



**25th Northeast Regional Conference
(NRC 2016)**

Moving Forward another Quarter Century, TOGETHER

April 30, 2016

Crowne Plaza Englewood

401 S Van Brunt St, Englewood, NJ 07631

Hosted by

**Korean–American Scientists and Engineers Association
New Jersey, New York Metropolitan and Philadelphia Chapters**

Partnered with

Korean American Society in Biotech and Pharmaceuticals (KASBP)

Korean-American IT Engineers and Entrepreneurs (KITEE)

Korean-American Women in Science and Engineering (KWise)

New York Korean Biologists (NYKB)

Philadelphia Korean Scholars Association (PKSA)

Congratulatory Message from the KSEA President



Honorable Guests, Ladies, and Gentlemen: Welcome to New Jersey! It is wonderful that so many fellow KSEA members, friends, and guests from the Northeastern states can come and participate in the KSEA's Northeast Regional Conference. The NRC has provided an exceptional opportunity for researchers and practitioners in a number of exciting fields to gather and share their knowledge and experience. Although I am unable to attend the Conference due to personal conflicts, I am sure that this year's event will continue the tradition of strong technical content and networking opportunities that the NRC has always provided for its attendees.

This Conference is the first time that KSEA's local chapters in the Northeastern states can join with Affiliated Professional Societies, such as the NYKB, KASBP, KWise, KITEE, and PKSA, under the theme, "Moving Forward Another Quarter Century, TOGETHER". This type of collaboration is a great example of how two main axes of KSEA, i.e., the local chapters and Affiliated Professional Societies, can work together to create networking opportunities both socially and technically. I wholeheartedly applaud this effort!

Serving and leading the KSEA as President allows me to return some of the benefits I have gained from this dynamic organization, but at the same time this opportunity poses many challenges. I am pleased to report to you the following important initiatives that have been accomplished by the 44th Administration:

- Proper representation of local chapter presidents in the Council by developing and including the concept of 'Region' in the KSEA structure
- Registration of local chapters as non-profit organizations
- Integration of the Technical Groups and Affiliated Professional Societies
- Revamping the KSEA information technology system and the encryption of members' passwords
- Improving the membership application and renewal processes
- Improving the security of the election system

Each of these tasks is important for the healthy and prosperous future of the KSEA. You have experienced some of these changes already, and I ask for your willingness to continue your active support of KSEA as we move forward with progressive changes to improve our organization even more in the future.

Congratulations to the Conference Co-Chairs, Drs. Youngsun Kim, Sae Woong Park, and Moses Noh, the Conference organizers, advisors, presenters, volunteers, and generous sponsors for making this Conference another successful event!

Youngsoo Richard Kim

President, KSEA

Welcome to 25th Northeast Regional Conference (NRC)

Korean-American Scientists and Engineers Association (KSEA) NJ, NY-Metro and Philadelphia will hold the 25th KSEA Northeast Regional Conference (2016 NRC) at Crowne Plaza Englewood, NJ, on April 30, 2016. For the first time, the 25th NRC is collaborated with professional organizations including KASBP, KITEE, KWiSE, NYKB, and PKSA. The objective of this conference is to provide a forum in which scientists and engineers in major areas present their research findings and share ideas. We are hoping that the 25th KSEA Northeast Regional Conference (2016 NRC) will also contribute greatly to the advancement of research and development in both USA and Korea. In addition, we believe it will provide an opportunity for members and experts in other technical fields to establish professional networks, as well as to explore career opportunities.

The 25th KSEA Northeast Regional Conference would like to extend an invitation to you to this wonderful forum. We are looking forward to seeing you all at the 25th KSEA Northeast Regional Conference.

Youngsun Kim, Ph.D.

KSEA-NJ

Conference Co-chair

Sae Woong Park, Ph.D.

KSEA-NY Metropolitan

Conference Co-chair

Moses Noh, Ph.D.

KSEA-Philadelphia

Conference Co-chair

NRC Organizing Committee

Conference Co-Chairs	Youngsun Kim (KSEA-NJ)	VaxInnate, yskrutgers@gmail.com
	Sae Woong Park (KSEA-NY)	Cornell Medical College, sap2015@med.cornell.edu
	Moses Noh (KSEA-Philadelphia)	Drexel University, mosesnoh@coe.drexel.edu
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	Sung Soo Kim	HRCap, andrew@hrcap.com

Program at a Glance

AM/ PM	Time	April 30, 2016 (Saturday)					
		IT	BT	YG	Engineering	Entrepreneur ship	KWiSE
AM	9:30- 10:20	Registration and Networking (Lobby)					
	10:20- 11:50	Rm A AM Session	Rm B AM Session	Rm C AM Session	Rm D AM Session	Rm E AM Session	Join other session
	11:50- 12:00	Group Photo					
PM	12:00- 1:30	Networking Lunch					
	1:30- 3:00	Plenary session NRC Ceremony and Keynote speech					
	3:00- 3:20	Coffee Break					
	3:20- 4:50	Rm A PM Session	Rm B PM Session	Rm C PM Session	RmD PM Session	Rm F PM Session	Rm E PM Session
	4:50- 5:00	Closing (at each session)					
	5:20- 8:00	Networking Dinner (Poong Lim)					
	8:00- 10:00	Have a safe trip home and see you next year					

Program

Registration & Networking

1st Floor Lobby

9:20 AM - 10:20 AM

Coordinators: *Jaewon Kang, Vencore Labs*
Ju-hyun Lee, Nathan S. Kline Institute for Psychiatric Research
Jun Hyuk Heo, Merck
Sahee Kim, RevHealth, LLC
Haeun Lee, Columbia University
Dahea You, Rutgers University

Technical Session I

Rooms A-E

10:20 AM – 11:50 AM

Group Photo Time

Ballroom

11:50 AM – 12:00 PM

Networking Lunch

Ballroom

12:00 PM – 1:30 PM

Plenary Session

Ballroom

1:30 PM – 3:00 PM

Coffee Break

1st Floor Lobby

3:00 PM – 3:20 PM

Technical Session II

Rooms A-E

3:20 PM – 5:00 PM

Networking Dinner

5:20 PM – 8:00 PM

Poong Lim Restaurants

2053 Lemoine Ave, Fort Lee, NJ 07024

PLENARY SESSION

1:30 PM – 3:00 PM

Moderator: Youngsun Kim, KSEA-NJ Chapter President

1:30 PM – 1:35 PM

Opening and Welcome Remarks:

Sae Woong Park, KSEA-NY Metropolitan President &

Moses Noh, KSEA-Philadelphia President

Reflection of 25 years of NRC

Ballroom

1:35 PM – 1:50 PM

Kang Wook Lee (37th KSEA President), IBM

Professional Organization Presentation

Ballroom

1:50 PM – 2:15 PM

- Korean-American IT Engineers and Entrepreneurs (KITEE)
- Korean-American Women in Science and Engineering (KWISE)
- Philadelphia Korean Scholars Association (PKSA)
- Korean American Society in Biotech and Pharmaceuticals (KASBP)
- New York Korean Biologists (NYKB)

Keynote Speech

Ballroom

2:15 PM -3:00 PM

“Dream for Nobel Prize in Science and the Korean”

Chin Ok Lee (18th KSEA President), The Rockefeller University

TECHNICAL SESSION

INFORMATION TECHNOLOGIES FORUM

Opening Remarks

Room A

10:20 AM – 10:30 AM

Ohbong Kwon, CUNY/New York City College of Technology

Information Technology I

Room A

10:30 AM - 11:50 AM

Chair: Ohbong Kwon, CUNY/New York City College of Technology

“SK at a Glance”

Hanul Park, SK

“AI/ML and new approach: Topology”

Minkyu Kim, ASML

“Impact of Advisement on the Success Rate of Developmental Students”

Jinsoo Park, Essex County College

“Visualizing Phylogenetic Trees”

Sung-Hyuk Cha, Pace University

Information Technology II

Room A

3:20 PM - 4:50 PM

Chair: John Lee, Vencore Labs

“Joint Interference and User Association Optimization in heterogeneous Networks”

Changkyu Kim, New York University

“Implied Volatility Trend Predictions Using Gaussian Process Models”

Kooksang Moon, JP Morgan Chase

“Why Lee Sedol Lost to AlphaGo?”

Sung-Kwon Kang (35th KSEA President), IBM

Closing Remarks**Room A**

4:50 PM – 5:00 PM

*Jaewon Kang, Vencore Labs***BIO & PHARMA SCIENCE FORUM****Opening Remarks****Room B**

10:20 AM – 10:30 AM

*Eunsung Junn, Rutgers-Robert Wood Johnson Medical School***Bio & Pharma Science Forum I****Room B**

10:30 AM - 11:50 AM

*Chair: Eunsung Junn, Rutgers-Robert Wood Johnson Medical School***“Exploring intracellular structures and functions at nanometric scale with light”***Sanghyuk Lee, Rutgers University, Piscataway***"Light Pollution and Cancer"***Mingzhu Fang, Rutgers University, Piscataway***“Dynamic silencing of *Drosophila* vision during rapid gaze changes”***Anmo J. Kim, The Rockefeller University***Bio & Pharma Science Forum II****Room B**

3:20 PM - 4:50 PM

*Chair: Yune-Sang Lee, University of Pennsylvania***“Using single cell transcriptomic data to study the heterogeneity in human female embryonic stem cells”***Kyoung Jae Won, University of Pennsylvania***“The rate of transphyetic regulatory interactions”***Jongmin Nam, Rutgers University, Camden*

“Binding Dynamics of Streptococcal-glucosyltransferase B to *Candida albicans* Using Single-molecule Force Spectroscopy”

Geelsu Hwang, University of Pennsylvania

Closing Remarks

Room B

4:50 PM – 5:00 PM

Hyun Jae Pi, CSHL

YOUNG GENERATION (YG) FORUM

Session Theme: Stepping Up as Leaders

YG Session Organizing Committee Chair:

Jason Ki

YG Session Organizing Committee Members:

Sahee Kim, Seo Young Lee, and Dahea Diana You

YG Session Staff:

Joanne Haeun Lee, Jiyeon Joy Park, and Sun Ho Ro

Opening Remarks

Room C

10: 20 AM – 10:25 AM

Jason Ki, PhD Candidate, the City College of New York

YG Session I

Room C

10:25 AM - 11:05 AM

Panel Discussion on Leadership

Moderator: Dahea Diana You, PharmD, PhD Candidate, Rutgers University

Panelists:

Katherine Cho, Colin Powell School for Civic and Global Leadership, CCNY

Christopher Choi, Ashland

Stella Jeon, Life Sciences Solutions at Thermo Fisher Scientific

Panelists (continued):

Bong Jun Ko, PhD, IBM

Stephen Suh, PhD, Hackensack University Medical Center

Young Yim, Phreesia

11:05 AM - 11:35 AM

YG Spotlight Talks

Michael Dohyun Kim, StrongArm Technologies

Michael Lee, PhD, NJIT

11:35 AM – 11:50 PM

Northeast YG Chapters Spotlight

Moderator: Dahea Diana You, PharmD, PhD Candidate, Rutgers University

YG Chapters:

CCNY, Columbia University, Cooper Union, Rutgers University, Stony Brook University

YG session II

Room C

03:20 PM – 3:40 PM

Networking/Interactive Session

Moderator: Seo Young Lee, PharmD Candidate, Rutgers University

03:40 PM – 4:30 PM

Leadership Workshop

Sahee Kim, PharmD, RevHealth

04:30 PM – 4:50 PM

Keynote Speech: “You in Twenty Years”

John Lee, PhD, KPMG

Closing Remarks

Room C

Dahea Diana You, PharmD, Ph.D. Candidate, Rutgers University

ENGINEERING FORUM

Opening Remarks

Room D

10: 20 AM – 10:30 AM

Eon Soo Lee, NJIT

Engineering I

Room D

10:30 AM - 11:50 AM

Chair: Eon Soo Lee, NJIT

“Samsung Today”

Sung Wook Yoon, Director, Samsung Electronics

“Overview of Device Nanostructuring for Efficient Polymer and Hybrid Solar Cells”

Chang-Yong Nam, Brookhaven National Lab - Center for Functional Nanomaterials.

“Low-cost Urban Traffic Congestion Monitoring System for Smart City “

Joyoung Lee, Dept. Civil and Environmental Engineering, New Jersey Institute of Technology (NJIT)

“Efficient Solar Water Splitting Via Tunable Photoanode-Photocathode-Catalyst Interface Devices”

Shinjae Hwang, Dept. Chemistry and Chemical Biology, Rutgers University

Engineering II

Room D

3:20 PM - 5:00 PM

Chair: Moses Noh, Drexel University

“Electrocatalytic upgrading of furfural for generation of renewable biofuels and chemicals”

Sungyup Jung, Dept. Chemical Engineering, The City College of New York at CUNY

“Fatigue Risk and Reliability Assessment for Highway Sign Structure”

Hyungjoo Choi, Dept. Civil/Structural Engineering, Rutgers, the State University of New Jersey.

“Drug delivery to triple negative breast cancer cells”

Bumjun Kim, Dept. Biomedical Engineering, CCNY

“Synthetic Cell Penetrating Peptides for Drug Delivery and Stem Cell Applications”

Won H Suh, Dept. Bioengineering, Temple University

“Inkjet printing for biomedical applications: flexible microelectrodes”

Yoontae Kim, Drexel University

Closing Remarks

Room D

5:00 PM - 5:10 PM

Moses Noh, Drexel University

ENTREPRENEURSHIP FORUM

Session I Theme: Opportunities under the New International Economy

10:20 AM – 11:50 AM

Chair: Kyeong Ho Yang, Dialogic

Opening Remarks

Room E

10:20 AM – 10:25 AM

Myung Jong Lee, CUNY City College and Graduate Center

Presentation

Room E

10:25 AM – 10:40 AM

“Rite of Passage: Transition from Academia to Entrepreneurship”

JunHwan Chang, J.D., L.L.M., M.C.J. (Managing Attorney at Chang, Cho & Associates)

10:40 AM – 11:15 AM

“Maximizing Opportunities in the New International Economy – Immigration Law (NIW), IP (Trademark, Copyright, Patent & Licensing), FDA Compliance”

Tiffany Yoonsuk Cho, J.D., M.S. (Attorney at Chang, Cho & Associates)

Panel Discussion

Room E

11:15 AM – 11:50 AM

Opportunities for Startups in the New International Economy Environment

Panelist 1: JunHwan Chang, J.D., L.L.M., M.C.J.

Panelist 2: Tiffany Yoonsuk Cho, J.D., M.S.

Panelist 3: Sunguook Wee, Cofounder of SoBeNe

Panelist 4: K. Stephen Suh, Ph.D., Chair of CCIT Advisory Board, New Jersey EDA

ENTREPRENEURSHIP FORUM 2

1 on 1 Professional Consulting

Open to NRC Attendees

Session II Theme: Legal & Business Consulting – Immigration Law, Business Law, Intellectual Property & FDA Compliance

3:20 PM – 4:50 PM

Chair: JunHwan Chang, Chang, Cho & Associates

1:1 consulting

Room F

JunHwan Chang, J.D., L.L.M., M.C.J. (Managing Attorney at Chang, Cho & Associates)

Tiffany Yoonsuk Cho, J.D., M.S. (Attorney at Chang, Cho & Associates)

KWiSE FORUM

Session Theme: Women who want it all

Chair: Yeon Bai, Montclair State University

Opening Remarks

Room E

3:20 PM - 3:30 PM

Opening Blessings

Hee-Yong Kim, NIH

Presentations

Room E

03:30 PM - 4:30 PM

“Healing the Growing Pains”

Christine Yoon, GoodCyberKids Corp

“Support for Lactating Women in the Workplace”

Yeon Bai, Montclair State University

“Art of Networking”

Alice Kim, Columbia University Center for Career Education

Participant Discussion

Room E

04:30 PM - 4:50 PM

Moderator: Minsun Shin, Montclair State University

Closing Remarks

Room E

04:50 PM - 5:00 PM

Yeon Bai, Montclair State University

Abstract and Biography

KEYNOTE SPEECH



Dream for Nobel Prize in Science and the Korean

Chin Ok Lee, Ph.D.

Rockefeller University, New York, New York

Abstract: The Nobel Prize was established by the will of the Swedish inventor Alfred Nobel in 1895. The prizes in Chemistry, Literature, Peace, Physics, and Physiology or Medicine were first awarded in 1901. The prizes are awarded for outstanding contributions for humanity in chemistry, literature, peace, physics, and physiology or medicine. The Nobel Prize is widely regarded as the most prestigious award available in the fields of literature, medicine, physics, chemistry, peace and economics. The Nobel Prize in science is the highest honor and glory for scientists. Nobel Prize represents the level of national power in intelligence and (or) economy. It may also represent civilization and the culture of the country. The processes of review and evaluation for the prize are known to be fair and reliable.

The list of Nobel Laureates in science by country is shown. The list includes the countries produced more than 10 Nobel Prize winners. The United States of America has 271 Nobel Laureates (2015) in science which is far more than other countries. Japan is the only country with 19 winners (2015) included in the list in Asia. China is not included in the list because it has only 4 Nobel Prize winners (2015). It is amazing that a small nation, Switzerland has 20 winners. Unfortunately Korea does not have a Nobel Prize winner. Korea is economically a powerful country. Many Koreans ask a question. Why does Korea not have a Nobel Prize winner in science?

The Nobel Prize Winners and their works in Chemistry 2008 are discussed. The Nobel Prize in Chemistry 2008 was awarded jointly to Osamu Shimomura, Martin Chalfie and Roger Tsien for their discovery and development of the green fluorescent protein, GFP. I know the winners, Roger Tsien and Osamu Shimomura who are Asian-origins. I met them several times at scientific meetings. Roger Tsien is a good friend of mine. Roger Tsien and I were invited to the Kroc Foundation Conference which was held at Santa Ynez, California on September 26-30, 1983. Pioneers in developing new methods were invited to the Conference.

In the early 1980's, Roger Tsien developed Na ion or Ca ion sensitive dyes, while I developed Na ion or Ca ion sensitive microelectrodes. The dyes and microelectrodes were used to measure the intracellular

(cytosolic) Na and Ca ion concentrations. Using the microelectrodes, our laboratory investigated the mechanism of digitalis action on heart muscle cells. Digitalis is the life-saving heart medicine which is used to treat heart failure. In order to elucidate the mechanism, cytosolic Na ion or Ca ion concentrations and contractile force of heart cells were simultaneously and continuously measured. Our laboratory successfully developed the method to simultaneously and continuously measure cytosolic ion concentration, contractile force and cell membrane voltage. Using the method developed, our laboratory elucidated the mechanism of digitalis action on heart muscle cells. Our results indicated that the Na-K ATPase pump played the essential role in the digitalis action on heart muscle cells.

Biography:

Education:

Ph.D. Indiana University Major : Physiology; Minor: Life Sciences

M.S. Seoul National University (Major: Physiology; Minor: Biochemistry)

B.S. Seoul National University (Major: Zoology; Minor: Chemistry)

Major Work Experiences:

2000-Present: Adjunct Professor, Rockefeller University, New York, New York

1992—2004: Chairman and Professor, Dept. Life Sciences, Pohang University of Science and Technology, Pohang, Republic of Korea

1976 – 1992: Assistant Prof., Associate Prof. and Professor, Dept. Physiology and Biophysics, Cornell University Medical College, New York, NY

Major Honors

1990: Overseas Visiting Fellow, British Heart Foundation

1986: The Pfizer Award for Outstanding Research, International heart association

1976: Established Investigator Award, American Heart Association

1974: Louis N. Katz Prize for Young Investigators, American Heart Association

NRC History

Reflection of 25 years of NRC

Kang-Wook Lee (37th KSEA President), IBM

Abstract: In the 1970s and 1980s when KSEA local chapters were inaugurated and young, their major activities included social meetings and picnics with the families and the graduate students. Then they started organizing invited talks and symposiums. Lehigh Valley, NJ and Philadelphia held the NRCs in 1988 (Nov 5th) and 1991 while NY Metro organized its own technical and career symposiums in 1989, 1990 and 1991. NY Metro was able to raise lots of funds from Korean companies while Lehigh Valley, NJ and Phila had a large number of regular members with a wide range of scientific backgrounds. In 1992 the four chapters agreed to organize a joint conference which was named “the third Northeast Regional Conference.” Its abbreviation changed from “NERC” to “NRC” in 1995. NRC1995 was the biggest in attendance and papers (91 papers were actually presented) so far. A serious YG program was first organized in 1996 in which late Ms. Shinae Chun (who was appointed as a US Labor Director in 2000) and late Prof. Kyung Sik Kang of Brown Univ (who was the 11th President of KSEA) were two of the invited speakers. KUSCO’s first ever funding for YG activities was made for NRC1997 undergraduate program in which approximately 200 undergraduate students participated from three states and late Prof. Inyong Ham of Penn State (the 3rd President of KSEA) was one of several invited speakers. From 2005 to 2014, the three organizations of NY Metro, NJ, and KASBP co-hosted the NRCs. In 2016 three chapters (NJ, NY Metro and Philadelphia) organized the 25th NRC in which a KWiSE session was included. Numerous organizers, volunteers, speakers, members, and sponsors made the 25 years of NRC possible.

Biography: Kang-Wook Lee has been a Research Staff Member at IBM Thomas J. Watson Research Center, Yorktown Heights, NY for 28 years since 1988. He received a B.S. degree from Seoul National University (1974) and a Ph.D. degree from Rutgers University (1982). He has authored approx 80 papers and 40 US patents, contributed chapters to six books, edited a book, and authored 55 IBM confidential papers. He received the Outstanding Technical Achievement Awards from IBM three times and many other IBM Awards. His current research interests include semiconductor packaging materials, healthcare sensors, and surface chemistries.

Dr. Lee was the 37th (2008-2009) President of KSEA, the 20th (1994-1995) President of NY Metro Chapter, the Chair of the 1995 NRC Steering Committee, and the Chair of the First (1994) NY Metro Math & Science Olympiad. In 1997 he wrote a hand-written proposal to KUSCO for an NRC YG program, and the subsequent funding turned out to be the first KUSCO funding ever made for YG activities. He had also organized at least five NRC sessions and had advised NRC YG program organizers three times from 1996 to 1998.

Instruction to Professional Associations

KITEE

Presenter: *Myung Jong Lee, CUNY City College and Graduate Center
President of KITEE (42nd KSEA president)*

KITEE (Korean-American IT Engineers and Entrepreneurs) was established in May 2015 to become the center of startup ecosystem for Korean-Americans in the IT, BT and its related fields in the greater NY metropolitan area. NY-NJ hub is the most favorable environment with strong growth in startups, IT and BT research and development, and business. The KITEE's business ecosystem will have features essential to any startups: human capital in IT, BT and related technologies, finance, business service, education, startup incubation and collaboration with Korea.

KITEE is meeting monthly on every third Thursday, carrying out the series of initiatives toward creating startups by offering seminars and sharing and supporting members' startup ideas. KITEE is open to anyone who is interested in the entrepreneurship. Current KITEE Members comprise IT and Bio engineers and researchers, entrepreneurs, developers, designers, investors, marketing and business development, financial and legal service experts, and students.

I welcome you to join KITEE today and look forward to meeting you at the next monthly meeting. Please send your inquiry to info@kitee.org.

Home page: www.kitee.org

Facebook: <https://www.facebook.com/kitee.org>

KWiSE

Presenter: *Yeon Bai, Montclair State University
President of KWiSE-NY/NJ Chapter*

The Korean-American Women in Science and Engineering (KWiSE)-NY/NJ chapter aims to build and nurture lifelong networking between current and future professional and entrepreneurial women in science, technology, engineering and math (STEM). The very first KWiSE was founded in San Diego, CA. in 2004. Since then seven more regional chapters were born including our KWiSE-NY/NJ chapter, primarily based in New York Metro and New Jersey area.

Our chapter appreciates women leaders of scholars and engineers in wide range of basic and applied science fields. We celebrate our chapter for our diverse achievement of members of all ages and in various life stages, and support one another for the pursuit of personal and professional excellence and happiness.

We empower our members for scientific excellence, career and lifelong networking in both formal and informal setting, mentoring career development, and serving our community. It is our ongoing effort to collaborate through sharing the uniqueness of womanhood with trans-disciplinary expertise. We

actively seek scholarly cooperation of women in academia, industry and government organizations between the United States and Korea.

Membership is widely open to any Korean-American woman in basic and applied STEM fields who is interested in networking, mentoring, philanthropy, and socializing.

To find more information and membership, please scan and visit: <http://www.kwise.org/>



PKSA

Presenter: *Yune-Sang Lee, University of Pennsylvania*
President of PKSA

The Philadelphia Korean Scholars Association (PKSA) is aimed at promoting networking among Korean scholars in the greater Philadelphia area.

PKSA holds bi-weekly meetings on Friday either at 6pm at the Smilow Translational research building (12th floor).

PKSA warmly welcomes new Korean scholars in the region regardless of research fields and affiliations.

Please sign up at Facebook: https://www.facebook.com/home.php?sk=group_169144909800932 for receiving seminars and other events.

Any inquiries or questions can be submitted to pksa.scholar@gmail.com

KASBP

Presenter: *Stephen K. Suh, Hackensack Med Center*
Vice President of KASBP

KASBP (Korean American Society in Biotech and Pharmaceuticals) is a non-profit organization founded in May 2001 and the current members include Korean-American professionals working throughout the US, mostly in Biotech or Pharmaceutical field. There are about 820 KASBP members currently registered. The member profile includes not only professionals working in 100 pharmaceutical industries (BMS, Novartis, GSK, Merck, Sanofi, J&J, Pfizer, etc.) but also 60 academics in universities as faculties, researchers, post-docs, or graduate students; government employees in FDA, NIH, or other local and federal government organizations; and employees in Korean corporation or sponsoring companies even in Korea. KASBP's activities are held mainly in or around New Jersey, the Capital State of US Pharmaceutical industry. In addition, four local chapters are established recently, in Philadelphia, Boston, Connecticut and Washington DC.

KASBP's goal is to promote networking, collaboration and information exchange among members in the life science related fields. For this matter, KASBP organizes and hosts various activities to assist networking among its members. KASBP also aims to contribute to the growth of drug discovery, development and other pharmaceutical technology in Korean and US companies. Especially, through a

collaboration and information exchange with Korean Biotech companies, pharmaceutical companies and government funded research centers, KASBP has been helping new drug discovery, technology transfer, drug development and commercialization by Korean companies in Korea and US. One important goal of KASBP is to identify and nurture young Korean researchers to grow up to become future leaders for Korean Biotech and Pharmaceutical industries.

KASBP holds two symposiums every year, one in spring and one in fall, focusing on the new issues and trends in drug discovery and development. During the symposium, KASBP also holds a panel discussion, with invited experts from all over the US working in various stages in drug discovery and development, to share updated information and their experience. Moreover, various collaborations in recent years with Korean pharmaceutical companies and research institutes promoted high level information exchange, providing assistance for drug discovery research and development in Korean companies. In addition to the above-mentioned technical activities, KASBP actively involved providing employment information for job seekers and employers. Furthermore, KASBP partners with other Korean-American Organizations hosting The National Math Competition in conjunction with KSEA/NJ chapter. KASBP also organize several family and social activities for its members, such as bowling, golf, picnic, end-of-year, or new-year parties.

NYKB

Presenter: *Hyun Jae Pi, CSHL*

President of NYKB

NYKB (Society of New York Korean Biologists) is established to construct academic and social networks between Korean biologists around New York Metro and to further support each other to pursue academic and professional excellences in their research and career. Currently, 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 are affiliated and 250 members are registered. Last year, NYKB hosted various events including NYKB annual conference, social night, IBS talent forum, etc.

For more information, please contact NYKB2008@gmail.com

Home page: <http://nykb.org/>

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TECHNICAL SESSION

INFORMATION TECHNOLOGIES FORUM

Session I

Chair: Ohbong Kwon, CUNY/New York City College of Technology

AI/ML and new approach: Topology
Minkyu Kim, ASML

Abstract: Artificial intelligence (AI) is the intelligence exhibited by machines or software. In general, intelligence refers interpreting and understanding a given problem and providing a right solution. Then a question about how to make a machine make a decision is starting point of machine learning (ML). Pioneer machine learning researcher Arthur Samuel defined machine learning as: “the field of study that gives computers the ability to learn without being explicitly programmed”. In this talk, approaches of ML, how to use, and what are the applications will be presented. In addition to these, topological data analysis, a new approach to ML, will be introduced.

Biography:

Education:

Ph.D. University of Texas at Austin
M.S. Seoul National University
B.S. Chung-Ang University

Major Work Experience:

2007-Present ASML
2006-2007 Tokyo Electron America
1997-2002 Samsung Electronics

Impact of Advisement on the Success Rate of Developmental Students”
Jinsoo Park, Essex County College

Abstract: This presentation will explore the impact of advisement on the success rate of developmental students, who are placed both Mathematics and English remedial course based on college placement test scores. This study tracks the First-Time Full-Time Degree-Seeking (FTFTDS) students who entered Essex County College in Fall 2011, until Fall 2015. The pass rates in the first college-level courses in Mathematics and English have a correlation with the advisement in the first term: (1) Take both Mathematics and English in the first term, (2) Take only Mathematics in the first term, or (3) Take only English in the first term.

Biography:

Education:

Ph.D. Polytechnic University, Brooklyn, NY
M.S. KAIST
B.S. Seoul National University

Major Work Experience:

2006-present Essex County College
2001-2004 Research Professor at Polytechnic University
1998-2000 Assistant Professor at University of Nebraska-Lincoln

Visualizing Phylogenetic Trees
Sung-Hyuk Cha, Pace University

Abstract: While phylogenetic trees are widely used in bioinformatics, one of the major problems is that different dendrograms may be constructed depending on several factors. Albeit numerous quantitative measures to compare two different phylogenetic trees have been proposed, visual comparison is often necessary. Displaying a pair of alternative phylogenetic trees together by finding a proper order of taxa in the leaf level was considered earlier to give better visual insights of how two dendrograms are similar. This approach raised a problem of branch crossing. Here, a couple of efficient methods to count the number of branch crossings in the trees for a given taxa order are presented. Using the number of branch crossings as a fitness function, genetic algorithms are used to find a taxa order such that two alternative phylogenetic trees can be shown with semiminimal number of branch crossing. A couple of methods to encode/decode a taxa order to/from a chromosome where genetic operators can be applied are also given.

Biography:

Education:

Ph.D. SUNY at Buffalo
M.S. Rutgers University
B.S. Rutgers University

Major Work Experience:

2001-Present Pace University
1996-1998 Samsung SDS

INFORMATION TECHNOLOGIES FORUM

Session II

Chair: John Lee (Vencore Labs)

Joint Interference and User Association Optimization in heterogeneous Networks

Changkyu Kim, New York University

Abstract: In cellular wireless networks, user association refers to the problem of assigning mobile users to base station cells. In this talk, we consider a general class of utility maximization problems for joint optimization of mobile user associations and bandwidth and power allocations in heterogeneous network. The formulation can incorporate a large class of network topologies, interference models, SNR-to-rate mappings and network constraints. We demonstrate significant value of the proposed methods in scenarios with variable backhaul capacity in the femtocell and mmWave links.

Biography:

Education:

Ph.D. New York University

M.S. New York University

B.S. Sungkyunkwan University

Major Work Experience:

2013-2014 Research associate in the City College of New York

Implied Volatility Trend Predictions Using Gaussian Process Models

Kooksang Moon, JP Morgan

Abstract: In this talk I introduce the Gaussian Process approach to make the predictions of implied volatility trends from sequences of option market indicators in financial time-series analysis. Problems of making predictions from high dimensional sequential data arise in many practical scenarios. However, direct predictions of this type are typically infeasible due to high dimensionality of both the input and the output data, as well as the existence of temporal dependencies. Statistical reasoning suggests that predictions made through low dimensional subspaces may improve the performance of predictive models if such subspaces are properly selected. I show that selection of such optimal predictive subspaces can be made, and is largely analogous, to the task of designing a particular family of Gaussian processes (GP).

Biography:

Education:

Ph.D. Rutgers University

M.S. SUNY at Buffalo

B.S. Yonsei University

Major Work Experience:

2014-Present JP Morgan

2008-2013 Gargoyle Strategic Investment

Why Lee Sedol Lost to AlphaGo?

Sung-Kwon Kang, (35th KSEA president), IBM

Abstract: *Not available*

Biography:

Education:

Ph.D. University of Pennsylvania

B.S. Seoul National University

Major Work Experience:

1984-present IBM Watson Research Center, Research Scientist,

1980-1984 INCO R&D Center, Senior Scientist,

1977-1980 Assistant Professor, Stevens Institute of Technology

BIO PHARM SCIENCE FORUM

Session I

Chair: Eunsung Junn (Rutgers-Robert Wood Johnson Medical School)

Exploring intracellular structures and functions at nanometric scale with light

Sanghyuk Lee, Rutgers University, Piscataway

Abstract: Although fluorescence microscopy has played a crucial role in biology for a long time, it has suffered from its low spatial resolution. Super-resolution localization microscopy circumvents this limitation by stochastically separating two photoactivatable fluorescent molecules in time axis and localizing their individual position with high accuracy. In addition to ~20nm spatial resolution, the capability of counting molecules one at a time makes the super-resolution microscopy a power tool to study stoichiometry of protein complexes inside cells. I will demonstrate how the combination of the sub-diffraction-limit spatial resolution and the accurate single-molecule counting could resolve the in vivo macromolecular structure of SpoIIIE DNA-translocase that transports a DNA into a correct daughter cell through division septum during sporulation of *Bacillus subtilis*.

Biography:

Education:

Ph.D. New York University (Major: Physics)

M.S. KAIST (Major: Physics)

B.S. KAIST (Major: Physics)

Major Work Experiences:

2015-Present Assistant Professor, Rutgers University, Piscataway, NJ

2012-2014 Research Specialist, Howard Hughes Medical Institute, Berkeley, CA

2007-2012 Postdoctoral Fellow, University of California, Berkeley, CA (Advisor: Carlos Bustamante)

Light Pollution and Cancer

Mingzhu Fang, Rutgers University, Piscataway

Abstract: Accumulating evidence suggests that disruption of circadian rhythm by shift work or jet-lag increases the risk of breast, prostate, and colon cancers, prompting the International Agency for Research on Cancer to classify shift-work as a probable human carcinogen. About 10% of genes, including many genes involved in cell-cycle progression and DNA damage response and repair (DDRR) are under circadian control, and as a result show significant oscillation in expression across the day. Host factors (e.g., genetic variation and oxidative stress) and environmental stressors (e.g., light at night, diet, and environmental toxicants) that disrupt circadian gene expression are associated with increased risk of environmental diseases (e.g., breast cancer). However, the mechanisms by which these risk factors disrupt circadian control and increase susceptibility to breast cancer are largely unknown. We found that exposure to a single carcinogenic dose of mammary specific carcinogen *N*-methyl-*N*-nitrosourea (NMU) significantly disrupted circadian expression of major circadian genes (CGs), including Period 2 (Per2), and circadian controlled genes (CCGs), including DDRR genes in mammary gland of rats; in contrast, dietary chemopreventive agent, methylselenocysteine (MSC), reset and enhanced circadian gene expression disrupted by the carcinogen at the early stage of tumorigenesis, leading to significant reduction of tumor incidence. We further demonstrated that the disruption or restoration of circadian rhythm by NMU or MSC was mediated by epigenetic regulation of Per2 expression through altering NAD⁺-dependent SIRT1 activity, connecting cellular redox cycling to circadian regulation during carcinogenesis and chemoprevention. In addition, we also observed that differential rhythmic expression of CGs and circadian response to genotoxic stress are associated with differential susceptibility to mammary carcinogenesis in susceptible and resistant rat strains. Disruption of circadian rhythm by jet-lag significantly disrupted the rhythmic expression of Per2 and DDRR, promoting and accelerating mammary tumorigenesis and metastasis in rodents. These results suggest that circadian rhythm plays critical role in mammary carcinogenesis and serve as molecular target of breast cancer prevention.

Biography:

Education:

Ph.D. Rutgers University (Field: Cancer Research)

M.S. Norman Bethune University of Medical Science (Field: Cancer Research: Anatomic Pathology and toxicology)

B.S. Norman Bethune University of Medical Science (Field: Clinical Medicine)

Major Work Experiences:

2015- Assistant Professor, Department of Environmental Occupational Health, School of Public Health, RBHS, Rutgers University, Piscataway, NJ.

2013- President, MZF Toxicology Services LLC

2009-15 Assistant Professor, Department of Environmental & Occupational Medicine, RWJMS, Rutgers Biomedical and Health Sciences (RBHS), Rutgers University, Piscataway, NJ.

2009- Member, Environmental and Occupational Health Sciences Institute (EOHSI), Piscataway, NJ

2009- Associate Member, Cancer Institute of New Jersey (CINJ), New Brunswick, NJ.

Dynamic silencing of *Drosophila* vision during rapid gaze changes

Anmo J. Kim, The Rockefeller University

Abstract: Each time we execute a rapid eye movement, or a locomoting fly intentionally turns, the visual image sweeps briskly over the retina and generates a motion stimulus. An influential study by von Holst and Mittelstadt in 1950 proposed the efference copy hypothesis, in which flies use active neural-circuit mechanisms to suppress the perception of self-generated visual motion during intended turns. Direct electrophysiological evidence, however, has been lacking. We performed electrophysiological recordings on two classes of visual neurons in *Drosophila* that have distinct visual properties and found that they receive motor-related inputs during rapid flight turns. These inputs arrived with sign and latency appropriate for suppressing each targeted cell's visual response to the turn. Precise measurements of behavioral and neuronal response latencies supported the idea that motor-related inputs to wide field-selective cells represent internal predictions of the expected visual drive induced by voluntary turns. Motor-related inputs to small object-selective visual neurons could reflect either proprioceptive feedback from the turn or internally generated signals. Our results in *Drosophila* echo the suppression of visual perception during rapid eye movements in primates, demonstrating common functional principles of sensorimotor processing across phyla.

Biography:

Education:

Ph.D. Dept. Electrical Engineering, Columbia University

M.S. Dept. Electrical Engineering, Seoul National University

B.S. Dept. Electronic Engineering, Sung-Kyun-Kwan University

Current Position

Postdoctoral associate, Laboratory of Integrative Brain Function (Head of Lab: Dr. Gaby Maimon), The Rockefeller University

BIO PHARM SCIENCE FORUM

Session II

Chair: *Yune-Sang Lee University of Pennsylvania*

Using single cell transcriptomic data to study the heterogeneity in human female embryonic stem cells

Kyoung Jae Won, University of Pennsylvania

Abstract: X-chromosome inactivation (XCI) is a mechanism to equalize the expression of X-linked genes between genders. Despite this chromosome-wide silencing, a number of genes escape XCI. Escape genes have been identified and tested using various human embryonic stem cell (hESC) lines. However, hESCs are heterogeneous in XIST expression and X linked gene silencing. A group of hESCs has an inactive X silenced by *XIST* RNA (Class II). Another group of hESCs has an inactive X but without *XIST* expression where a number of genes become reactivated by the lost of *XIST* expression (Class III). Using population of cells cannot distinguish the escape genes from the reactivated genes.

To isolate hESCs for each class, we used single cell RNAseq (scRNAseq). In the single cell level, we identified X-linked genes negatively correlated with the XIST expression. More importantly, we distinguished the reactivated genes from the escape genes by investigating polymorphic alleles in association with *XIST* expression. Among the reactivated genes are *FIRRE* and *ALG13*. *FIRRE* has been known to escape XCI. We found *FIRRE* showed mono-allelic expression in the Class II and biallelic expression in the Class III cells. Fluorescent in situ hybridization targeting ribonucleic acid molecules (RNA-FISH) confirmed that majority of cells expresses *FIRRE* mono-allelically. Our results suggest that the study for escape genes needs to consider the status of XIST to distinguish the reactivated genes.

Biography:

Education:

Ph.D. University of Southampton, Southampton, UK (Major: Electronics and Computer Science)

M.S. Chung-Ang University (Major: Electronics (Artificial Intelligence))

B.S. Chung-Ang University (Major: Electronics)

Major Work Experiences:

2011 – Present Research Assistant Professor, University of Pennsylvania

2007 – 2010 Postdoctoral Fellow, University of California, San Diego

2006 Postdoctoral Fellow, University of Copenhagen, Denmark

The rate of transphyletic regulatory interactions

Jongmin Nam, Rutgers University, Camden

Abstract: Cis-regulatory elements (CREs) causally mediate gene expression responses to developmental, physiological, environmental, and pharmacological cues. CREs are responsible for of gene expression variations in human populations. Therefore, a large number of functionally characterized CREs that mediate specific cues (e.g., hormonal, pharmacological cues) will play a critical role in understanding and predicting personalized responses to various cues. However, functional identification and characterization of a large number of CREs are extremely challenging in any system. In my talk, I will present our new technologies for high-throughput CRE analysis and present trans-phyletic evidences that suggest sea urchin embryos can be as a powerful model system to analyze a large number of human candidate CREs.

Biography:

Education:

Ph.D. The Pennsylvania State University (Penn State) (Major: Molecular Evolutionary Genomics)

M.S. Pohang University of Science and Technology (POSTECH) (Major: Plant Molecular Biology)

B.S. Hanyang University (Major: Biology)

Major work experiences

2012 – Present Assistant Professor, Rutgers University

2005 – 2012 Post-doctor in Developmental Gene Regulatory Network Biology, Caltech

Binding Dynamics of Streptococcal-glucosyltransferase B to *Candida albicans*
Using Single-molecule Force Spectroscopy
Geelsu Hwang, University of Pennsylvania

Abstract

Rationale: Early childhood caries (ECC) is a hypervirulent form of dental caries that is painful, difficult and costly to treat. *Candida albicans* cells are often detected together with *Streptococcus mutans* in plaque-biofilms from children affected with ECC. The co-adhesion between these two organisms is largely mediated by the *S. mutans*-derived exoenzyme glucosyltransferase B (GtfB); GtfB readily binds to *C. albicans* cells in an active form, producing glucans locally that provide enhanced binding sites for *S. mutans*. However, the knowledge about the mechanisms by which the bacterial exoenzyme binds to, and functions on, the fungal surface to promote this unique cross kingdom interaction is limited.

Materials and Methods: We investigated the strength and binding dynamics modulating GtfB-*C. albicans* adhesive interactions by using a Single-molecule Force Spectroscopy-Atomic Force Microscopy (SMFS-AFM). The adhesion force (which indicates binding strength), dissociation rate (i.e. binding stability) and force map distribution (i.e. force localization) were measured between GtfB and microbial cell surfaces using AFM tips functionalized with GtfB.

Results: Our data reveal that the enzyme binds with remarkable strength to the *C. albicans* cell surface (~2 nN) and shows a low dissociation rate suggesting a highly stable bond. Strikingly, the binding strength of GtfB to *C. albicans* surface was ~2.5-fold higher, and the binding stability ~20 time higher compare to the enzyme adhesion to *S. mutans*. Furthermore, adhesion force maps show an intriguing pattern of GtfB binding; GtfB adhered heterogeneously on the surface of *C. albicans* showing higher frequency of adhesion failure, but large sections of remarkably strong binding forces, suggesting presence of GtfB binding domains that are distributed unevenly on the fungal surface. Furthermore, we observed that GtfB when bound to *C. albicans* is highly active and produces more glucans (with distinct structure) than GtfB bound to *S. mutans* surfaces.

Conclusions: The data provide new details about the biophysical properties of GtfB-microbe interactions, and insights about the mechanisms by which GtfB binds to *C. albicans* surfaces. The fascinating observation of a strong and highly stable GtfB binding to *C. albicans* could explain, at least in part, why this bacterially-derived exoenzyme effectively modulates this unique cross-kingdom interaction.

Clinical Significance: Understanding how this GtfB-mediated relationship between a fungus and a bacterial oral pathogen on tooth surfaces enhances the virulence of plaque-biofilms may provide new perspectives for devising efficacious therapies to prevent and control the onset of this costly and difficult to treat oral disease.

Biography:

Education:

Ph.D. Yonsei University (Major: Chemical and Biomolecular Engineering)

B.S Yonsei University (Major: Chemical Engineering)

Major Work Experiences:

2015-Present Research Associate, University of Pennsylvania, Philadelphia, PA

2013-15 Post-doc, Orthodontics, School of Dental Medicine, University of Pennsylvania, PA

2012-13 Post-doc, Center for Oral Biology, University of Rochester, Rochester, NY

YOUNG GENERATION (YG) FORUM

Session Theme: Stepping Up as Leaders

Inspiring and effective leaders have enormous impact in their community, including workplace and school. A highly effective organization has strong work culture and powerful organizational dynamic as a result of having quality leaders. In this year's YG Session, we will focus our discussion on various aspects of being a successful leader with distinguished speakers and fun interactive activities.

Session I: Panel Discussion on Leadership

Panelists:

Katherine Cho, *Colin Powell School for Civic and Global Leadership, CCNY*

Christopher Choi, PhD, *Ashland*

Stella Jeon, *Life Sciences Solutions at Thermo Fisher Scientific*

Bong Jun Ko, PhD, *IBM*

K. Stephen Suh, PhD, *Hackensack University Medical Center*

Young Yim, *Phreesia*

Biographies:

Katherine Cho is a program manager for the Colin Powell School for Civic and Global Leadership at the City College of New York, where she manages two undergraduate fellowship programs, teaches on civic engagement, and chairs a professional development conference series for post-college pathways. Concurrently, Katherine has been a part-time graduate student at Teachers College, Columbia University and will be graduating this May with a M.A. in Sociology and Education. She received a B.A. in Public Policy from Duke University. In the fall, Katherine will pursue a PhD in Higher Education and Organizational Change at UCLA to research equity issues within college access and success.

Christopher (Chris) Choi received his BS in Psychology and Neuroscience, and his PhD in Neuroscience and Toxicology from Iowa State University. He was a Visiting Scientist at the National Animal Disease Center, Agricultural Research Services, USDA in Iowa from 2006–2007, a Senior Toxicologist at Alcon Research Ltd from 2007–2009, a Senior Research Scientist at Colgate-Palmolive Co. from 2010-2014, Drug Safety Toxicologist with Gilead Sciences from 2014-2015, and as a Sr Toxicologist with Ashland since 2015. Chris has also worked as a preclinical consultant with GSG-US since 2014. Chris became a Diplomate of the American Board of Toxicology in 2011 and Registered as a Toxicologist with the UKRT and ERT.

Chris is a member of Society of Toxicology, Society for Neuroscience, American College of Toxicology, Korean American Scientists and Engineers Association (served as HQ Communications Director and YG Director for Northeast Region), Korean American Society in Biotech and Pharmaceuticals, and Safety Pharmacology Society.

Chris has participated in YGF in 2007, YGTLC in 2009, 2011, 2012, and 2016, and YGPF 2012 and 2014. He has served as the chair of the NRC-YG symposium on 2011, 2012 and 2013, served as the Chair of the UKC-YGP in 2013, and as organizing committee for UKC 2013.

Stella Chun graduated with Master of Science in Medical Genetics in 2012 from University of British Columbia. Her research was on CDK12's involvement in alternative splicing. Stella left academia and joined the industry, and now currently works as an account manager for Thermo Fisher Scientific. Stella started her involvement with KSEA via YGTLC in 2009. After being a participant for 2 years, she joined the organizer team for YGTLC and for UKC-YGPF, and continues to play a crucial role in YG development.

Bongjun Ko is a Research Staff Member and Research Manager at IBM T. J. Watson Research Center. In IBM Research, he is currently leading the research effort to develop technologies that enable data analytics and machine learning for Internet-of-Things (IoT). He has also worked on research projects related to distributed network management, micro cloud, and network analytics. Prior to joining IBM Research, he worked as a Senior Member of Research Staff in Philips Research North America, working on cognitive wireless networking, and as a research engineer in LG Electronics, working on 3G wireless technologies. In 1999, he co-founded NeoMTel, Inc., a start-up company specialized in mobile software technologies and services (in pre-smartphone era), in which he developed a light-weight codec for moving images that was shipped in over 100 million phones world-wide. He received a Ph.D. degree in Electrical Engineering from Columbia University in 2006, and B.S. and M.S. degrees from Seoul National University in South Korea. He received the Best Paper Awards in IEEE ICNP 2003 and IEEE/IFIP IM 2013 conferences, and multiple corporate awards in IBM such as IBM Master Inventor (2013) and Outstanding Technical Achievement Award (2015). He served as the president of KOCSEA (Korean Computer Scientists and Engineers Association of America), and as the chapter president of KSEA (Korean-American Scientists and Engineers Association) NY-Metro Chapter, both in 2013.

K. Stephen Suh, PhD, is a scientific director of the Tissue Bank, and manages The Cancer Center's Tissue Repository and the Genomics and Biomarkers Program for multiple human cancer types. Dr. Suh's laboratory focuses on personalized medicine topics, including population screening diagnostics, biomarkers-driven patient selection and precision drugs for optimal clinical outcome and reducing healthcare costs. Dr. Suh has been conducting research in molecular and cell biology, animal modeling/translational science, biobanking and clinical science for over 25 years.

Young Yim is a strategy and analytics manager at Phreesia, a healthcare startup that revolutionizes point of service for medical groups of all sizes. Young manages strategic initiatives to grow its pharmaceutical business. Prior to joining Phreesia, Young spent over 5 years as a life science consultant at Navigant and Blue Print Research Group where he helped launch and market products in various disease categories. Young hails from Las Vegas, NV and has a degree in bioengineering from the University of Pennsylvania. Outside of work, Young enjoys volunteering, running, and traveling the world. He recently backpacked Europe and just came back from an impromptu trip to Japan! He is also a twin, enjoys puns, and loves his home state of Nevada.

Session I: YG Spotlight Talk 1

“Becoming a leader, stories from a growing startup”

Michael Dohyun Kim, StrongArm Technologies

Abstract: Leadership has become a hot topic everywhere we go and has become almost a requirement for jobs. Are you a leader? Do you have what it takes? How do you know what it takes? With this presentation, you will hear anecdotal stories of leadership at a growing startup company of what forms of leadership work and what doesn't that can be applied to your school work, different industries and in your day to day.

Biography: Michael is an engineer turned entrepreneur, currently serving as the CTO and co-founder at StrongArm Technologies, a startup creating technologies to help manual laborers achieve greater safety and performance. At StrongArm he oversees all product development, engineering, manufacturing and deployment -- while aligning business strategy and financial objectives. He is an alumnus of The City College of New York where he studied mechanical engineering. Before joining StrongArm, he has designed and manufactured off road and fuel efficient vehicles to high end luxury lavatory fixtures and systems.

Session I: YG Spotlight Talk 2

Teaching and Engaging with Debugging Puzzles

Michael Lee, PhD, NJIT

Abstract: How can we teach the world to code? Knowing how to code is an increasingly important 21st century skill, but many people still have negative views and preconceived notions of computer science being something that is too difficult for themselves to learn. In my research, I seek to understand how to teach a wide audience coding through a discretionary online puzzle game. Being a discretionary educational game, it is important to make sure the game is engaging (so players continue to return and play through the game) and that it leads to learning. In this talk, I will describe several studies aimed at understanding different game features that affect people's engagement playing through the game, how players interact and create with the system, who is playing the game, and whether playing through the game leads to measurable learning effects.

Biography: Michael J. Lee is an Assistant Professor in the Information Systems Department at the New Jersey Institute of Technology (NJIT). He recently received his Ph.D. at the University of Washington in Information Science, specializing in the areas of Computing Education Research (CER) and Human-Computer Interaction (HCI). He received his M.S. in Information Management and Systems from UC Berkeley, and his B.S. in Cognitive Science and HCI at UC San Diego. In his research, Dr. Lee focuses on ways to engage and instruct people in programming and to measure their progress. He created an online game designed to teach people of all ages how to program by solving debugging puzzles (helpgidget.org). He also developed a tool for children in which a programmable robotic dinosaur acts out their stories. Two of his publications related to these projects have received best paper awards at peer-reviewed venues sponsored by the Association for Computing Machinery (ACM). Dr. Lee was also the recipient of a National Science Foundation (NSF) grant to work with international collaborators to examine the effectiveness of Gidget in different cultures, and to explore how software developers choose projects to work on in a large, open online software repository.

Session I: Northeast YG Chapters Spotlight

Dahea Diana You, PharmD, PhD Candidate, Rutgers University

This presentation highlights active YG Chapters in the Northeast Region.

Session II: Networking/Interactive Session

Seo Young Lee, PharmD Candidate of 2017, Rutgers University

One of the most important reasons to attend a conference is to network. We hope to provide you with an opportunity to break the ice and get to know your fellow KSEA YG members.

Session II: Leadership Workshop

Sahee Kim, PharmD, RevHealth, LLC

What does it take to be an effective leader? During this workshop, we will identify qualities and attributes of successful leaders and discuss how to develop leadership skills.

Session II: Keynote Speech for YG session

You in Twenty Years

John Lee, PhD, KPMG

Abstract: "You in twenty years". Think about what that means - does that excite you, or worry you? Is this an opportunity? What does your feelings mean, and why do they indicate whether you will be successful, and why is it important for you to understand them.

Biography: John is a Director at KPMG's Data & Analytics Center of Excellence. He works Data Science and Consulting, in a variety of industries from government, and automobiles to financial industries. He has worked on cognitive automation for document review and classification, marketing analytics, staffing models, and scheduling problems.

John has been a part of KSEA since 2006, when he attended the Young Generation Forum in Korea. Since then, he has been helping KSEA develop YG programs and leaders through a variety of local and national initiatives. He is very happy to see the growth of community and leadership from within the KSEA YG. He is currently serving as the YG Committee Chair.

ENGINEERING FORUM

Session I

Chair: Eon Soo Lee, NJIT

Overview of Device Nanostructuring for Efficient Polymer and Hybrid Solar Cells
Chang-Yong Nam, Brookhaven National Lab, Center for Functional Nanomaterials.

Abstract: The third-generation photovoltaic (PV) technologies based on new material systems, such as organic semiconductors, quantum dots, and, most recently, hybrid perovskites, has garnered extensive research interests recently. The steady progress of the field achieved PV power conversion efficiencies now surpassing 10 percent across different third generation cell systems and even higher than 20 percent for the hybrid perovskites. Despite these promising potentials, many hurdles still remain to be addressed for their practical application, and the foremost challenge is further increasing device efficiencies to the levels that respective material systems theoretically can allow. One of the keys to necessary breakthroughs is the ability to manipulate and improve the basic light-matter interaction and charge transport processes occurring in the nanometer scale within these materials. In this talk, I will provide a brief overview of the current status of third-generation PV systems based on conducting polymers and hybrid perovskites, with major emphasis on the basic device physics, operating principles, and some examples of the nanostructuring approaches for addressing pending issues.

Biography: Dr. Chang-Yong Nam is an Associate Scientist at the Center for Functional Nanomaterials of Brookhaven National Laboratory (BNL). He received Ph.D. in Materials Science and Engineering from University of Pennsylvania (2007), M.S. in Materials Science and Engineering from KAIST (2001), and B.E. in Metallurgical Engineering from Korea University (1999). He started his tenure at BNL since 2007 first as a Goldhaber Distinguished Fellow (2007–2010), Assistant Scientist (2010–2012), and Associate Scientist (2012–Present). His research is focused on developing nanostructured semiconductor architectures and understanding their electronic and optoelectronic properties for energy harvesting and electronic device applications. Particular interests include organic and hybrid PVs, nanostructured metal-oxide greenhouse gas sensors, and unconventional nanofabrication based on atomic layer deposition.

Low-cost Urban Traffic Congestion Monitoring System for Smart City

Joyoung Lee, Dept. Civil and Environmental Engineering, New Jersey Institute of Technology (NJIT)

Abstract: Urban traffic congestion and air quality monitoring system is the most crucial component for building Smart Cities. This research presents a low-cost wireless sensor network (WSN)-based urban mobility and environment monitoring system for Smart City. The primary components of the proposed sensor unit are Bluetooth, WiFi, and Particulate Matter (PM) sensors, and a Zigbee transceiver. Within the WSN, the Bluetooth and WiFi sensor capture the MAC addresses of Bluetooth and WiFi units equipped in mobile devices and car navigation systems. The Zigbee transceiver transmits the collected MAC addresses to a data center without any major communications infrastructures (e.g., fiber optics and 3G/4G network). A total of seven prototype sensor units have been deployed on roadway segments in Newark, New Jersey, for a proof of concept (POC) test. The results of the POC test show that the performance of the proposed sensor unit appears promising, resulting in 2% of data drop rates and an improved Bluetooth capturing rate.

Biography: Joyoung Lee, Ph.D. is an assistant professor with the John A. Reif, Jr. Department of Civil and Environmental Engineering at NJIT. Prior to joining NJIT, he served as a laboratory manager of the Saxton Transportation Operations Laboratory (STOL) at Federal Highway Administration (FHWA) Turner-Fairbank Highway Research Center. He received his Ph.D. and M.S. degrees in the Department of Civil Engineering from the University of Virginia and B.S. degree in Transportation Engineering from Hanyang University, South Korea. Dr. Lee's primary research interest lies in Intelligent Transportation Systems (ITS) and its applications for 1) Smart Traffic Operations, 2) Probe-based Mobile Sensor Network, and 3) Connected Vehicles (CV).

Efficient Solar Water Splitting Via Tunable Photoanode-Photocathode-Catalyst Interface Devices
Shinjae Hwang, Dept. Chemistry and Chemical Biology, Rutgers University

Abstract: Visible light driven water splitting by a photoelectrochemical cell for the generation of clean, renewable hydrogen and oxygen is one potential solution to an energy secure future. However, multiple technical hurdles remain to attain 10% solar to chemical conversion efficiency in a cost effective device. Aims to address those needs have been realized using a system that uses two sequential solar light absorbers (semiconductors) in conjunction with oxygen evolution reaction (OER) and hydrogen evolution reaction (HER) catalysts. As a means to replace the noble-metal based electrocatalysts for OER and HER reactions, cubic and spinel lithium cobalt oxide OER catalysts ^{1, 2} and Nickel phosphide HER catalyst ³ have been recently demonstrated as durable electrocatalysts possessing low overpotentials and high turnover rates. Here, we extended this work by developing methods for preparation of thin films of lithium cobalt oxide and nickel phosphide bonded to conductive substrates and photoabsorbers to create a half cell. Progress is reported relative to device design, interfacial chemistry, catalytic performances, and stability. Research supported by a joint grant from NSF-CBET/DOE-EERE and Rutgers.

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Biography: Shinjae Hwang is a PhD student working at Rutgers, the State University of New Jersey in Department of Chemistry and Chemical Biology with Dr. G. Charles Dismukes, and Dr. Eric Garfunkel. Prior to beginning the PhD program, he received his B.S. degree in Chemistry from Incheon National University. At Incheon National University, he worked as a research assistant, regarding functionalization of reduced graphene oxide, graphene based electrochemical biosensors and graphene polymer composited for supercapacitors. He is currently working on understanding of catalysts and photo absorber interfaces properties for high efficient photoelectrochemical water splitting devices.

ENGINEERING FORUM

Session II

Chair: Moses Noh, Drexel University

Electrocatalytic upgrading of furfural for generation of renewable biofuels and chemicals

Sungyup Jung, Dept. Chemical Engineering, The City College of New York at CUNY

Abstract: Furfural (FF) is a C₅ chemical platform, which is produced by the hydrolysis and dehydration of xylan contained in lignocellulose. It is valuable because it offers a rich source of derivatives that can be used as industrial chemicals and biofuel components such as furfuryl alcohol (FA) and 2-methyl furan (MF). The electrocatalytic hydrogenation and hydrogenolysis (ECH) of FF has been investigated to produce biofuels and fine chemicals. This is because ECH of FF does not require the usage of external hydrogen gas, high pressure and even high temperature. In this presentation, we report studies of ECH of FF to gain a better understanding of the product yield, selectivity and side reactions in different reaction conditions, changing current density, electrolyte and co-solvent ratio. Mildly acidic electrolyte produced FA mainly, while strongly acidic electrolytes produced both MF and FA. The selectivity of products depended on the acidity of electrolytes, and the yield of products depended on the current density and reaction time.

Biography: Sungyup Jung is a PhD candidate in chemical engineering at The City College of New York (CCNY). Prior to joining CCNY, he received his master and bachelor degrees in the Department of Chemical Engineering from Soongsil University, Seoul, Korea. At CCNY, he is currently studying two topics regarding electrocatalytic reduction of biomass compounds and switchable ionic liquids as alternative electrolytes. He has studied molecular crystallization to modify the physical properties of pharmaceutical compounds in the previous institute.

Fatigue Risk and Reliability Assessment for Highway Sign Structure

Hyungjoo Choi, Dept. Civil/Structural Engineering, Rutgers, the State University of New Jersey.

Abstract: Sign supports are critical structural elements for the safe and functional operations and traffic control of major interstate highways. Due to their long spans, relatively small cross-sectional area and mass of their components, these structures are flexible and it gives sign structures very low natural frequencies. The damping in sign structures is also very low compared to other structures thus no significant reduction in the amplitudes of vibration. These properties make the sign structure very susceptible to large amplitude vibration and fatigue loads resulting from wind loads. Fatigue cracks in sign structures due to the cyclic wind loads have been observed in a number of states and in a few cases, sign structure failures have also been reported (Dexter et al., 1998; Li et al., 2005; Dexter and Ricker, 2002). To evaluate fatigue risk for highway sign support structures, fatigue life prediction (Fatigue crack initiation plus propagation) is investigated with a reliability-based approach using Reliability Index, β . Fatigue life uncertainties in cyclic-wind loads and resistance in the critical details of the connections are further studied to have a better understanding of fatigue behavior, to determine inspection frequencies and also to improve future design.

Biography: Hyungjoo Choi, EIT, is a Graduate Research Fellow and PhD student at Rutgers, the State University of New Jersey. Prior to joining Rutgers University, he was a Graduate Research Assistant at Bridge Engineering Center at Iowa State University (ISU) and he received his M.S. degrees in Civil/Structural Engineering in 2015. He also worked as a Graduate Research Assistant at University of Alabama in Huntsville (UAH) and obtained a M.S. degree in Civil/Material Engineering in 2011. He studied Naval Architecture and Ocean Engineering for his B.S. degree from Chosun University in 2009. At ISU, his work was focused on developing Structural Health Monitoring (SHM) System of Bridge for detecting damages using strain-based statistical F-test approach, evaluating structural capacity for load rating. During his M.S. study at UAH, his research work focused on the application of Polyurea coating technique on high performance cementitious materials reinforced organic cementitious materials.

Drug delivery to triple negative breast cancer cells

Bumjun Kim, Dept. Biomedical Engineering, CCNY

Abstract: Breast cancer is a heterogeneous disease including a variety of subtypes with unique morphologies and clinical behaviors [1]. Some basal-like breast cancer cells are often lack of three distinctive biomarkers - human epidermal growth factor receptor 2 (HER2), estrogen receptor (ER), and progesterone receptor (PR)-hence called triple negative breast cancer (TNBC). TNBCs constitute 10% to 20% of breast cancer cases, and show more aggressiveness, metastasis/recurrence and poorer prognosis than non-TNBCs [2]. DNA-damaging agents such as Doxorubicin and/ or Cisplatin have been used to treat TNBCs, but these drugs may induce severe side effects that limit the effective dose for cancer treatment [3]. Epigenetic drugs has emerged as an alternative to DNA-damaging drug due to its selectivity toward cancer cells that often present aberrant epigenetic patterns such as hypermethylation and histon deacetylation. Herein, we present our G-coupled protein receptor targeting drug delivery systems encapsulating two different epigenetic drugs, Decitabine(DAC) and Panobinostat(PAN), and its therapeutic efficacy to variety of TNBCs.

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2. Haffty, B.G., et al., J Clin Oncol, 2006. **24**(36): p. 5652-7.
3. Caram, M.E., et al., Breast Cancer Res Treat, 2015. **152**(1): p. 163-72.

Biography: Bumjun Kim is a graduate in the City College of New York (CCNY). Prior to joining CCNY, he received his B.S. degree in Material Science and Engineering from Pusan National University (PNA). He is currently working on a couple of projects regarding to developing drug delivery systems for triple negative breast cancer.

Synthetic Cell Penetrating Peptides for Drug Delivery and Stem Cell Applications

Won H Suh, Dept. Bioengineering, Temple University

Abstract: Cell Penetrating Peptides (CPPs) are utilized in various molecular delivery applications. CPPs actively transport into mammalian cells across the plasma membrane barrier. CPPs are commonly derived from proteins such as the HIV-1 transcriptional activator. We invented a new short cell penetrating peptide (herein PepB; Due to patent filing issues we are not able to disclose the PepB sequence at this time) as a platform technology. We have currently reduced the CPP sequence to PepB (<10-mer). We have tested the PepB sequence to deliver bioactive molecules to mammalian cells and they have increased the mode of action inside stem cells with multiple repeats. We will present results from specific molecular delivery experiments involving model bioactive peptides and lipids. We will discuss the utilization of PepB-technology in the differentiation of adult neural stem cells into neuronal cells via microscopy and RT-qPCR results. We envision the utilization of PepB-incorporating bioactive molecules as potential cellular tagging agents as well as vehicles for molecular delivery and stem cell applications.

Biography: Dr. Won H. (Jon) Suh is an assistant professor in the Bioengineering Department at Temple University, Philadelphia, PA. Prior to joining Temple as a faculty member, Dr. Suh was an assistant project scientist and postdoctoral fellow at the University of California, Berkeley (2009-2012) in the Department of Bioengineering. He was an Otis Williams Postdoctoral Fellow in Bioengineering at the University of California, Santa Barbara (2008-2010), which is where he started working in the area of stem cell engineering, biomaterials research, bionanotechnology, nanomedicine, and nanotoxicology. He received his Ph.D. from the University of Illinois at Urbana-Champaign (2006) and received his M.S. (2002) and B.S. (1998) degrees from Seoul National University. His current research focuses on developing enabling technologies (e.g., biomaterials, nanomaterials, biomolecules) for adult stem cell research. Dr. Suh is currently serving on the editorial board of *Biomaterials Research* and is, in addition, a member of the Molecular Therapeutics Program at the Fox Chase Cancer Center (Philadelphia, PA).

Inkjet printing for biomedical applications: flexible microelectrodes

Yoontae Kim, Dept. Mechanical Engineering and Mechanics, Drexel University

Abstract: Parylene is also a popular material for flexible electronics and medical implants as well as other lab on chip applications. Traditionally conventional photolithography, thin-film deposition, etching and lift-off techniques used for creating electrode patterns on Parylene, but these fabrication processes are time-consuming and costly, requiring cleanroom equipment and hazardous chemicals. We adopted inkjet printing technique to replace those traditional fabrication processes. The inkjet printer can eject silver ink on the target substrates based on the input design. Unfortunately, the direct inkjet printing of silver microelectrodes cannot be applied on Parylene (poly-para-xylylene) with the same efficiency and resolution as on PDMS (polydimethylsiloxane). We present a novel approach of creating thin flexible Parylene-based electrodes as our invention. Instead of directly printing silver ink on Parylene film, we took an indirect approach of printing the silver electrodes on PDMS layer first and then transferring them to Parylene films. This indirect fabrication method shows that the printed silver patterns on PDMS can be flawlessly transferred to thin Parylene films. Inkjet printing of silver ink can be used for fabrication of electrode patterns as a rapid, low-cost, and mask-free fabrication instead of conventional photolithography and thin-film deposition which have been applied to create electrodes on Parylene. The indirect fabrication process consists of three steps: inkjet printing of silver electrodes on PDMS, transfer of the pattern onto Parylene via vapor deposition and release, and sintering of the silver ink. We fabricated narrow (40-100 μm) silver microelectrodes, and complex electronic circuits (50 mm \times 50 mm) were perfectly transferred from PDMS onto Parylene film without structural damages or significant drop in electrical resistance. In order to demonstrate the utility of thin flexible Parylene-based silver microelectrodes, we fabricated diverse microelectrodes and conducted dielectrophoretic (DEP) manipulation of microbeads with them. In addition, we tested and confirmed a selective deposition of a thin layer of gold on the silver pattern using electroless plating for neural probe applications. The results clearly show that the flexible silver microelectrodes created by the presented method can be used for electrokinetic applications. We believe that this rapid and low-cost fabrication method of creating thin flexible Parylene-based microelectrodes can be used in a variety of applications in flexible electronics, neural engineering, medical implants as well as MEMS and lab on a chip.

Biography: Yoontae Kim is a Ph.D. candidate at Drexel University. Prior to joining Drexel, he received his M.S. degrees in Northeastern University and Soonchunhyang University, and B.S. degree in Material Science and Engineering from Soonchunhyang University. His research interests include direct inkjet printing of silver nanoparticles based ink on polymeric substrate for BioMEMS applications, direct inkjet printing of bio-ink (DNA) for BioMEMS applications, utilizing of ArF & KrF excimer laser ablation for micro machining and utilizing of yarns and textile (Textile MEMS) for MEMS applications

ENTREPRENEURSHIP FORUM

Session Theme: Opportunities under the New International Economy

Chair: Kyeong Ho Yang, Dialogic

Rite of Passage: Transition from Academia to Entrepreneurship

JunHwan Chang, , J.D., L.L.M., M.C.J. (Managing Attorney at Chang, Cho & Associates)

Abstract: In this presentation, Mr. JunHwan Chang, Esq. will focus on the trend of international & domestic economy and provide insight into applicable legal and business strategies for those interested in Entrepreneurship.

Biographical Sketch

Mr. JunHwan Chang, Esq. is the managing attorney at Chang, Cho & Associates. He has various international business law experiences, including:

- Managing Attorney at Chang, Cho & Associates
- Exhibition Team Director / Foreign Corporate Counsel at Gallery Yeh (예화랑)
- External Auditor at DW Education Foundation (대원외고, 대원고, 대원국제중, 대원킨더)
- Business Planning Director / In-House Counsel at SBC USA (중소기업진흥공단)
- Global Regional Expert at Korea Trade-Investment Promotion Agency (KOTRA)
- Special Task Advisory Attorney at KSEA HAC
- Advisory Attorney at KSEA NY Metropolitan Chapter
- Advisory Committee Member at KITEE

He obtained Bachelor of Arts in Political Science and studied international business law while he was in law school:

- *American University Washington College of Law, Master of Laws in Law & Government, Specialized in U.S. Trade Law & Policy, Business & Financial Regulation*
- *Barry University Dwayne O. Andreas Law School, Juris Doctor*
- *Boston University, Master of Criminal Justice*
- *Boston University, Bachelor of Arts in Political Science*

Maximizing Opportunities in the New International Economy – Immigration Law (NIW), IP (Trademark, Copyright, Patent & Licensing), FDA Compliance

Tiffany Yoonsuk Cho, J.D., M.S. (*Attorney at Chang, Cho & Associates*)

Abstract: In this presentation, Ms. Tiffany Yoonsuk Cho, Esq. will provide accurate information about NIW (National Interest Waiver) and related immigration issues. She will also introduce general Intellectual Properties (IP) to the KITEE members for their better understanding of strategic management of IP related legal issues. She will briefly go over FDA compliance and regulation.

Biographical Sketch

Ms. Tiffany Yoonsuk Cho, Esq. is an attorney at Chang, Cho & Associates. She has various science and legal experiences in immigration law and intellectual property law, including:

- Attorney at Chang, Cho & Associates
- Of-Counsel at MIDAM Law Firm (법무법인 미담, Exclusively referred for NIW cases)
- FDA Specialist, Chang International Law Firm
- Partner at LSA Trade Consulting, LLC
- Advisory Committee Member at KITEE
- Visiting Scholar, USDA Jean Mayer Human Nutrition Research Center on Aging (June 2006 – September 2006, 4 months): Operated and calibrated an assortment of laboratory testing equipment and performed various chemical, microscopic and bacteriologic tests. Earned a reputation for preparing accurate lab reports and sample logs.

She obtained Bachelor's and Master's degrees in Nutrition Sciences from Yonsei University in Seoul, Korea, and studied law in the United States:

- *Barry University Dwayne O. Andreas School of Law*, Juris Doctor
- *Seton Hall University School of Law*, Graduate Certificate, FDA Regulation & Liability
- *Yonsei University*, Master of Science, Nutrition Sciences
- *Yonsei University*, Bachelor of Science, Nutrition Sciences

ENTREPRENEURSHIP FORUM 2

1 on 1 Professional Consulting

Open to NRC Attendees

Session Theme: Legal & Business Consulting – Immigration Law, Business Law, Intellectual Property & FDA Compliance

Chair: JunHwan Chang (Chang, Cho & Associates)

JunHwan Chang, J.D., L.L.M., M.C.J. (Managing Attorney at Chang, Cho & Associates)

Tiffany Yoonsuk Cho, J.D., M.S. (Attorney at Chang, Cho & Associates)

Abstract: Mr. JunHwan Chang, Esq. and Ms. Tiffany Yoonsuk Cho, Esq. at *Chang, Cho & Associates* will host a session where the NRC attendees can ask two lawyers questions that they may have in the areas of immigration law, business law, IP and FDA. This session will be run in a one on one Q&A format so that the attendees can also have a private professional consulting. This session is open to the current KITEE members and other NRC attendees (future KITEE members) as well. Sign-up in the morning is recommended.

KWiSE FORUM

Chair: Yeon Bai, Montclair State University

Healing the Growing Pains

Christine Yoon, GoodCyberKids Corp

Abstract: For the last 35 years, I have worked as a woman engineer for mostly Fortune 500 companies in the U.S. Most challenges I faced during my career were to find 'right' balance between work and life, which trained me to be a better career woman over the years. I grew by going through the pains of various challenges followed by healing repeatedly to overcome and endure. Perhaps, many working women have similar experiences. Through the talk, I would like to share my testimony on the growing pains and the strategies I used to overcome them.

Biography:

Education:

M.S. Iowa State University (Major: Computer Sciences)

B.S. Sogang University (Major: Electronic Engineering)

Major Work experiences:

2013-Present Director, GoodCyberKids Corp

2004-2013 Senior Vice President, Citigroup, CATE Global Security Architecture Eng (GSAE)

2003-2004 Senior Consultant, Backbay Technologies

Support for Lactating Women in the Workplace

Yeon Bai, Montclair State University

Abstract: Lack of workplace support is a frequently cited barrier of breastfeeding and employed mothers are more likely to terminate breastfeeding upon returning to work. Federal and state laws are in place to support lactating mothers in their workplaces. Two qualitative studies were conducted to examine (1) employer's readiness for lactation support before the federal law enactment, and (2) lactating mother's perception of workplace support after the law. Twenty employers (Mean 34.3 years) representing companies with more than 500 employees and 32 mothers (Mean=34 years) affiliated with a university participated in the interviews. The theory of planned behavior framed the interview questions to identify salient beliefs that govern the readiness (employers) for and perceptions (women) of support. Results showed that employers held overall positive attitudes toward providing a breastfeeding-friendly environment in the workplace, but they expressed concerns regarding scheduling conflicts and "special treatment" for lactating mothers. Women expressed lack of space and support for pumping on campus, especially among students, which suggests an inequality of current law and practice. Breastfeeding support should extend all members of a workplace, regardless of their role.

Biography:

Education:

Ph.D. Indiana University (Major: Health Behavior)

M.S. Eastern Michigan University (Major: Human Nutrition)

B.S. Seoul National University (Major: Food and Nutrition)

Major Work Experiences:

2012-Present Associate Professor, Montclair State University, NJ

2007-2012 Assistant Professor, Montclair State University, NJ

2003-2007 Associate Instructor, Indiana University, IN

Art of Networking

Alice Kim, Columbia University Center for Career Education

Abstract: Approximately 80% of all jobs are found through some form of networking and referrals. Through networking you make useful contacts, and also gain knowledge and inside information about jobs, organization, and workplace culture. Discover successful relationship building techniques and how to network with confidence.

Biography:

Education:

M.A. Columbia University, NY (Major: Higher and Postsecondary Education)

B.E. University of British Columbia, Vancouver, BC (Specialization in Secondary Mathematics)

B.S. University of British Columbia, Vancouver, BC (Major: Mathematics, minor in Psychology)

Major Work Experiences:

2015-Present Career Counselor, Columbia University Center for Career Education

2014-2015 Career Services & Admissions Intern, Industrial Engineering & Operations Research,
Columbia Engineering School

2010-2013 Secondary Mathematics Teacher, BC School District #36

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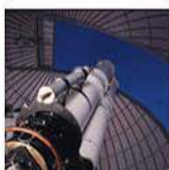
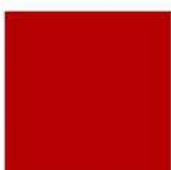
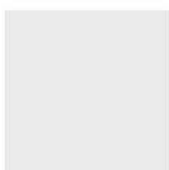
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- Korea Summer Institutes (KSI)
- Scholarship for Descendants of Korean War Veterans
- National Mathematics & Science Competition (NMSC)
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