

2019 KWiSE Annual Conference Report

(1) 2019 KWiSE East Coast Annual Conference Report

KWiSE NIH-DC Chapter Joint Symposium 2019
Theme: Life Science & Data Science



Annual KWiSE NIH-DC Chapter Joint Symposium was held at the KUSCO conference room (1952 Gallows Rd., Vienna, VA, 22182) on May 4, 2019. About 80 members gathered for this event. The NIH Chapter president Dr. Dong-Yun Kim (NIH) opened the meeting with a welcome remark, which was followed by a brief introduction of the KWiSE missions and activities summarized by the KWiSE Headquarter president Dr. Hey-Kyoung Lee (Johns Hopkins University). Dr. Luke Oh (KAPAL President) and Mr. Dong-Gi Kim (Consul General, Republic of Korea) also cheered the event and recognized the efforts for Korean American Women Scientists.

The morning Keynote session was chaired by Dr. Myung Hee Park, who introduced the Keynote speaker Dr. Janice Lee, Clinical Director, NIDCR/NIH. As an Asian-American clinician, she shared her 'aha' moment during her conversation with one of Asian-American patients, which led her to study the impact of acculturation levels on personalized orthognathic surgery for the Asian-American patient. She showed that the level of acculturation among Asians living in the USA played a significant role in their opinion of facial profiles. The orthognathic treatment plan could be tailored with culture, preference, and perception in consideration to improve patient satisfaction.



The keynote speaker, Dr. Janice Lee (Clinical Director, NIDCR/NIH)

The scientific sessions including Life Science and Data Science were followed up. The constitution of two scientific sessions were an approach to broadening the scope of the symposium. The session was chaired by Dr. Eunkyung An from mProbe Inc. In the Life Science session, Dr. Xiaoyuan (Shawn) Chen, a senior investigator and chief of the laboratory of molecular imaging and nanomedicine in National Institute of Biomedical Imaging and Bioengineering, gave his talk on albumin binders. Dr. Chen, Ph.D. in Chemistry, explained 3D structure of human serum albumin (HSA) and its properties - a protein and fatty acid carrier in blood circulation. Because of its property, many drugs were developed to bind HSA to circulate in blood stream for treating cancer, diabetic, and high cholesterol. Dr. Chen introduced multiple HSA binders and focusing on Evans blue which may improve pharmacokinetics and pharmacodynamics and preliminary data of Evans blue as an excellent platform for effective targeting and sustained drug release. Dr. Myoung-Hee (Mia) Sung, an independent investigator at laboratory of molecular biology and immunology at national institute on Aging presented about NF- κ B dynamics. Dr. Sung, Ph.D in Mathematics, monitored NF- κ B signaling using live cell imaging to quantitate how immune cells and non-immune cells respond to pathogen-derived stimuli. Dr. Sung showed oscillation of the response of a single cell and explained that because each cell is not synchronized in the response oscillation, response graph of multiple cells is differently plotted in the text book. Her group also performed detailed analysis of total RNA-seq to integrate quantitative features of NF- κ B dynamics and found a core cluster and cell type-specific clusters of NF- κ B dynamics-decoding genes. Dr. Sung finished her presentation by a systematic comparison NF- κ B signaling in two cell types in parallel. Dr. Sun J. Kang (Staff Scientist, NIMH/NIH) led the second scientific session, Data Science. With a title of "An Overview of Genomic Data Science," Dr. Ryan Dale (Scientific Information Officer and Developmental Biologist, NICDH/NIH) provided an overview of high-throughput genome sequencing data analysis which relies on open source software packages (e.g., Bioconda, Snakemake, etc.). In presenting various analysis approaches for genomics, computational biology, algorithm design, software engineering, data integration and visualization, Dr. Ryan emphasized the importance of working closely with researchers to understand the underlying biology that can result in the best possible analysis. In doing so, the speaker noted that bioinformatics can serve as a critical component of biological research. Dr. Ethan Xu (Applied Data Scientist, Amazon) outlined the data science field with a title of "But What Is Data Science?" Dr Xu's presentation was instrumental in grasping the landscape of data science, which has gained an increasing attention in society. Dr. Xu started with his experience in conducting research over large solar energy data and shared his experience in developing analytical pipelines to monitor electronic healthcare records. Dr. Xu presented the development of neural network based models showing how Deep Neural Networking (DNN) was more productive compared to the other methods such as Regression, Random Forest, Support Vector Machine since the other methods stopped to increase productivity. His experience in transitioning from a statistician to a data scientist was interesting. His perspective into the requisite skill sets, roles and responsibilities of data scientist was valuable.

The poster session was newly added to this year's symposium in an attempt to lift up young scientists' participation level. There were fourteen posters submitted, and each

present pitched on his or her research within 2 minutes, as part of the review process. The poster session was open from 1:00pm to 2:00pm during a lunch break.

The Career Development Session I was chaired by Dr. DoHwan Park. The second keynote speaker, Dr. Chee Yeun Chung (Scientific Co-founder and Director, Discovery Biology, Yumanity Therapeutics), presented a talk entitled “From Yeast to Neurons to Patients: A novel Drug Discovery Platform for Neurodegenerative Diseases.” She shared her personal entrepreneurial journey of venturing a start-up company. After Dr. Chung’s presentation, four inspiring career development talks were ensued. Dr. Haeyoung Ahn (AhnBio Consulting) shared her career wisdom,



The keynote speaker for Career Development Session I, Dr. Chee Yeun Chung (Scientific Co-founder & Director, Discovery Biology)

underscoring how much invaluable we acknowledge ourselves as highly competitive and skillful at the time of seeking jobs or changing careers. Mr. James Kim (CEO, JK Accounting Group) provided an informative talk entitled “Business Types and Foreign Accounts: An Overview.” He imparted his knowledge in taxation and accounting which may be useful for professionals who wish to start independent businesses in future. Dr. Anna Hahn (Director, OD/NIH)’s presentation entitled “Being a Self-Advocate for Diversity and Inclusion” was short, but impactful. She warned the actual existence of cognitive biases based on ethnicity and gender in workforces. Dr. Jinyoung Barnaby led a panel discussion, eliciting thought-provoking questions from the floor.

The Career Development Session II, followed by a short coffee break, was chaired by Dr. Hyojin Kim at the Catholic University of America, who introduced the third Keynote speaker, Dr. Cyrillene Clark. Dr. Clark founded her own consulting firm, Crichlow Clark Group. She explained about the



The keynote speaker for Career Development Session II, Dr. Cyrillene Clark (Founder & CEO, Crichlow Clark Group)

two different aspects (i.e., art and science) of leadership, what makes a good leader, and how we can join the ranks of successful leaders. Her discourse also included the unique aspects and challenges for women's leadership, followed by an introduction of the Center for Creative Leadership (CCL) and their various programs, including Women's Leadership Experience and Advancing Technical Women. Her talk was inspirational and informative.

Dr. Heiyoung Park is a program director of Scleroderma, Fibrosis, and Autoinflammatory Disease program at National Institute of Arthritis and Musculoskeletal and Skin Diseases, and she shared her career path from a biologist to a health scientist administrator at NIH. Dr. Park discussed how to improve a chance for interview after applying for a health scientist administrator position. She emphasized networking is second to none. Dr. Inyoung Kim is an associate professor at Department of Statistics, Virginia Polytechnic Institute. She shared how to build collaborative relationships when collaborators seemed to be doubtful about your research capacity. The seven different principles based on her experiences were shared. Dr. Ji Hyun Lee (NIAID/NIH, Imaging Lead) chaired the second career development session, soliciting feedback from the floor.

In concluding the symposium, Dr. Dong-Yun Kim recognized three poster presenters. The meeting was concluded by a closing remark from Dr. Younsung Kim (George Mason University). Many of the mentors and mentees gathered for dinner at the Woo Rae Ok (8240 Leesburg Pike, Vienna, VA) restaurant to network and continue the discussions on various topics related to career options and how to overcome difficulties facing women in science. Drs. Sohyoung Kim and Minkyong Song kindly lead the mentor discussion session, helping seasoned professionals mingled with graduate students, post-docs, and young professionals who started build their careers.

(2) 2019 KWise West Coast Annual Conference Report



The 13th Korean American Women in Science and Engineering (KWise) Westcoast Annual Conference (chaired by Dr. Jayoung Kim at Cedars-Sinai Medical Center, Dept. of Surgery) was held on Saturday, May 4, 2019. Over 150 Korean American scientists, engineers, and physicians attended to this conference.

- We had a conversation with KWise LA President, Dr. Jay Kim.

The 13th KWise Annual Conference was held in Biola University on May 4th. This year's themes were "Applied Science for Human Health" and "Leadership/Mentoring". The KWise Westcoast Annual Conference aims not only to provide an opportunity to build strong connections and solidarity among the current members, but also to seek and welcome new women professionals who can serve as mentors and role models for younger students. We thank you all for participating in our ambitious mission.



(Photo: Left to right) Dong Hee Kim, CS Korean Community coordinator; Dr. Rachel Chang, CS clinical fellow, Dr. Dan Therodorescu (Director of CS SOCCI), Dr. Jay Kim (CS, Dept. of Surgery)

- Who attended to this conference?

We had a lot of students, including high schoolers who are interested in the STEM field

and graduate/undergraduate students from CalTech, USC, UCLA, UC Riverside, Biola University, Pomona University et al. Our members are from a variety of fields, including healthcare, engineering, pharmaceuticals, patent law, bioengineering, etc.

- What was this year's theme?

This year's theme was "Applied Science for Human Health". We carefully selected relevant lectures to present to our scientific community. The main question we asked was: how will scientific progress and development contribute to human health? Our speakers were chosen after well-thought processing by the committee. Our guests included the Cancer Center Director from Cedars-Sinai Medical Center, faculty members from UC Riverside, biotech researchers, and IT CEOs. Research trends in their field and career advice were shared with all attendees.

- Tell me about invited speakers and their lectures

Our first speaker was Prof. Diane Woodbridge, who is an assistant professor in the data sciences program at the University of San Francisco. Her specialties include database management systems, data fusion, and data mining. Prof. Woodbridge's talk was on a scalable smartwatch-based medication adherence system that would provide accurate real-time management of medication compliance.

Our second speaker was Prof. Nosang Vincent Myung, who is the current director for the UC-KIMS Center for Innovative Materials for Energy and the Environment and codirector for the Winston Chung Global Energy Center. He received his PhD in chemical engineering at UCLA and worked as part of the engineering staff at NASA Jet Propulsion Laboratory for several years. His talk focused on high-density chemical sensor arrays.

The third speaker was Prof. Dan Theodorescu, who is the current director of the Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai Medical Center. Prof. Theodorescu's work focuses on three core areas: 1) precision medicine, 2) use of "big data" to solve difficult research or treatment questions, and 3) population health. His opening keynote address was on translating biology into therapies against human cancer.

Our fourth talk was titled, "Navigating Drug Discovery Career Pathway", and was given by Dr. Eun Jeong Yoo, an industrial expert in pharmaceuticals. She is currently an in vivo pharmacologist at Wuxi Apptec, one of the largest contract research organizations, and is focusing on preclinical drug development for immune therapy.

The fifth speaker was Dr. Minjung Kim, an Assistant Professor of University of South Florida, an animal model expert for melanoma research. Her talk was titled, "Discovery of novel melanoma targets: Comparative genomics approach".

The final and closing keynote speaker was Prof. Paul W. Ferguson, the Dean of the School of Science, Technology, and Health at Biola University. He also serves as a professor in toxicology at Biola. His talk was on how to develop leaders in the STEM field with passion and purpose.

-Who were involved in conference committee?

The conference committee consisted of two co-chairs and three staff members. The two co-chairs were Prof. Jayoung Kim, the current president of KWiSE Los Angeles, and

Prof. Hyuna Lee, the current vice president of KWiSE Los Angeles. Prof. Kim is an active principal investigator and associate professor at Cedars-Sinai Medical Center and UCLA.

Prof. Lee serves as part of the BIOS Research Committee Chair and is also conducting her own research at Biola. The morning session chair was Prof. Eun Jung Chae, who is currently an assistant professor in the department of mechanical and aerospace engineering at CSULB. The mentoring session chair was Dr. Janet Hur, the CEO and cofounder of Millibatt, Inc. The support team chair was Gayeoun Kim, a recent B.S. graduate and researcher at the Doheny Eye Institute.

- What was the most interesting lecture to KWiSE members?

“Driving research to realize powerful treatments and exquisite care for patients facing cancer.” This vision guides Dr. Dan Theodorescu as he leads an integrated team of investigators and physicians to identify creative approaches that will shape modern cancer care. His mission focuses on three core areas: precision medicine to personalize treatments; “big data” to solve difficult research and treatment questions; and population health ideas to improve the lives of our patient community. His talk was about translating biology into therapies of human cancer, and was well received by KWiSE members.

(3) 2019 KWiSE NY/NJ Annual Conference Report

2019 KWiSE NY/NJ Annual Conference Report

Theme: For Women in Life Science

Date: May 4, 2019

Time: 09:00 am – 02:00 pm

Location: University Hall 4116, Montclair State University

Organizers:

HeaYeon Lee, Ph.D., Founder/CEO of Mara-Nanotech New York, Inc.

Sung Eun Choi, Ph.D., Associate Professor, Queens College

Yeon Bai, Ph.D., Professor, Montclair State University

Yuen Mi Cheon, Ph.D., Postdoctoral Fellow, Fordham University

Summary:

The 2019 KWiSE New York/New Jersey Chapter Regional Conference was held on Saturday, the 4th of May, 2019 at Montclair State University. Under the theme of “For Women in Life Science,” this year’s conference featured three scholars from the fields of Environmental and Occupational Health, Family Science and Human Development, and Psychology. The organizers were Drs. HeaYeon Lee (Founder/CEO of Mara-Nanotech New York, Inc.), Sung Eun Choi (Associate Professor, Queens College), Yeon Bai (Professor, Montclair State University), and Yuen Mi Cheon (Postdoctoral Fellow, Fordham University). A total of 12 members were in attendance.

This year’s conference started with greetings of the new Chapter President Dr. HeaYeon Lee. In her greetings, Dr. Lee thanked the former Chapter President Dr. Bae for her accomplishments and services and emphasized one of the missions of KWiSE New York/New Jersey Chapter to support one another for the pursuit of both personal and professional excellence and happiness. Next, a member introduction session was held in a roundtable setting. During this session, each member had a chance to introduce themselves to the group and share any updates about both their personal and professional lives. Topics covered a wide range of life experiences, including changes in work settings, professional achievements, academic interests, family transitions, immigration, marriage and children, just to name a few.

Then, the three speakers took turns to present on topics of their specialties. The first speaker was Dr. Mingzhu Fang, Assistant Professor in the Department of Environmental and Occupational Health at the School of Public Health, Rutgers, The State University of New Jersey. The title of her presentation was “Adverse Impact of Night- Shift Work and Light-at-Night on Breast Cancer Risk.” Various research methods and the roles of sleep, light and circadian rhythm were actively discussed amongst the members. The second speaker was Dr. Soyoung Lee, Associate Professor in the Department of Family Science and Human Development at Montclair State University. Dr. Lee’s presentation was an interactive session titled, “Reflective Discussion on

Cultural Sensitivity as Human Services Professionals. ” Through various activities, such as “community maps ” and “the penny story, ” the members had a chance to reflect on their biases, appreciate diversity and get to know one another at a deeper level. Bringing the prior two presentations —one on sleep and the other one on diversity — together, in the third presentation, Dr. Yuen Mi Cheon discussed on the topic of “Ethnic/Racial Disparities in Children ’s Sleep: Possible Causes, Consequences, and Solutions. ” During this talk, issues regarding diversity, ethnic/racial discrimination experiences, and how they may impact children and adolescents’ sleep were discussed along with innovative contemporary research methods to measure various aspects of sleep and biomarkers.

The new and the old members varying in age and academic disciplines and levels of experience enthusiastically engaged in discussions and generated potential interdisciplinary research ideas.

After the three presentations and discussions, all of the members took a group photo and went out for lunch. Conversations on both personal and professional lives as well as discussions on potential research ideas continued throughout lunch time and the following teatime. Upon the completion of the conference, one of the members remarked, “It was a great time spent with good people. I feel supported by the time we sharedtogether during the conference. ” A visiting undergraduate student from Korea also commented, “Thank you for making my time today so meaningful! It was an unforgettable experience! ”



(4) 2019 KWiSE SE Conference Report

2019 KWiSE Southeast Chapter Annual Conference



The 9th Annual Conference of the KWiSE Southeast Chapter was held on Saturday, May 18, 2019 at the Gwinnett Convention and Visitors Bureau. Registration began at 9:30AM with coffee and snack provided. Dr. Mihyeon Jeon, the president of the KWiSE Southeast Chapter, welcomed everyone and briefly introduced the purpose of the KWiSE annual conference. She introduced Dr. Hey-Kyoung Lee, the president of the KWiSE Headquarter (Johns Hopkins University), who provided history and latest activities in chapters around the nation. Every attendee then had a chance to introduce themselves to the group before the program began in order to promote effective networking throughout the event.

As the program began, the Professor Hey-Kyoung Lee (Johns Hopkins University) came up again to provide a keynote speech focusing on her career and ongoing research, "My journey through Memory Lane: How Our Experience Shapes Our Brain." In addition to demonstrating her experiments on how memories formed and how sensory experience shape our brain, she blended her personal experience and challenges on work-life balance as a working woman. As the first speaker of the research session, Professor Hyesung Park (Georgia Gwinnett College) provided her talk on "Information Technology Education – Adaptive Learning System." She presented on how to engage undergraduate student in learning successfully by adaptive learning systems with authentic real-life experience hands-on projects. Dr. Eunseon Ahn (Emory University) then presented on "Role of PD-1 during Effector CD8 T Cell Differentiation." Based on her experiments with the spleens, livers, and lungs of mice, she discussed that PD-1 is needed for the generation of long-lived memory CD8 T cells. The research session was recessed for a networking lunch and group photo time. The attendees gathered around based on their research/career interests and continued

conversations during lunch. After lunch, Professor Young Rae Shim (Georgia Gwinnett College) continued research discussion on “Acculturation, Psychological Distress, and Cultural Adjustment Difficulties among Korean Americans.” She introduced the concept of “acculturation” in multiculturalism, women, and identity conflict among adolescents and emphasized importance of counseling to release stress. Professor Jeoung Soo Lee (Clemson University) then talked about “Multi-functional Polymeric Nanocarrier for Combinatorial Therapy of Bioactive Molecules.” She demonstrated the development of biomaterial-based drug/gene delivery system for site- specific of bioactive molecules designed to alleviate pathological conditions and promote functional tissue regeneration.

After the research session was concluded, Dr. Mihyeon Jeon briefly reviewed the KWiSE SE Chapter 2018-2019 activities. She presented a Certificate of Appreciation along with a small gift to the speakers and expressed gratitude to the committee members including Dr. Sohyun Park (CDC), Professor Hyesung Park (Georgia Gwinnett College), and Dr. Sung-Sil Moon (CDC). Dr. Jeon concluded the conference by presenting an Outstanding Leadership Award to the former president and senior advisor, Dr. Sung-Sil Moon, in recognition of her fine leadership and extraordinary dedication during her tenure as the president and the officers in the preceding years. The conference was adjourned, and a group of attendees actively continued their networking and conversations at a local coffee shop. The KWiSE board members, the KWiSE Headquarter president, and a couple of speakers gathered again for a debriefing dinner and congratulated the successful event while continuing conversations on a diverse topic.

(5) 2019 KWISE Texas Conference Report

4th Annual Regional Conference of Korean-American Women in Science and Engineering (KWISE) Texas Chapter

Prepared by
KWISE Texas Chapter
May 11, 2019



SUMMARY

The third annual KWISE Texas Chapter annual conference was held on May 11, 2018 at the University of Texas Health Science Center Houston in Houston, Texas. About 35 people from institutions in and around Houston area including University of Texas Health Science Center Houston, Baylor College of Medicine, MD Anderson Cancer Center and University of Texas Medical Branch in Galveston, TX attended the meeting. At the opening of the conference, Dr. Seung-Hee Yoo, the current chapter president of KWISE Texas gave welcomed everyone. Dr. Jun Goo of UT Health Science Center at Houston gave opening remark as the representative of the KSEA-South Texas Chapter, which is the major sponsor of the conference. This year, we also had a number of attendees from the Texas A&M located at College Station, TX and University of Texas Health Science Center at San Antonio. These institutions are 2 to 3 hrs drive away from the location of the conference in Houston and evidence of the effort by the KWISE Texas members these past years invested in outreach. We expect that our outreach effort will continue to grow to include a strong contingency from these two areas.

The conference began with the first scientific session of the day chaired by Dr. Soon Mi Lim of Texas A&M. Two invited speakers, Dr. Jiyoung Yoo, and Dr. Ohbet Cheon talked about “Oncolytic virus therapy for brain tumors”, and “Strategies to Reduce Hospital Readmission Rates”, respectively. This year, early-stage women faculty members in academic institutions were deliberately selected as the invited speakers in order to share their experience and philosophy toward the chosen career path in addition to their scientific interest. At the end of the first scientific session, each of the speakers were asked about the mentors they have had throughout their careers and gave brief and frank description of the help they have had from their mentors during graduate and postdoctoral work.

The second session of the conference was the keynote talk by Dr. Kyungsoon Chung who is the Professor, Department of Neuroscience, UTMB. Dr. Chung talked very frankly about the virtues that guided her throughout her career under the title “What does it mean being a woman scientist”. Dr. Chung emphasized that being prepared to take advantage of the fortunate chances that one encounter in life. She also shared her passion about the mother nature and her research focus about chronic pain.

After a break for group photo and lunch with networking, the conference reconvened with the second scientific session.

During the second scientific session chaired by Dr. Yangjin Bae of Baylor College of Medicine, the invited speakers Dr. Betty Y.S. Kim of MD Anderson Cancer Center and Dr. Jihye Yun, Baylor College of Medicine gave talks with titles “Therapeutic phagocytosis modulation using innate immune checkpoints to enhance anti-tumor immunity.” and “High-dose vitamin C therapy to treat KRAS or BRAF mutant cancer cells.”, respectively.

The scientific session was followed by the poster session where 11 posters with the topics ranging from the RNA degradation pathway to the design of small molecules for the use in clinical studies were presented. Members were seriously engaged in discussing with the poster presenters and critiquing them by providing a platform to vote for the best poster presenter.

During the award session that followed the poster session, Dr. Juyeon Jo of Baylor College of Medicine 1st prize. All poster presenters were presented with a small token of appreciation.

Finally, the 4rd annual conference was a great success with the program consisting of not only scientific presentations but also other activities geared toward the professional development of the members. There were many with feedbacks that expressed appreciation for these activities making the conference more interactive and even entertaining. We reflect positively on the success of these phenomenal of these past three years of KWise Texas where we went from non-existence to the solid presence in the region.