을사늑약 후 외부협판을 사임하는 등 친일 내각에 참가를 거부했고 종교 활동과 청년 교육 등에 전념하였다. 그러면서 정치적인 활동과 언행을 삼가하려 하였다. 예를들면, 1910년 1월 종교활동 목적으로 미국에 와서 신문 기자의 많은 정치적 질문에는 대답하지 않았다. 대한제국 때 활발했던 종교 활동이 위축되었다고 조심스럽게 말하는 정도이었다 [71]. 그는 1941년 2월 연희전문학교 교장에 취임했다. 일제강점 후반기에는 친일 활동을 적극적으로 수행하여 친일반민족행위자로 규정되었다 [1].

주) 이계필이 1891년 5월 Columbian University (George Washington Unviersity 전신)를 졸업하였다는 한철호의 논문이 있다 [72]. 그 근거는 한국 대리공사인 이채연이 미 국무부 직원 Wharton에게 1891년 9월 21일 보낸 다음의 서한이다: "*Mr. E. K. Field, Korean Government student, who has been graduated in Columbian University, Washington DC, May last, is instructed by his government to look over the complete assaying and refining of gold in the government mint of the United States at Philadelphia.*" 한철호의 논문에서 다음과 같은 구절이 있다: "--- *졸업생 명단이나 졸업증명서 혹은 졸업장이 발견될 때 비로소 한국 최초의 미국대학 졸업생으로 확실하게 인정받을 수 있을 것이다.*" 하지만 당시 Columbian University의 기록이 존재하고 그 기록에 E.K. Field 또는 다른 한인의 이름이 없으니 그가 정식으로 학위를 받은 것은 아니라고 추정된다.

Acknowledgment

The purpose of this article is to have Koreans and Korean-Americans learn of the history of the early (19th centrury) Korean students in the US. Even though the author tried to mention all students who came to the US in the 19th century, there is a possibility that some are missed. The name spellings in Korean or English are those used in the US. The author would like to thank those who helped or provided him with the relevant information and materials. They include Mr. Dong Jin Hwang at Seoul Education Museum, Ms. Hyunji Son at Ewha University Archives, Prof. Eun-Suk Seo at the University of Maryland, Mr. Hanseo Seo at New York Korea Times, Ms. Frances Lyons at the UMC General Commission on Archives and History, and 김란사 기념사업회장 김용택. The author would like to express his special thanks to Mr. Il Dong Kim, a former journalist in Korea, for editing Korean language expressions and also helping the research. Any photo with a known copy right has been used in this article with their written permissions. Reproduction of the photos may need permission from the corresponding sources.

부록: 이 글과 관련된 1900년대 초 사진들과 하란사 이력서

I. Dr. Rosetta Sherwood Hall과 Dr. Mary M. Cutler는 미국 감리교 해외여선교회 뉴욕 지부에서 파견한 의료선교사로 한국에서 각각 33년간 (1890-1933)과 31년간 (1892-1933) 봉사하였다 [32, 43]. 이들 두 의사가 치료한 한인 환자수는 총 20만명 이상일 것으로 추정된다. 그들의 영향과 가르침으로 의사 또는 간호사가 된 한인 수도 상당히 많을 것이다. 박에스더가 이 두 의사로부터 영향을 받았다.

그림 12. 왼쪽: 1909년 평양에서 활동 중인 감리교 선교사들. 뒤쪽 중앙에 서있는 여성이 Dr. Hall이고 그녀의 왼쪽이 Dr. Follwell이다. 중간 줄 의자에 앉아있는 Miss Robbins, Rev. W. Arthur Noble, Mrs. Noble이 보인다. 오른쪽: Dr. Cutler와 학생들 (연도 미상). Photo courtesy of the General Commission on Archives and History of the UMC

II. 1914년 4월 1일 찍은 것으로 보이는 이화학당 대학과 제1회 졸업생 사진과 1914년 3월 말이나 4월초에 찍은 듯한 학당 건물 (메인 빌딩), 전체 학생, 교수진 및 대학과 재학생 사진 [자세한 날짜 분석은 참고문헌 73에 있다].

그림 13. 1914년 봄에 찍은 것으로 분석되는 사진들. 첫째 사진: 이화학당 대학과 제1회 졸업생 왼쪽부터 이화숙 (Dorothy Ye), 김애식 (Alice Kim), 신마숙 (Marcella Syn). 둘째 사진: 정동 소재 이화학당 메인빌딩 (한국전쟁 때 소실되었음). 셋째 사진: 유치원/보통과/고등과/중학과/대학과 전체 학생들. 앉아있는 학생들이 제1회 유치원 입학생으로 추정. 맨 뒤쪽에 앉아 있는 하란사, 이은라 등의 한인 교사 6명이 보인다. 넷째 사진: 학당 교수진. 앞줄 맨 왼쪽에 앉아있는 여성이 하란사. 가운데 줄에 앉아 있는 미국 감리교 선교사는 오른쪽부터 당시 당장 Lulu E. Frey, Charlotte Brownlee, A. Jeannette Walter, Olive F. Pye, Hulda A. Haenig 그리고 뒷줄 맨 왼쪽 서있는 여성이 Grace L. Harmon이다. 한인 교사는 조만수 (앞줄 맨 오른쪽)와 이은라 (Frey와 Brownlee 사이)가 보인다. 이 사진 속의 교사 이름은 이화역사관에서 제공하였다. 다섯째 사진: 대학과 재학생. 당시 이화학당은 미국 감리교 교육 선교 사업에서 제일 성공한 모범적 사례이다. All five photos in this figure were analyzed with the contents of each photo and the historical facts. It turned out that they were all likely taken before, on, or after the day of the Ewha Haktang's first college-class graduation ceremony (April 1, 1914). Photo courtesy of the General Commission on Archives and History of the UMC

그림 14. Mrs. E. D. Follwell (maiden name: Mary W. Harris) taken in 1903. She graduated from the Ohio Wesleyan University in 1890, she went to Seoul Korea as a WFMS missionary, and she was likely a teacher at Ewha Haktang until she married in May 1897. Photo courtesy of the General Commission on Archives and History of the UMC.

III. Mary W. Harris는 1893년 말부터 1897년 5월까지 서울에서 선교 활동을 하였으며 이화학당에서 학생들을 가르쳤을 것으로 저자와 이화역사관 손현지가 판단하였다. 1890년 Ohio Wesleyan University를 졸업하였고 1893년 미국 감리교 해외여선교회 신시내티 지부 후원으로 서울로 파견되었다. 1897년 5월 감리교 의료 선교사 E. Douglas Follwell (MD)과 결혼 후부터는 주로 Dr. Follwell의 파견지인 평양에서 학생들을 가르치는 등의 선교 활동을 하였다 [Mary W. Harris가 이화학당 교사이었다는 자세한 분석은 참고문헌 74에 있다].

IV. 하란사 이력서 (저자와 이화역사관 손현지가 2021년 10월 작성)

- 1872년 9월 1일 출생
- 1894년 이화학당에 입학하여 1 년 정도 공부하였을 것으로 추정 (Rev. Jones를 통하여 지원하였으나 거절당하여 이화학당에 찾아가 Lulu E. Frey를 만나 자신의 학업 의지를 전달하여 입학 허가를 받음)
- 이화학당 입학 바로 전이나 후에 세례를 받으며 이름을 김란사 (金蘭史)로 개명
- 1895년 4월부터 1학기: 동경외국어학교에서 한국어 교사
- 1895년 9월 – 1896년 3월: 게이오기주쿠 대학에서 조선 관비 유학생으로 공부
- 1896년 3월: 개인사정으로 귀국
- 1896년 5월 – 6월: 이화학당에서 청강
- 1896년 9월: Howard University (Washington DC) 등록 1-2학기 정도 공부. 이름을 'Nan-sa Kim-Ha'로 썼음. 1897년 일시 귀국
- 1897년 9월: 일본 나가사키 갓스이여학교 입학
- 1897년 11월 요코하마를 출발하여 12월 샌프란시스코에 도착
- 1898 – 1899: Lucy Webb Hayes Training School

(Deaconess School) 에서 공부. 신문에 나온 이름이 "*Nansa Kim Ha*".

- 1900.1 - 1906.6: Ohio Wesleyan University (문학사 학위 받음) (Lulu E. Frey가 1899년 4월부터 12월 초까지 고향 Ohio에서 휴가 중이었고 하란사는 1899년 9월 워싱턴에서 Ohio로 갔으니 둘이 만났고 Frey가 대학 입학을 도왔을 것으로 추정)
- 졸업 후 1906년 7월 귀국
- 1906년 9월 – 1907년 9월: 상동여자매일학교 교사
- 1907년 9월 – 1908년 9월: 이화학당 학감 (학감은 현재의 교감에 해당)
- 1908년 9월 – 1911년 9월: 종로성서학원 (Bible-Woman Training School) 교사
- 1909년 5월 28일: 고종으로부터 은장 수상
- 1911년 9월 – 1919년 3월: 이화학당 총교사. 기록에 河蘭史 (하란사)로 되어있음 (당시 당장 1명, 학감 1명과 한인 여성 총교사 2명이 있었음. 총교사는 학칙에 있는 직원 제도에는 없으나 모든 학생들의 지도 교사로 추정됨)
- 1916년 5월: 미국 감리교 총회에 한국평신도 대표로 참가
- 1919년 3월 10일 북경에서 사망
- 1995년 8월 15일: 대한민국 건국훈장애족장

V. 이 글에서 서술한 19세기 유학생들에 관하여 20세기 후반부터 현재까지 연구되어 발표되거나 보도된 사실들 중 이 글에서 처음으로 발표하는 사실들을 정리하였다. 물론 저자가 모든 간행물을 본 것은 아니기 때문에 일부가 틀릴 경우 독자의 이해를 바란다.

1) 1883년 미국을 방문한 보빙사 일행 중 민영익, 서광범 및 변수가 뉴욕을 출발한 날짜가 12월 1이다 [4, 5]. 그간 11월 16일로 알려졌는데 미군함 Trenton호를 수리하느라 출발 예정일인 11월 16일에 출발하지 못하였다.
2) 유길준이 보빙사 일행으로 워싱턴에 와서 The National Republican 신문 기자와 인터뷰하며 [7] "*미국의 교육과 과학의 우수성을 깨달았고 그들을 한국에 적용하면 한국도 미국같이 발전할 수 있다*"라고 통역을 통하여 말하였다. 그는 100년 앞을 내다보는 혜안을 갖고있었다.
3) 저자가 2010년 쓴 글[44]에서 변수가 1891년 Maryland Agriculture College 졸업식에서 'commerce'란 주제로 연설하였다고 하였다. 처음으로 학사 학위를 받으며 처음으로 졸업식 연설을 한 것이다. The Evening Star 기사에 의하면 변수는 언제든 기회가 오면 한국으로 돌아가려고 농무부의 정규직을 원하지 않았다고 한다 [14].
4) 서재필이 Columbian 의대 졸업생 26명 중 3등의 성적으로 졸업하였다 [22]. 그간 차등으로 알려졌었다.
5) 1904년 The Boston Evening Script에 Roanoke 대학 전총장 Dr. Julius Dreher가 기고한 글에 한국이 일본의 지배를 받지않는 독립된 국가로 남아있고 빠른 근대화를 바란다고 하였다. 한국을 지지하고 성원하는 글이다.
6) 박에스더는 정식으로 한국 정부의 허락을 받고 해외여선교회 (WFMS)의 성원을 받으며 유학왔으며 의과대학 졸업 후 한국에 돌아가 한국 여성 진료 및 계몽 등 여성 이익을 위하여 일하겠다고 하였다 [40 , 43]. 그녀가 유학 온 목적을 직접 밝힌 밝혔고 WFMS 차원의 성원이 있었다는 기록이다.
7) 박에스더는 의대 재학 중 최소 세번 감리교회 행사와 해외여선교회 행사에서 연설하였다. 미국 신문에는 똑똑하고 유능한 한국인으로 소개되었으며 미국 젊은 여성들의 해외 선교를 홍보하는 것이었다 [42, 51]. 해외 선교의 산물이며 증인인 그녀가 젊은 여성들에게 해외 선교를 장려하고 권장하였던 것이다.
8) 박에스더가 1900년 의학사 학위를 받은 후 미국 감리교 해외여선교회 필라델피아 지부에서 선교사로 파견되었으며 1900년부터 1909년까지 (1910년 4월 사망) 같은 지부의 재정적 후원 (월급)을 받았다 [43].
9) 하란사는 1899년 4월 워싱턴에 있는 Lucy Webb Training School에서 공부하고 있었다 [53]. 1897년 12월 샌프란시스코로 입국한 기록과 1900년 1월 Ohio Wesleyan University에 입학한 기록과 함께 분석하여 보면 그녀는 1898-1899에 워싱턴에서 대학진학을 위하여 공부하였다고 볼 수 있다. 그리고 Lulu Frey가 1899년 고향인 Ohio에서 휴가하고 있었고 하란사가 그 해 9월 경에 Ohio로 갔으니 둘은 만났고 Frey가 자신의 모교에 하란사 입학을 도왔을 것으로 추정하였다.
10) 하란사는 귀국 후 선교사는 아니었지만 WFMS Northwestern 지부로부터 재정적 후원 (월급)을 받았다 [43]. 연봉은 박에스더와 동일하였다. 선교사로 임명된 것은 아니지만 미국에서 학사 학위를 받아 그녀의 능력이 인정된 것으로 볼 수 있다.
11) 이화학당 전체 학생, 교수진, 대학과 재학생 및 메인 빌딩 사진들을 1914년 4월 1일 졸업식 날 전이나 후에 찍었다고 판단된다 [부록 II, 참고문헌 73]. 졸업생 사진은 졸업식 날에 찍은 듯하다. 다섯 장의 사진 모두가 선명하고 구도가 잘되어 전문사진사가 찍은 듯하다.
12) 하란사의 이력서를 새로 만들었다 (부록 IV). 한국, 일본 및 미국의 여러 학교에서 공부하였고 학위 취득 후 귀국하여 여러 학교에서 WFMS 후원을 받으며 가르쳤다.
13) 상하이 대한민국임시정부의 영문 표현이 "Republic of Korea"로 임시정부가 설립된 1919년 같은 해 12월에 미국에서 사용하였다. 이 사실은 이미 알려졌을 가능성이 많지만 역사적으로 의미가 있어 다시 한번 강조한다 [67].
14) Mary W. Harris가 1894년 1월부터 1897년 5월까지 이화학당 교사이었다고 판단된다 [부록 III, 참고문헌 74] 이 것은 새로 판단되어 알려지게된 것이다.

VI. Kang-Wook Lee, Ph.D. (the author of this article) had been a research staff member at the IBM Thomas J. Watson Research Center in 1988-2018.
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37) 이화100년사 편찬위원회, "*이화100년사*", 이화여자대학교 출판부 (1994년)
38) 이화여자대학교 이화역사관 http://my.ewha.ac.kr/archives/
39) The Journal (New York); May 20, 1896: Library of Congress
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45) Christian Herald and Signs of Our Times, Mar 31, 1897: https://babel.hathitrust.org/ cgi/pt?id=mmet.ark:/13960/t2w40bz0g&view=1up&seq=272
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47) 목수현, "*조선은 세계를 어떻게 만났는가*" 인천문화재단-플랫폼 http://platform. ifac.or.kr/webzine/view.php?cat=&sq=234&page=1&Q=w_no&S=8&sort=
48) KBS Special "최초 한인 음성" (2010 년)
49) 이호경 KBS 스페셜 PD, "*15년의 집념으로 되살아난 한국인 최초의 음성기록*", KBS Website
50) 정창관 website http://www.gugakcd.kr/music_detail.asp?cd_num=CKJCD-010-A
51) The Evening Times (Washington DC) October 7, 1896: Library of Congress
52) Howard University Catalogues, in courtesy of Howard Unviersity
53) The Evening Star (Washington, DC); April 10, 1899
54) Personal communication from the Registrar's Office

of the Ohio Wesleyan University.

55) 서울교육박물관과 개인 서신 (private communication). 전시물, 사진 10여장, 김란사 재적등본 내용, 출입국 기록 사본, 참고 문헌 및 항일독립운동역사관 (충북 충주시) 소장의 "*모금을 위한 하란사의 영문 편지*" 사본 등을 제공 받았다.

56) 김(하)란사 기념사업회 (회장 김용택)

57) 이화역사관과 개인 서신 (private communication). 이화학당 교사 및 학칙 자료, 1912년 작성된 하란사 이력서, 감리교 관련 자료들과 자료들의 출처 등을 제공받았다.

58) United Methodist Church Archives Digital Galleries: Mission Photograph Album – Korea #1 and Portraits #1

59) Journals of the Twenty-Sixth and the Twenty-Seventh Delegated General Conferences of the Methodist Episcopal Church in 1912 and 1916, respectively

60) *고혜령, 꺼진 등에 불을 켜라 – 한국 최초 여성 문학사 김란사*, 초이스북 (2016년)

61) Hyaeweol Choi, Gender and Mission Encounters in Korea: New Women, Old Ways, University of California Press (2009) http://escholarship.org/uc/item/0q65z7q9

62) The Evening Times (Washington DC) May 11, 1896: Library of Congress

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64) 이화여대 website https://www.ewha.ac.kr/ewha/intro/dean.do

65) The Boston Evening Transcript; May 12, 1903

66) 위키백과: https://ko.wikipedia.org/wiki/김규식

67) The Washington Herald; December 8, 1919

68) The Central Presbyterian (Richmond VA); October 6, 1886: Library of Congress

69) 정용화, "*주변부 지식인의 허위의식: 윤치호 일기*", 동아시아 비평 제 7호 (2001년)

70) "윤치호 일기", 국사편찬위원회 한국사데이터베이스 http://db.history.go.kr/item/ level.do?levelId=sa_024r

71) The Sunday Herald (Boston MA); February 20, 1910

72) 한철호, "최초의 미국대학 졸업생 이계필의 일본, 미국 유학과 활동", *조영록 교수 정년기념 논총*: 한국사, 동국사학 제 37권, 동국사학회 (2002년)

73) 이화학당, 학생 및 교사 사진 날짜: 이화학당 대학과 졸업생, 메인 빌딩, 전체 학생, 교수진 및 대학과 재학생 등의 사진 다섯 장 모두 1914년 3월 말이나 4월 초에 찍었다고 저자와 이화역사관 손현지가 함께 판단하였다.

① United Methodist Church (UMC) Digital Galleries Mission Photograph Album Korea #1 95쪽과 96쪽에 이들 다섯 장의 사진과 경희궁 숭정전 사진이 있다 (경희궁은 정동 이화학당과 가깝다). 인화된 사진으로 앨범을 만들 때 같은 시기에 찍은 사진들을 한 곳에 부착한다.

② 대학과 졸업생 3명 사진 (학사 옷과 사각모) 설명에 "*First graduating class of Ewha Haktang Seoul 1914*" 라고 되어있다. Walter 전 당장 자서전 "*Aunt Jean*"에 세 명의 졸업생 사진이 있고, 졸업식 순서에 4월 1일 "*Presentation of Diplomas*" (졸업증서 수여식)가 있다. 그러므로 졸업생 사진은 4월 1일 졸업식 직후에 찍었을 가능성이 높다.

③ 메인 빌딩과 전체 학생 사진에 보이는 큰 밤나무에 잎이 없고 벚나무에는 잎은 조금 있고 꽃은 많다. 동일한 벚나무가 두 사진에 보인다. 메인빌딩 사진 왼쪽 하단에 이른 봄이 피는 꽃이 보인다. 계절이 이른 봄이다.

④ 감리교 Archives에 있는 여러 장의 이화학당 May Day 사진들에는 메인 빌딩 옆 큰 밤나무에 잎이 무성하고, 메인 빌딩 앞 벚나무에는 잎은 많지만 꽃은 없다. 계절이 초여름이다. 그림 13의 사진 다섯 장은 모두 이른 봄의 풍경이다.

⑤ 전체 학생 사진 뒤쪽에 한인 교사 6명이 보이는데 그들의 얼굴과 머리 모습, 입은 옷, 들고 있는 책이 교수진 사진에 있는 것과 동일하다. 두 사진을 같은 날 찍었다고 볼 수 있다. 흰 옷을 안입은 학생과 교사가 많은 것으로 보아 졸업식 날 찍은 사진은 아니다. 졸업식 날 전이나 후에 계획하여 찍은 듯하다.

⑥ 교수진 사진에 나오는 큰 배나무에는 배꽃이 많다. 같은 사진 왼쪽 하단 (하란사 머리 위쪽) 뒤에 멀리 있는 작은 나무를 자세히 보면 잎은 거의 없고 꽃은 많다. 벚꽃 같다. 이 사진의 계절이 메인 빌딩이나 전체 학생 사진의 것과 같다.

⑦ 전체 학생 사진에 나오는 학생수가 약 200명 정도이다. 1913-1914 학년도 학생 수는 222명, 1914-1915 학년도 학생 수는 265명 그리고 1915-1916 학년도 학생 수는 343명이라는 감리교 보고서가 있다 [43]. 유치원생은 1914년 1월에 처음 입학하였다. 앉아 있는 학생들이 유치원생 같고 1914년 이른 봄에 찍었다면 가능한 장면이다.

⑧ 대학과 재학생 사진과 교수진 사진에 나오는 배꽃들이 비슷하고 잔디에 풀꽃은 없다. 대학과 사진에 김활란이 있다. 그녀는 1914년 봄에 중학과를 졸업하고 대학과 입학하였다. 1914년 3월 말이나 4월 초에 사진 촬영을 기획하여 찍었다면 가능한 장면이다.

⑨ 이 사진들과 함께 있는 경희궁 숭정전은 이화학당에서 가까운 거리에 있다. 이화학당 행사 후에 찍었을 수도 있다.

위의 분석으로 보아 그림 13의 대학과 졸업생 3명 사진은 1914년 4월 1일 졸업식 직후에 찍었고, 메인 빌딩, 전체 학생 교수진 및 대학과 재학생 사진 총 네 장은 모두 1914년 3월 말이나 4월 초에 찍은 것으로 판단된다.

74) 이화학당 교사 Mary W. Harris: 미국 감리교 해외여선교회 연차 보고서, Dr. E.D. Follwell 이력서, 이화학당 중학과 졸업증서 및 1937년 이화여전 대학일람에 있는 舊職員 (구직원: 옛직원, former employees) 명단 등을 토대로 Mary W. Harris가 이화학당 교사이었다고 저자와 이화역사관 손현지가 함께 판단하였다.

① The Woman's Foreign Missionary Society (WFMS, 해외여선교회) of the Methodist Episcopal Church 에서 1871년부터 1940년까지 매년 발간한 보고서 [43] 에 의하면:

a) Mary W. Harris는 Lulu E. Frey와 함께 1893년 말 WFMS Cincinnati Branch의 후원으로 서울에 파견되었고 한글 공부를 한 후 1894년 1월부터 활동하였다.

b) 1918년 보고서에 다음과 같은 구절이 있다. "*In 1892 and 1893 Miss Josephine Paine of Boston, a graduate of*

the New England Training School, Misses Lulu Frey and Mary Harris, graduates of the Ohio Wesleyan University, were added to the educational force, and Miss Mary Cutler, MD, a graduate of Michigan University, to the medical force in Seoul." 즉, Paine, Frey 및 Harris가 "*educational force*"에 추가되었다고 약 15년 후에 기록한 것이다. 1893년 "*educational force*"로 서울 정동에 파견된 여성 선교사는 모두 이화학당에서 가르쳤지 다른 학교에서 가르쳤다는 기록도 없고 가능성도 없다. 약 2년 후에 남대문 근처에 있는 달성(상동)교회에서 여자매일학교 (non-boarding school) 교육이 시작되었다. 이 기록만으로도 Paine (당장; 1892-1907)과 Frey와 함께 Harris도 이화학당 교사이었다고 판단된다.

② 1895년 보고서에 의료 선교사인 Dr. Mary M. Cutler가 쓴 글에 다음과 같은 구절이 있다. "*--- The last interruption to the work was caused by the prevalence of cholera. --- I have made numerous visits to sick girls at the Ewha HakTang but few have been recorded on the out-patients or any other list because the ailments were usually trivial and the visits frequent but chiefly because the school is in the same compound, and as I did not have to go outside the gate, it seemed like making a round in the hospital ward. The teachers' and especially Miss Harris' watchful care of the school girls has saved me many a trip to the institution and prevented cases of severe or at least protracted illness.*" 콜레라가 유행할 때 이화학당 교사들이 학생들을 잘 돌보아주었고 특히 Miss Harris의 주의깊은 돌봄이 도움이 되어 Dr. Cutler가 학당 건물에 가는 횟수를 줄여주었다. Harris가 학당 건물(학당, 병원 및 숙소가 모두 정동에 있었다)내에서 학생들이 전염병에 걸리지 않도록 돌보아주었다는 것이다. Harris는 최소한 콜레라가 유행하는 동안 학당 건물에 거의 매일 출근하였다고 볼 수 있다. 당시 이화학당 학생수는 적었지만 공부한 연수에 따라 상급반과 하급반이 있었을 수도 있고 여러 과목을 배웠을 수도 있다. 모든 학생들을 Paine 당장과 Frey는 가르치고 Harris는 학당에는 출근했지만 학생들을 가르치지 않았을 확율은 적다. 오히려 Paine과 Frey가 1894년 여름 휴가차 일본에 갔다가 여러 달 출국금지로 묶여있을 때 Harris가 더 많이 학생들을 가르쳤을 수도 있다.

③ "*이화여전 1937년 대학일람*"에 있는 舊職員 (구직원: 옛직원, former employees) 명단과 1912년과 1916년 중학과 卒業證書 (졸업증서: 졸업장)에 교사 한자 이름이 있다. 선교사의 이름을 한자로 지어 기록하였고 한자로 도장도 만들어 '졸업증서'에 날인하였다. 1937년 이화여전 대학일람에 있는 '구직원' 명단에 교사 이름 河文 (하문)과 河巨 (하거)가 있고 둘이 모두 교사이었다.

a) 1912년과 1916년 중학과 졸업증서에 있는 교사 이름에 '하문'이 있는데 이 '하문'은 1911년 말 한국에 도착하여 1912년 부터 가르친 교사 Grace L. Harmon이 확실하다. 그런데 20여년 후 발간된 '구직원' 명단에 '하문'은 1894년 부터 교사이었다. 두 사람은 동일인물이 아니다. '구직원' 명단은 시작한 연도 순으로 되어있다. 그런데 '하문'은 1894년부터 교사이고 같은 해에 시작한 Frey 바로 다음에 있다. Frey와 같은 해 이화학당 교사가 된 선교사를 '하문'으로 기록한 것이다. 물론 중학과 졸업증서에 있는 '하문' Grace L. Harmon은 아니다.

b) 1937년 발행된 '구직원' 명단에 1890년 교사가 된 Margaret Bengel은 없다. Margaret Bengel은 이화학당 교사이었다. 1892년 Rev. G.H. Jones와 결혼 후에도 학당에 와서 가르쳤다는 기록도 있다. 20여년 후 기록할 때 누락된 것이다. Bengel은 약 2년간 활동 후 결혼했고, Harris는 약 3년 반 동안 활동 후 결혼했고, Harmon은 약 3년간 활동 후에 결혼했다. 당시 짧은 기간 활동한 선교사의 기록이 많지 않다. 20여년 후에 기록할 때 누락되거나 이름이 잘못 기재될 수도 있다.

c) 해외여선교회 보고서에 1911-1912에 파견된 네명의 선교사가 있다. 그들은 Walter, Haenig, Pye 및 Harmon이다. 그런데 '구직원' 명단에 1912년부터 교사가 된 선교사는 Walter, Haenig, Pye 및 '하거'가 있다. 현재까지 이 '하거'가 누구인지 궁금했다. 1912년과 1916년 중학과 '졸업증서'에 나오는 '하문'은 Grace L. Harmon이 틀림없는데 '구직원' 명단에서 빠진 것이다. 그러니까 세월이 흐른 후에 '구직원' 명단을 기록할 때 '하문'과 '하거'를 서로 바꾸어 잘못 기록하였다면 그 명단에서 '하거'는 1894년 시작한 Harris가 되고 '하문'은 1912년 시작한 Harmon이 된다. 다시 말하면 '구직원' 명단에서 '하거'와 '하문'을 바꾸어 놓으면 1894년부터 교사이었던 '하거'는 Harris이고 1912년부터 교사가 된 '하문'은 Harmon이다. 그러면 모든 것이 맞게된다. 이 잘못된 기록을 다르게 해석할 근거도 없고 가능성도 없어 보인다. 그러므로 이 '구직원' 명단이 Harris가 이화학당 교사이었다는 가장 중요한 증거들 중 하나라고 판단된다.

④ 1895년 감리교 기록 "Notes and Comments"에 다음과 같은 글이 있다. "*For the Woman's Foreign Missionary Society the appointments were Mrs. MF Scranton, Miss Rothweiler and Miss Harri s – Evangelistic work and Miss Paine and Miss Frey – The girl's School.*" WFMS에서 1890년-1920년 매년 발간된 보고서들을 보면 한국에 파견된 선교사는 기록에 특정 지역과 역할이 있고 활동 내역을 보면 1인 다역을 한다. 그리고 활동 분야가 필요에 따라 조정된다. 'Evangelistic work'에 학생들에게 성경을 가르치는 것도 포함될 수도 있다. 미국에서 파견될 때 임명 (appointment)은 evangelistic work으로 되었는데도 교사 활동을 한 경우들도 있다. 예를 들면, 1899년 Nellie Pierce는 evangelistic work으로 지정되어 달성(상동)교회 (신세계 백화점과 남대문 사이에 있었던 교회) 여자매일학교를 책임맡고 있었으면서도 하루의 반 나절은 정동 이화학당에 가서 가르쳤다. 이화학당은 교사수가 모자라는 상황이라 다른 목적으로 파견된 선교사를 초청하여 가르친 것이다.

⑤ Harris의 남편인 Dr. E. Douglas Follwell의 이력서에 의하면 Harris와 Follwell은 1897년 5월 서울에서 결혼하였다. 결혼 후에는 Mrs. E.D. Follwell로 기록되었다. 영국인인 Dr. Follwell은 1896년 초에

평양에 부임하여 의사 선교사로 활동을 시작하였다. 평양에 파견되었던 Rosetta Sherwood Hall (MD)의 글에 의하면 Harris는 결혼 후 1897년 5월부터 평양에 와 그 곳에서 활동하던 Mrs. Noble을 도우며 학생들을 가르치는 등의 선교 활동을 하였다. 그러므로 Mary W. Harris는 1897년 5월까지는 서울에서 선교활동을 하였다. 그녀는 결혼 후 평양 정의여학교에서 'industrial work'를 가르쳤고 Mrs. Noble이 건강상 문제로 쉴 때 교장 역할을 하였다.

⑥ 위 다섯 조항으로 Harris가 이화학당 교사였다는 것이 증명된다고 판단되지만 당시 이화학당 및 서울에 파견된 선교사 상황도 조사하였다. 모두 WFMS 보고서에 나오는 내용이다.

a) Harris가 서울에서 활동하던 1894.1-1897.5에는 Mrs. Scranton과 Rothweiler는 이화학당의 교사가 아닌 다른 선교 활동을 하였다. 이들 및 의료선교사 2명을 제외하면 서울에 파견된 나머지 WFMS 선교사는 Paine 당장, Frey, Harris 등 3명 뿐이었다.

b) 이화학당 교사들도 방학이나 휴가 기간 및 일요일에는 시간을 내어 전도 활동을 하였다. 예를들면 1894년 새해 연휴에 Paine과 Frey가 정릉 병원 (little dispensary)에 나가 여러 날을 보내며 한국 여자들을 만났고, Harris는 1895년에 정동 병원 (보구여관)의 대기실에서 환자들에게 성경을 가르쳤고 1897년에는 정동 주일학교 (Sunday school) 예배에 참가하였고 또 그곳에서 여러 일들을 도와주었다.

c) 이화학당 학생수가 1893년에는 35명, 1894년에는 20명 그리고 1896년에는 52명이었다. 1895년 10월부터는 Mrs. Scranton의 책임하에 있는 상동교회 여자 매일학교도 있었다. 특히 1896년에는 학생수가 늘어나며 교사가 더 필요한 상황이라 Paine 당장, Frey, Harris 3명 중 어느 한 명이라도 이화학당에서 안가르치기 어려운 상황이었다. 더욱이 교사가 모자라 목사 부인이나 의사 부인이 와서 가르쳤다. Harris가 서울에 있던 1896년에도 Bunker 목사 부인이 'industrial work'을 Hulbert 목사 부인이 음악을 가르쳤다.

d) 1894-1896년에 한국 여성들을 상대하는 전도 활동은 여성 선교사와 선교사 부인들도 하였지만 대부분 이화학당 재학생, 졸업생 및 별도 교육받은 전도부인 (Bible-Woman)이 하였다. 한인 전도학생이나 전도부인들은 특정한 선교사의 감독 및 지도를 받았고 해외여선교회로부터 급여 (1년에 $50-$100)를 받았고 전도 학생 및 부인 숫자는 1894년에는 9명이었고 그 후 계속 늘었다. 주로 이화학당 졸업생이 결혼 후에 전도부인 역할을 하였다. WFMS 보고서에 전도부인을 감독하는 선교사에 Harris는 없다.

e) 종합하면 1894.1-1897.5에 이화학당 및 WFMS가 처한 상황에서 Harris는 이화학당에서 가르치지 않기는 매우 어려웠다. 방학, 휴일 및 주일에 교회 여자매일학교에 나가 성경을 가르칠 수 있었고, 정동병원 (보구여관)에서 환자에게도 성경을 가르칠 수 있었다. 하지만 학기 중에는 이화학당에 교사가 모자라 학생 가르치는 것 이외에 다른 일을 할 여유가 없었다. 가르친 과목은 다른 곳에서 성경을 가르쳤으므로 이화학당에서도 성경 등을 가르쳤을 것으로 추정된다. 즉 Harris는 교사이기도 하고 전도사이기도 한 것이다. (Mary Harris might have been doing both the educational and the evangelistic work by teaching Bible to pupils in the 1894.1-1897.5 period)

결론적으로 Mary W. Harris는 1894년 1월부터 1897년 5월까지 이화학당 교사이었으며 학생들의 건강을 잘 돌보는 따뜻한 마음을 가졌고 성경 및 'industrial work' 등을 가르치며 선교 활동도 열심히 하였다고 판단된다.

Editorial Epilogue

It has finally come to the end of the KSEA 50-year history book project. Beginning from the KSEA 50-Year History Book Task Force Kickoff Meeting on February 16-17, 2019, it was a long, arduous journey, which included plowing through the prolonged and formidable COVID-19 pandemic.

The Editorial Board (EB) first completed the softbound book entitled "*50 Years Working Together For Korean-American Scientists and Engineers*" (ISBN 978-1-7342787-6-7) in the summer of 2021. The EB did not stop there but continued to accumulate more articles to various Chapters and continuously updated the contents for several months. In particular, the "*Dream Towards 100 Years*" article which included many wishes from YG leaders and the complementary compendium which reminisces on the early history of our forebears were both recently added to this hardbound book entitled **KSEA 50 Years**.

The altruistic spirit stemmed from the historical background will further strengthen and flourish through the forthcoming generations, as long as it stays alive among today's KSEA members. We are certain that this book will provide a cornerstone for the future generations to understand and focus on the profound spirit of the founding members and build on it to realize and expand the vision for the future of KSEA.

The EB is so grateful to all the participants involved in the process of completing this book project and contributing authors. The tireless efforts amply demonstrated by the book design team led by Mrs. Claire Kang and Ms. Jahae Yun for the last several intensive months are particularly appreciated. The process of completion by itself is a part of history. It reflects the painstaking efforts of the participants that were eventually exalted to their collegial friendships. It is indeed monumental that this landmark KSEA history book is completed (and printed!) in accordance with the date of the 50th anniversary of KSEA, December 11, 2021.

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Chueng-Ryong Ji (Chief), Hong Thomas Hahn, Sung-Kwon Kang, Quiesup Kim, Ki Dong Lee, Myung Jong Lee, Eun-Suk Seo, K.Stephen Suh, Moon Won Suh, Nak-Ho Sung, and Jaehoon Yu

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49th Soolyeon Cho
조 술 연

50th Byungkyu Brian Park
박 병 규

Acknowledgement

Fellow KSEA members, Chapters/Branches, Affiliated Professional Societies and Councilors, we greatly appreciate your continued support and encouragement. The unique stories, memories, photos, and articles are a powerful reminder of what makes KSEA such a truly extraordinary volunteer-powered organization. The completion of this book could not have been accomplished without everyone's passion and dedication.

KSEA greatly acknowledges all the organizations that provided financial support, encouragement, and sponsorship over the last fifty years. We reflect the strength of these integral partnerships. KSEA will continue to champion our partners and we look forward to our bright futures together. Onward and upward in the spirit of meaningful contribution to global progress.

감사의 글

재미한인과학기술자협회 (KSEA)의 회원 여러분, 지부 (chapter)와 분회 (branch), APS (Affiliated Professional Society), 그리고 평의원님들께 책을 마치며 감사의 말씀을 드립니다. **KSEA 50 Years**는 KSEA의 지난 반세기의 발자취를 사진 기록과 함께 담고 있습니다. 첫 장부터 차근차근 페이지를 넘기다보면 어떻게 KSEA가 50년이라는 시간 동안 회원들의 자발적인 참여로 성장해왔는지 이해하실 수 있을 것이라 기대해봅니다. 여러분들의 지속적인 관심과 격려가 없었다면 이 역사책은 빛을 보지 못하였을 것입니다.

지난 50년 동안 KSEA를 위해 재정적인 지원을 해주신 여러 기관과 기업에도 깊은 감사의 뜻을 표합니다. 함께 해주신 지난 시간들에 덧붙여 앞으로도 여러분들과의 뜻깊은 협력관계를 더욱 발전시켜 나아갈 수 있기를 기대합니다. 함께 인류의 발전에 기여할 수 있기를 바라며 감사의 글을 마칩니다. 고맙습니다.

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