

## 2017 KWiSE Concurrent Regional Conference Day Report

The KWiSE (Korean Women in Science and Engineering) Concurrent Regional Chapter Conference Day was held to promote scientific collaboration opportunities and close networking of Korean women in Science and Engineering field, and to stimulate the enthusiasm to participate in and serve the community at individual Chapters. Four KWiSE Regional Chapter Conferences (Texas, LA-SD, SE and NY-NJ) were simultaneously held on May 20<sup>th</sup>, 2017, while NIH-DC conference was held on June 17<sup>th</sup>, 2017. With more than 200 women scientists' participation, this event successfully provided opportunity to build strong connection and solidarity among the current members of KWiSE, and to identify new women professionals who will serve KWiSE as mentors and role models for young students. Following are the individual conference reports.

### NIH-DC Chapter

The Annual KWiSE NIH-DC Chapter Joint Symposium was held at the NIAAA Conference Room (5625 Fisher Lane, Rockville, MD) on June 17, 2017. About 60 members gathered for this event. The meeting opened with a Welcome Remark from the NIH Chapter president Dr. Myung Hee Park (NIH), which was followed by a brief introduction of the KWiSE missions and activities summarized by the KWiSE president Dr. Hee-Yong Kim (NIAAA, NIH).

The morning Keynote session was chaired by Dr. Hyojin Kim, DC Chapter president, who introduced the Keynote speaker Dr. Mia Sung (NIA, NIH). Dr. Sung gave a talk on how mathematical tools can be used for understanding immunity and genome regulation, which is her recent focus of research. Her research in the immune system demonstrated that there is differential spatio-temporal pattern of expression of transcription factors, the one of her research focus being NF- $\kappa$ B. Dr. Sung's research data suggest the critical need to follow the spatio-temporal pattern of NF- $\kappa$ B expression to fully understand the role of transcriptional regulation by external signals such as TNF $\alpha$ . She also introduced her efforts to use mathematical models to map transcription binding sites from DNaseq data. In addition, she briefly summarized her career path emphasizing that one needs to work towards a long-term goal and that it may not necessarily be a straight path to reach one's goal in life.

After a short coffee break, 5 speakers gave short scientific talks during the Scientific Session I, which was chaired by Dr. Sangmi Lee (NCI, NIH). The first speaker Dr. Jiyeon Choi (NCI, NIH) talked about her research on the polygenic nature of cancer, and how most gene variants seen from GWAS studies are found in the non-coding regions. She described how using a reporter with GWAS upstream sequence could effectively determine transcriptional control of the variant genes. Second speaker was Dr. Min-Jeong Kim (NIMH, NIH), who developed novel radio ligand for Cox-1 and Cox-2 compatible with PET scan. Using these novel tools, she found that Cox-2 ligand binding was increased when inflammation is induced in the brain. She is currently further developing this method as diagnostic tool for neuroinflammatory diseases such as Alzheimer's Disease (AD) or depression. This was followed by a talk by Dr. Ji Hun Lee (USUHS), who was developing therapeutic approaches for biothreat. Her research was focused on trying to develop monoclonal antibody therapeutics for treating a neurotropic biothreat from Australian Bat Lyssavirus (ABL). The main effort was on developing focused ultrasound with microbubbles technique to allow monoclonal antibodies to cross the blood-brain-barrier (BBB) for effective delivery to the

central nervous system. The fourth speaker of the session was Dr. Hana Lee (NIAID, NIH), who presented a rather novel view on gut inflammation by stating that acute inflammation is beneficial for injury, hence not just halting inflammation but rather the resolution of inflammation is critical for preventing chronic inflammation. She reported that a signaling factor (CD300F), which is involved in efferocytosis, is critical for resolution of inflammation. The last speaker for this session was Dr. Young Eun Cho (NIAAA, NIH), who presented data that extracellular vesicles (EVs) can be used as effective biomarker for liver injury caused by drug and alcohol abuse. She explained that isolated EVs contain cellular mRNA and proteins, which can be screened for biomarkers of liver injury.

The Scientific Session II soon followed, which was chaired by Dr. Kyoung-Rim Kwon (NIAMS, NIH). The first speaker was Dr. Swati Dadhich Mandal (NIDCR, NIH), who presented her research on the critical nature of polyamines in mammalian cell functions. In particular, she highlighted that polyamines such as spermidine and spermine are critical for cellular growth by promoting protein translation. The next speaker was Dr. Sung Un Kim (Catholic University of America), who presented her research on how teens and youth acquire health related information. She emphasized that interdisciplinary research effort is much needed in this area. The third speaker was Dr. Dong-Yun Kim (NHLBI, NIH). She gave a presentation on how sequential patient recruitment monitoring (SPRM) can be effectively used for clinical trials to optimize sample collection and minimize statistical errors. She described SPRM method as an efficient way to minimize early termination of clinical trials due to loss of available patient population. The last speaker of this session was Dr. Minkyung Song (NCI, NIH), who introduced an extramural program called the "Exploring the Horizon Program." She introduced how back translation can be used to develop therapeutics that prevent development of resistance to a current treatment, and showcased a few funded research activities that used this method successfully to develop combinatorial therapeutics to overcome resistance to a common cancer treatment.



After the morning scientific sessions, members gathered for networking during the lunch session. Afternoon was started by two talks on the topic of Career Development, which was chaired by Dr. Yoo-Ah Kim (NCBI, NIH) and Dr. Yangmee Shin (FDA). The first speaker was Dr. Sharon Milgram (Director, OITE, NIH). She talked about strategies to maintain work/life balance and offered several pointers on strategies for career success. She highlighted how optimism, positive relationship, and development of emotional intelligence and holistic self-care helps propel oneself to a successful career. She also introduced the missions of OITE (Office of Intramural Training & Education), and the career advice services available to postdoctoral trainees in the NIH. The second speaker Dr. Hynda Kleinman (Consultant) talked about different career skills needed to build a successful career. She gave helpful tips on how to engage in effective public speaking, practical tips on preparing Powerpoint presentations, as well as emphasized the need for networking and mentoring.

After a brief afternoon coffee break, the members gathered for the last session, which was a Career Development panel, which was chaired by Dr. DoHwan Park (University of Maryland Baltimore County). Dr. Hey-Kyoung Lee (Johns Hopkins University), Dr. Eun Chung Park (NIAID, NIH Extramural division), Dr. Hyun Son (FDA), Dr. Susan Cho (Nutra Source, Inc.), Dr. Younsung Kim (George Mason University) gave brief overviews on their respective career paths and held question/answer sessions. This was followed by Dr. Myung Hee Park's presentation on the KWiSE NIH/DC Chapter Mentoring Program. Many of the mentors and mentees gathered for dinner at the Vit Goel Tofu & BBQ restaurant to network and to continue with the discussions on various topics related to career choices and advice specifically related to women in science.

## **SE Chapter**

On May 20, the 7<sup>th</sup> Southeastern Annual Conference was held at the Wyndham Garden Hotel in Duluth, Georgia. Dr. Sung-Sil Moon (CDC), the president of the KWiSE Southeast Chapter welcomed everyone and briefly introduced the purpose of the KWiSE annual conference. Then the first keynote speaker, Professor Hyesoon Kim (Georgia Tech) gave her talk on "What will we do with billions of transistors?" She reviewed the history and current trends of transistors and presented future of transistors after Moore' Law. After an interesting question and answer session, the second keynote speaker, Professor Jeongyoun Ahn (University of Georgia) provided her talk on "Object-oriented data analysis: Selected Recent Problems." She focused on High Dimension Low Sample Size (HDLSS) data and introduced challenges of such data analysis using with real-life data.

After a short coffee break, Dr. Mihyeon Jeon (WSP), the vice president of the KWiSE Southeast Chapter, introduced next speaker, the first speaker of our research session. Dr. Seonghye Jeon (IBM) presented her talk on "Bridging the gap: From academic training to real world analytics." She showed interesting real-life examples how IBM conducted data analysis for selected clients. A group photo was taken, then lunch was provided while all attendees introduced themselves and continued networking. The research session was continued, and the second speaker, Dr. Hyunhee Ahn (Emory University), provided her presentation on "Regenerative medicine: Current therapies and Future Directions." She introduced the concept of Regenerative Medicine (RM), and she went over its brief history and a real-life preclinical study along with its challenges and R&D trends. As the last speaker of the research session, Dr. Sunkyung Kim (CDC) gave her talk "An application of high dimensional multiclass classification methods to *Listeria monocytogenes* whole genome multilocus sequence typing data." As a biostatistician at CDC, she presented high

dimensional multiclass classification applications to *Listeria* diagnosis and data analytics. After the research session was completed, Dr. Sung-Sil Moon provided a brief update on KWiSE activities and gave appreciation plaques to the former KWiSE Southeast Chapter Presidents, Dr. Cathy Lee and Dr. Jae-Kyung Lee. She also expressed gratitude to the keynote speakers and research session speakers, and presented a Certificate of Appreciation along with a small gift. The KWiSE 7<sup>th</sup> Southeastern Annual Conference was a great success with 28 participants including 9 new members from diverse fields of study. Every participant enjoyed the time and was very impressed with research presentations from diverse fields and networking opportunities among the members.



### **Texas Chapter**

On May 20, 2017, KWiSE Texas Chapter held its 2<sup>nd</sup> Annual Regional Conference at Rice University's BioScience Research Collaborative (BRC) in Houston, Texas. This conference was successfully held with more than 50 people. Attendees were from several institutions in Texas including Baylor College of Medicine (BCM), University of Texas Health Science Center at Houston (UTHealth), MD Anderson Cancer Center (MDACC), Texas A&M University (TAMU), UT Medical Branch at Galveston (UTMB), and Rice University. Texas Chapter President Dr. Jean J. Kim (BCM) welcomed everyone and gave a brief overview of the missions and major activities of KWiSE Texas. Dr. Sukjoo Choi, President-Elect of the KSEA-South Texas Chapter, and Mr. Hyung Gil Kim, Consul General of the Republic of Korea in Houston, each gave Opening Remarks to inaugurate this important annual event.

The first scientific session in the morning, Scientific Session I: Life Sciences, was chaired by Dr. Nayun Kim (UTHealth). Talks by Dr. Amina Qutub (Rice University), Dr. Josephine Ferreon (BCM), and Jiha Kim (MDACC) covered a wide range of topics in biology and biomedical sciences, including neural networking, intrinsically disordered proteins, and metastatic cancer. This was followed by a Career Development Series seminar chaired by Dr. Yangjin Bae (BCM). Ms. Catherine Gillespie, Senior Editor at the Center for Cell and Gene Therapy (BCM) gave a talk on tips to improve clarity in scientific writing such as journal

articles and grant proposals. During Networking Lunch, members were able to network with others in smaller groups, and each table had at least 1-2 faculty-level members to lead the discussions about career paths and offer advice to trainees.

For the Keynote seminar in the afternoon, Dr. Hee-Yong Kim (National Institutes of Health, NIAAA), the current President of KWiSE, gave an interesting scientific talk entitled “Translational Research in Nutritional Neuroscience: from Molecular Mechanism to Neuroprotection”. For the rest of the afternoon, during the Scientific Session II: Engineering, chaired by Dr. Doeun Choe (Prairie View Texas A&M), we heard about new topics related to improvements in structural elements of buildings and bridges and public transportation systems from Civil Engineering majors--Dr. Debbie Kim (TAMU-Commerce), Ms. Dahye Lee (TAMU), and Ms. Sun Hee Park (TAMU). After this last series of talks, members interacted freely with poster presenters in a more intimate setting at the Poster Session. At the final Awards and Closing ceremony, poster presenters received small gifts for their participation. Finally, Dr. Jean Kim presented the KWiSE Texas Appreciation Award to Dr. Sukyeong Lee, to acknowledge her contributions and dedication to our chapter. Dr. Lee first founded the Korean Women in Science at the Texas Medical Center (KWIS@TMC), which eventually joined KWiSE as the Texas Chapter in 2015.



All in all, our 2<sup>nd</sup> annual regional conference was a great success and set the bar higher for future meetings. A link to our post-conference online survey has been emailed to attendees to provide feedback for future KWiSE Texas Chapter activities. Our goal is to further extend our networking among scientists in basic science, translational science, and the business sector. We will also strive to become a more inclusive group and incorporate other STEM majors such as Engineering and Mathematics. In this collaborative intellectual environment, we will strive for excellence in our work and hope to contribute to the Texas community and beyond!

## NY/NJ Chapter

The KWISE-NY/NJ Chapter Conference was held at Rutgers University, New Brunswick on May 20, 2017. Under this year's theme of "Link Technology, Food, and Human Health," we invited three excellent female scholars to share their research as well as their career journey. Dr. Heayeon Lee (Mara Nanotech New York, Inc.) presented her innovative research on smart biomedical sensor-device systems and some of her patents she achieved during over 20 years of her career. The highly sensitive biological nanosystem that Dr. Lee developed is promising because it could be applied to numerous other integrated digital biosensors. Dr. Sung Eun Choi (Queens College, CUNY) shared her research on racial differences in genetic taste sensitivity and food likings. Dr. Choi used 6-n-propylthiouracil taste test and surveys to assess food liking/disliking for 19 food items. As a result, her study demonstrated that race, sex, and age significantly contributed to BMI prediction. Final topic of the conference was on vitamin A metabolism and protein kinase C function presented by Dr. Youn Kyung Kim (Rutgers University). Dr. Kim's research is novel research on vitamin A and her presentation prompted dialogues on linking science to daily lives. This year's conference was inspiring and educational. All members engaged in vibrant discussions on topics from basic science to clinical implications and consumer science.

One of the special moments at this conference was the sharing time. Following Dr. Yeon Bai's (Montclair State University) opening remarks, members formed a big circle to begin self-introduction. Self-introduction was enriched by questions and answers among members, which kindled the connection. We connected through personal stories as well as research interests. Throughout the year, our chapter had several regional social gathering, i.e. in Fort Lee, Manhattan, and New Brunswick. Our membership has been growing through these events, and more members joined at this conference. 2017 NY/NJ Chapter conference marked another great success, and promised a long lasting networking, mentoring, and sharing opportunity among members.



## LA-SD Chapter

The KWise-LA/SD Chapter Conference was held at University of California Los Angeles on May 20, 2017. There were 54 participants including 22 current members of LA chapter, 5 members of SD changer, and 27 non-KWise members.

With the theme, "From Sapiens to Virtual human" we invited Dr. Sanghee Lee (UCR, anthropology, Associate Dean), Dr. Andrew Jones (Institute for Creative Technologies, USC), Dr. Eunjoon Pacifici (Clinical Pharmacy, USC), and Dr. Omolola Ogunyemi (Charles R. Drew University of Medicine and Science) as plenary speakers. We also invited KWise chapter members with their careers in pharmaceutical company (Dr. Jiyong Suk, Vertex pharmaceuticals), startup company (Dr. Janet Hur, Millibatt, Inc), and medical field (Dr. Sunmin Park, Ophthalmologist) and provided informative session of future careers for young students.

