



US-Korea Conference
Korean-American Scientists & Engineers Association (KSEA)

UKC 2026 Florida

*From Imagination to Innovation
- Into Reality*

August 5-8, 2026
Omni Orlando Resort
<https://ukc.ksea.org>

Co-Organized with

The Korean Federation of Science and Technology Societies (KOFST)
The Korea-U.S. Science Cooperation Center / National Research
Foundation of Korea (KUSCO / NRF)

Korean - American Scientists and Engineers
Association (KSEA)

UKC 2026



US - Korea Conference (UKC) 2026

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UKC 2026 Organizers

Conference Chair / Co-chair

Yong Kyu Yoon	President of KSEA	UKC 2026 Chair
Oh Nam Kwon	President of KOFST	UKC 2026 Co-Chair

Program, Executive, and Workshops

Gloria J. Kim	University of Florida	Program Chair
Jin W. Choi	Michigan Tech	Program Co-Chair
David Kwon	KSEA	Executive Director, IT Director
Stella Kim	Cloudality	Finance Director
Ohbong Kwon	New York City College of Technology	Sponsorship Director 1
Jeongwon Park	University of Nevada, Reno	Sponsorship Director 2
Jinho Park	Eurofins BioPharma Product Testing	GD, Local Operation Director 1
Jae Um	Siemens Energy	Local Operation Director 2
Jun Ik Sohn	City of Apopka	Local Operation Director 3
Sung-Hoon Gee	Seagate Technology	Engagement Director
Hyun Dong Kim	Old Dominion University	External Relations Director, Web Director
Hyojoo Han	Georgia Gwinnett College	Poster & Session Chair
Juhyun Lee	University of Texas, Arlington	SEED Chair
Jeho Park	Claremont Mckenna College	IES Committee
Yongho Sohn	University of Central Florida	UKC Advisor
Hunter Kim	NeoCity Links	Regional Relations Director
Euna Yoon	KSEA HQ	Director of Administration
Kelly Han	KSEA HQ	Financial Manager
Katie Park	KSEA HQ	IT/Web Director 2
Jahae Yun	KSEA HQ	Administrative Associate

About UKC 2026

Welcome to the 39th U.S.–Korea Conference on Science, Technology, and Entrepreneurship (UKC 2026), to be held August 5–8, 2026, in Orlando, Florida. Organized by the Korean-American Scientists and Engineers Association (KSEA) in celebration of its 55th anniversary, UKC 2026 brings together leaders from academia, industry, government, and research institutions to advance global collaboration and innovation.

Under the theme *“From Imagination to Innovation – Into Reality”* UKC 2026 will explore how scientific ideas and technological breakthroughs are transformed into real-world impact. Through plenary lectures, signature symposia, forums, and networking opportunities, the conference will highlight the critical roles of creativity, convergence, and collaboration in an era shaped by AI, data-driven science, and advanced technologies.

As KSEA’s flagship conference, UKC serves as a premier platform for sharing cutting-edge research, fostering U.S.–Korea partnerships, and nurturing the next generation of science and engineering leaders. We look forward to welcoming you to an inspiring environment where ideas become innovation and collaboration shapes the future.

US-Korea Conference (UKC)

UKC provides an environment where convergence and innovation can be ignited and implemented. It can play a major role in the Creative Economy that requires interdisciplinary integration.

UKC can play a major role in reducing the technology gap with policy makers, and build the framework to tackle global challenges through science diplomacy.

UKC fosters peer networking and mentoring, and provides a platform for current and future leaders to meet in an environment where meaningful partnerships and friendships can form and grow.

UKC Communicates Science and Technology with the public, and cultivates Science, Technology, Engineering and Math (STEM) education to empower future generations.



UKC History

No.	Year	Dates	Venue	KSEA President
1	1974	7/28-8/8	Seoul, Korea	Inyong Ham
2	1976	7/26-8/6	Seoul, Korea	Chong Wha Pyun
3	1978	7/10-13	Seoul, Korea	Sang-il Choi
4	1980	7/14-19	Seoul, Korea	Kwang Bang Woo
5	1982	7/13-21	Seoul, Korea	Kyungsik Kang
6	1991	11/29-12/2	Arlington, VA	Moo Young Han
7	1994	9/22-26	Alexandria, VA	Moon Won Suh
8	1995	8/31-9/4	San Francisco, CA	Dewey Doo-Young Ryu
9	1997	2/21-24	McLean, VA	Saeyoung Ahn
10	1998	4/23-25	Chicago, IL	Kyong Chul Chun
11	1998	10/22-24	Vienna, VA	Ki Dong Lee
12	1999	8/12-14	Los Angeles, CA	Hong Taik (Thomas) Hahn
13	2000	9/2-5	Chicago, IL	Howard Ho Chung
14	2001	8/10-12	Cambridge, MA	Nak Ho Sung
15	2002	7/8-11	Seoul, Korea	Chan Il Chung
16	2003	8/7-9	Caltech, CA	Quiesup Kim
17	2004	8/12-14	RTP, NC	Sung Won Lee
18	2005	8/11-13	Irvine, CA	Kwang-Hae (Kane) Kim
19	2006	8/10-13	Teaneck, NJ	Sung K. Kang
20	2007	8/9-12	Reston, VA	Kang-Won Wayne Lee
21	2008	8/14-17	San Diego, CA	Kang-Wook Lee
22	2009	7/16-19	Raleigh, NC	Chueng-Ryong Ji
23	2010	8/11-15	Seattle, WA	Jae Hoon Kim
24	2011	8/10-14	Park City, UT	Hosin David Lee
25	2012	8/8-11	Los Angeles, CA	Hyungmin Michael Chung
26	2013	8/7-10	New York, NY	Myung Jong Lee
27	2014	8/6-9	San Francisco, CA	Kookjoon Ahn
28	2015	7/29-8/1	Atlanta, GA	Youngsoo Richard Kim
29	2016	8/10-13	Dallas, TX	Jaehoon Yu
30	2017	8/9-12	Washington, DC	Eun-Suk Seo
31	2018	8/1-4	New York, NY	K. Stephen Suh
32	2019	8/14-17	Chicago, IL	Jun-Seok Oh
33	2020	12/14-17	Virtual	Soolyeon Cho
34	2021	12/15-18	Los Angeles, CA	Byungkyu Brian Park
35	2022	8/17-20	Washington D.C.	Young-Kee Kim
36	2023	8/2-5	Dallas, Texas	Yongho Sohn
37	2024	8/21-24	San Francisco, CA	Tae (Tom) Oh
38	2025	8/5-9	Atlanta, GA	Jae Hyeon Ryu

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

Opening Remarks from UKC 2026 Chair



Yong Kyu “YK” Yoon

UKC 2026 Chair
President of KSEA
Professor in Electrical and
Computer Engineering,
the University of Florida

Dear KSEA Members, Distinguished Guests, Colleagues, and Friends,

On behalf of the Korean-American Scientists and Engineers Association (KSEA), it is my great honor to welcome you to the 39th U.S.–Korea Conference on Science, Technology, and Entrepreneurship (UKC 2026), held in Orlando, Florida, from August 5–8, 2026.

Since its founding in 1971, KSEA has grown into the largest Korean-American scientific and engineering organization in the United States, connecting researchers, engineers, entrepreneurs, educators, students, and leaders while advancing science, technology, and innovation and strengthening the U.S.–Korea partnership.

Together with our co-hosts, the Korean Federation of Science and Technology Societies (KOFST) and the Korea–U.S. Science Cooperation Center/National Research Foundation of Korea (KUSCO/NRF), we are delighted to welcome more than 1,000 participants from academia, industry, government, national laboratories, and research institutions.

The theme of UKC 2026, *“From Imagination to Innovation – Into Reality,”* reflects our shared belief that bold ideas become transformative innovations through creativity, collaboration, and perseverance.

UKC 2026 features world-class plenary speakers, Signature Symposia in AI, Space, and Semiconductors, technical symposia, leadership and policy forums, entrepreneurship programs, sponsor forums, career development activities, and extensive networking opportunities. More importantly, it is a place where new collaborations begin, lasting friendships are built, and future leaders are inspired.

Supporting the next generation remains one of KSEA's highest priorities. Through programs such as Scientists and Engineers Early Career Development (SEED), Fostering Innovation in Rising Experts (FIRE), and the Innovation & Entrepreneurship Symposium (IES), we aim to empower students and early-career professionals to develop their careers while expanding their global perspectives and professional networks.

This year, we have also introduced several new initiatives, including organizing our 16 Clustered Technical Groups into integrated technical symposia and launching an Entertainment Technology track to reflect the growing impact of digital media, immersive technologies, and AI on education, communication, and knowledge sharing.

My administration is guided by the 4Cs—Communication, Collaboration, Community, and Creativity. These values remind us that scientific excellence is achieved not only through individual accomplishments but also through open dialogue, trusted partnerships, and a vibrant community.

I extend my sincere gratitude to our organizing committee, volunteers, sponsors, speakers, exhibitors, and participants whose dedication has made UKC 2026 possible.

I hope this conference sparks new ideas, meaningful collaborations, and lifelong friendships. Thank you for joining us in Orlando, and welcome to UKC 2026.



Yong Kyu "YK" Yoon
55th President

Welcoming Remarks from KOFST



Kwon, Oh Nam

President of the Korean Federation
of Science and Technology
Societies (KOFST)

Distinguished scientists and engineers from Korea and the United States, and honored guests, It is my great privilege to welcome you to the 2026 US-Korea Conference on Science, Technology and Entrepreneurship (UKC-2026).

Allow me to express my heartfelt gratitude to President Yong Kyu Yoon and all the members and organizers of the Korean-American Scientists and Engineers Association (KSEA), whose dedication has made this conference possible. I offer KSEA my warmest

congratulations on its 55th anniversary this year; for more than half a century it has stood at the very center of scientific and technological exchange between Korea and the United States, and I hold its devotion in the highest regard.

Held each year to advance exchange and cooperation among Korean and American experts in science and technology, UKC reaches its 39th edition this year. It has become a leading international forum where the scientists and engineers of both nations gather to share knowledge and experience and to chart the future course of collaboration.

That UKC has come this far is owed to all of you – the more than one thousand participants who bring this gathering to life each year. Orlando, our host city, is a place where imagination and daring live side by side. Disney World, which has shaped humanity's dreams into reality, and the Kennedy Space Center, which launched those dreams into space, stand together beside this one city.

A place that reveals, at a single glance, the whole path from imagination to reality, Orlando is the perfect stage for this year's theme. The theme of this year's conference is "*From Imagination to Innovation – Into Reality.*"

Einstein once said, "*Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.*" The world is not something already finished; it lies open with possibilities not yet drawn. Imagination is the power to picture, ahead of its time, what has not yet come. Every advance in science and technology has begun with those who first imagined and drew out the latent, not-yet-realized possibilities of the world – which is how things once thought impossible have become innovations, and at last realities that change our lives.

At this very moment, across artificial intelligence, semiconductors, biotechnology, quantum technology, and aerospace, those possibilities are crossing over into reality. Yet imagination alone does not become reality.

On the eve of humanity's journey to the Moon, President Kennedy declared, "***We choose to go to the Moon ... not because they are easy, but because they are hard,***" and that audacious dream became reality right here, at the Kennedy Space Center on the coast of Florida.

The power to draw what is not yet into reality has always lain in the courage to take, willingly, the hardest road. And that courage needs a direction.

In recent interviews I have stressed that in an age of AI, science must take up all the more clearly its role of asking "***why.***" The more AI quickens the speed and efficiency of research, the more deeply we must ask where our technology ought to be headed, and

why a given problem is worth solving. Imagination draws what is not yet; courage walks the road; and the question "***why***" sets its direction.

This year also marks the 60th anniversary of the Korean Federation of Science and Technology Societies (KOFST). KOFST has adopted "***Innovation through Resonance***" as its new vision as it prepares for the next sixty years. We believe greater innovation becomes possible when the capabilities and voices of scientists and engineers resonate together across different fields, generations, and nations.

UKC is precisely such a place of connection and resonance between the scientists and engineers of Korea and the United States — a place where our shared journey, choosing to go far together rather than fast alone, carries on. May UKC-2026 be more than an occasion for academic exchange: may it be a place where the scientists and engineers of Korea and the United States stand together, for the sake of future generations, before the hardest questions.

Here in Orlando, where imagination and reality meet in a single city, I trust that the insights and bonds you share will become the force that draws what is not yet into reality.

Thank you.

Welcoming Remarks from KUSCO/NRF President



Won-Hwa Hong

President of Korea-U.S. Science
Cooperation Center

President of National Research
Foundation of Korea

Distinguished Guests,

It is my great pleasure to welcome you to the 2026 US–Korea Conference on Science, Technology, and Entrepreneurship.

I would like to extend my heartfelt congratulations on the convening of UKC 2026 in Florida — an occasion that, year after year, bridges the scientific and technological communities of Korea and the United States, reaffirming our deep mutual trust, enduring partnership, and shared vision for a brighter future.

This year holds special significance, as the Korean-American Scientists and Engineers Association (KSEA) celebrates its 55th anniversary. As we mark the 39th UKC, I wish to express my profound appreciation to KSEA for its unwavering dedication and tireless efforts over the decades — serving as a vital bridge between researchers of both nations, fostering meaningful networks, and strengthening research partnerships.

As we move from 2025 into 2026, science and technology once again find themselves at the crest of a transformative wave. Artificial intelligence has not only become woven into the fabric of everyday life, but is now driving an entirely new paradigm of scientific discovery.

In this context, the United States has officially launched the Genesis Mission to accelerate AI-driven scientific research, while Korea has embarked on the K-Moonshot Program — an initiative to harness the convergence of AI and S&T in addressing national strategic challenges and leading innovation. I deeply realize that we are living in a time when fundamental changes in the research environment have already begun.

Against this backdrop, expectations for UKC 2026, which will be held under the theme *“From Imagination to Innovation—Into Reality”*, are higher than ever. This conference will explore how scientific ideas and technological breakthroughs translate into real-world impact, and will illuminate the critical roles of creativity, convergence, and collaboration in an era shaped by AI, data-driven science, and advanced technology.

In October 2025, Korea and the United States signed a Memorandum of Understanding on Technological Prosperity, expanding our bilateral research partnership into key strategic domains including artificial intelligence, quantum technologies, biotechnology, and space. The strategic partnership will enable the alliance between the two countries to be much stronger.

I firmly believe that addressing the complex and pressing challenges facing our world today requires close cross-border cooperation, and above all, collaboration among our scientists and engineers is essential.

In this spirit, the National Research Foundation of Korea (NRF) is fully committed to expanding opportunities for researcher exchanges, joint research, and other scientific activities within the framework of bilateral/multilateral cooperation between Korea and the United States. We will continue to build close partnerships that transcend national boundaries and maintain flexible frameworks for research collaboration.

I am confident that UKC 2026 will once again yield valuable insights and proposals that help shape the future direction of Korea-US science and technology cooperation. The NRF will remain steadfast in its support, ensuring that researchers from both nations can engage in open dialogue and drive innovation together.

In closing, I wish to express my deepest gratitude to Professor Yong Kyu Yoon, President of KSEA, Professor Oh Nam Kwon, President of Korean Federation of Science and Technology Societies (KOFST), and all those who have worked tirelessly to make this year's UKC a great success.

I wish you all good health and prosperity.

Thank you very much.

August 2026

Won-Hwa Hong

President, Korea-US Science Cooperation Center
President, National Research Foundation of Korea

Welcoming Remarks from UKC 2026 Program Chair



Gloria J. Kim

UKC 2026 Program Chair

Dear Participants of UKC 2026,

It is my great honor to welcome you to the 39th U.S.-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2026).

For nearly 40 years, UKC has served as a premier forum where scientists, engineers, entrepreneurs, educators, and policymakers from the United States and Korea come together to exchange ideas, foster collaboration, and build lasting partnerships. This year's theme, *"From Imagination to Innovation – Into Reality,"* celebrates the journey from bold ideas to transformative discoveries and real-world impact. It reflects our shared commitment to advancing science and technology that benefits society through creativity, collaboration, and innovation.

We are delighted to host UKC 2026 in Orlando, Florida, a city recognized not only as a world-renowned destination but also as a growing center for aerospace, simulation, advanced technologies, and entrepreneurship. With its proximity to Florida's Space Coast and vibrant innovation ecosystem, Orlando provides an ideal setting for exploring new frontiers in science and technology while strengthening U.S.–Korea collaboration.

This year's program features an outstanding lineup of Plenary Sessions, Technical Group Symposia, Signature Symposia, Sponsor and KSEA Forums, and special programs including SEED (Science and Engineering Early Career Development), FIRE (Fostering Innovation in Rising Experts), and the Innovation & Entrepreneurship Symposium (IES). The Poster Session will showcase cutting-edge research from students, postdoctoral researchers, and professionals, creating valuable opportunities to exchange ideas and build new collaborations.

I extend my sincere appreciation to our co-organizing societies, sponsors, organizing committee, technical group leaders, KSEA staff, and dedicated volunteers whose hard work and commitment have made UKC 2026 possible.

It is a privilege to welcome all of you to UKC 2026. I hope this conference inspires new ideas, meaningful collaborations, and lasting friendships. May your time in Orlando be intellectually rewarding, professionally enriching, and personally memorable.

Thank you for being part of UKC 2026, and I wish you a productive and inspiring conference.

Warmest regards,

Gloria J. Kim

Assistant Professor, Department of Engineering Education
Affiliate Faculty, Department of Electrical and Computer Engineering
Herbert Wertheim College of Engineering, University of Florida

Congratulatory Remarks

*Consul General
of the Republic of Korea
Atlanta, Georgia*



Joon Ho Lee

Consul General of the Republic of
Korea in Atlanta



August 6, 2026

To all who have gathered to participate in the 2026 U.S.-Korea Conference on Science, Technology, and Entrepreneurship (UKC), congratulations on the opening of UKC 2026.

Now in its 39th year, UKC has grown into one of the premier forums for Korean-American scientists and engineers, as well as leading researchers from both Korea and the United States. It is a place where the defining scientific challenges of our time are explored, ideas are exchanged, and bridges are built across generations, disciplines, and borders. It brings together senior and emerging leaders in science and engineering, while fostering closer collaboration among academia, industry, and government.

As the United States commemorates the 250th anniversary of its independence this year, it is especially fitting that the Korean-American Scientists and Engineers Association (KSEA) celebrates its 55th anniversary—a milestone of steadfast commitment to advancing Korea-U.S. cooperation in science and technology. The phrase our two governments use to describe our relationship—a **"future-oriented comprehensive strategic alliance"**—finds one of its clearest expressions in gatherings like UKC, where partnerships are strengthened, innovation is advanced, and the future of our alliance is shaped.

This year's theme, **"From Imagination to Innovation - Into Reality,"** is especially meaningful as artificial intelligence continues to transform our world at an extraordinary pace. Even in the age of AI, imagination remains uniquely human—and so does the determination to turn imagination into reality. I hope you will challenge and inspire one another, forge new partnerships, and together transform today's imagination into tomorrow's innovation, creating solutions that contribute to peace, prosperity, and the well-being of people around the world.

Once again, congratulations on the opening of UKC 2026. I wish you a productive and inspiring conference, and continued progress in strengthening the scientific partnership between Korea and the United States.

Sincerely,

A handwritten signature in black ink, appearing to read "Joon Ho Lee".

Joon Ho Lee
Consul General of the Republic of Korea in Atlanta

Congratulatory Remarks



Alexander N. Cartwright

President of University of Central
Florida

On behalf of the University of Central Florida, it is my pleasure to welcome you to Central Florida for the 2026 U.S.–Korea Conference on Science, Technology, and Entrepreneurship.

This conference brings together researchers, entrepreneurs, industry leaders, and students who share a common belief: that the world's most important challenges are best addressed through collaboration, discovery, and the exchange of ideas.

For decades, the partnership between the United States and the Republic of Korea has advanced scientific discovery, strengthened technological innovation, and created opportunities that extend far beyond our two nations. Universities have helped sustain that progress by educating talent, advancing research, and bringing people together around shared challenges. This conference continues that tradition by fostering new relationships, encouraging interdisciplinary collaboration, and inspiring the next generation of innovators.

I extend my sincere appreciation to the conference organizers, volunteers, sponsors, and participants whose commitment makes this gathering possible. Your work reflects the spirit of curiosity, partnership, and shared purpose that drives progress.

I hope your time in Central Florida is productive, inspiring, and filled with meaningful conversations that lead to new ideas and lasting collaborations.

Welcome, and congratulations on successful UKC 2026.

Alexander N. Cartwright
President
University of Central Florida

Plenary Speakers



William D. Phillips

Nobel Laureate in Physics

NIST Fellow and Distinguished
University Professor

Dr. William D. Phillips is a Nobel Prize-winning physicist and NIST Fellow at the U.S. National Institute of Standards and Technology (NIST), as well as a Distinguished University Professor of Physics at the University of Maryland. He was awarded the 1997 Nobel Prize in Physics for the development of methods to cool and trap atoms using laser light, a breakthrough that transformed modern atomic physics and quantum science.

Dr. Phillips founded NIST's Laser Cooling and Trapping Group and pioneered techniques that have become fundamental to cold-atom research worldwide. His work has contributed to advances in quantum technologies, precision measurement, and atomic clocks, which serve as the foundation of global timekeeping systems.

Through his scientific discoveries, education, and public engagement, Dr. Phillips continues to inspire new generations of scientists while advancing the frontiers of quantum physics.

A New Measure: the Quantum Reform of the Modern Metric System

The metric system, officially the "*International System of Units*", has its roots in the French revolution. Today we have experienced the greatest revolution in measurement since the French revolution. The quantum nature of sub-microscopic atomic matter now provides new definitions of the kilogram, ampere, kelvin, and mole. These quantities are defined by fixing values for the most fundamental quantum constant, Planck's constant; the quantum of electric charge; Boltzmann's constant; and Avogadro's number. I will explain how this is possible, why it was necessary, and speculate about future changes in the SI that may take advantage of features of the Second Quantum Revolution.

Plenary Speakers



Chris A. Malachowsky

Co-Founder and Fellow,
NVIDIA

Chris Malachowsky founded NVIDIA in 1993 and has more than 30 years of industry experience. He serves as a member of the executive staff and a senior technology executive for the company.

Malachowsky has been instrumental in managing, defining and driving the company's core technologies as it has grown from a startup to the global leader in visual and parallel computing. As an executive at NVIDIA, he has led numerous functions, including IT, operations and all facets of the company's product engineering. Most recently, he was responsible for NVIDIA's world-class research organization, which is chartered with developing the strategic technologies that will help drive the company's future growth and success. Prior to NVIDIA, Malachowsky held engineering and technical leadership positions at HP and Sun Microsystems. A recognized authority on integrated-circuit design and methodology, he has authored close to 40 patents. He holds a BSEE degree from the University of Florida and an MSCS degree from Santa Clara University. Both schools have honored Malachowsky with Distinguished Alumnus awards.

Malachowsky serves on the boards of the Computer History Museum and Hiller Aviation Museum, in Silicon Valley, and the Los Angeles County Museum of Art's Art & Technology Lab. Beyond his technical accomplishments, Malachowsky has also received an Emmy for a film he helped produce that won Best Documentary in 2009.

Expanding Access, Building the Future

AI FOR GOOD

AI is a foundational shift, not just another tool – as consequential as electricity, as transformative as the internet; we are still in the earliest innings. What happens to this country if most Americans never get a real chance to participate in the AI era?

The UF experiment as proof of concept – every department, every discipline, not just technical majors had AI across every curriculum. Scaling the model: the "*New Frontier*" 50-State Compute Initiative. AI's potential in science at the intersection of disciplines – AI + medicine, climate science, materials science; breakthroughs will come from interdisciplinary convergence, and universities are where that happens.

GOOD FOR AI

AI as a once-in-a-generation chance to rebuild and expand opportunity, not just for the privileged few. Good AI doesn't happen by accident – it requires the right people, structures, and commitments. Industry + Government + Academia working together (SCSP Taskforce on the Future of Work; state AI institutes; university partnerships). Diverse, global talent is what makes AI good – the AI era will fail if it only draws from a narrow slice of humanity. Korean-American scientists and engineers represent exactly the cross-disciplinary, globally-connected profile the field needs. Korea's indispensable role in AI infrastructure – HBM memory, advanced semiconductor packaging; US-Korea R&D collaboration is not peripheral, it's load-bearing. What "good" means for AI policy: accessible, equitable, shaped by people who understand both the technology and its human implications.

The Question Worth Asking

What happens when everyone has the tools to think bigger, build faster, and solve problems we used to think were out of reach? That's the actual race. You don't win it by restricting access – you win it by expanding it. The next breakthroughs will come from rooms like this one. Call to action: be the builders, the bridges, the curious ones – there's more to build, more states to reach, more students to empower.

Plenary Speakers



Ji-Hyun Lee

Professor, Department of Biostatistics,
University of Florida;

Associate Director and Division Director
for Cancer Quantitative Sciences,
University of Florida Health Cancer
Institute

Dr. Ji-Hyun Lee is a cancer biostatistician whose research focuses on clinical trials, cancer prevention and treatment, immunotherapy, artificial intelligence, and the analysis of large-scale health data. She has authored more than 210 peer-reviewed publications and provides statistical leadership for numerous federally funded cancer research projects.

In 2025, Dr. Lee served as the 120th President of the American Statistical Association, becoming the first Korean-American and first East Asian to hold the position in the organization's history. She also established the first Statistical Advisory Panel at Nature Medicine to strengthen methodological rigor and reproducibility in biomedical research.

Through her research, leadership, and mentoring, Dr. Lee advances the role of statistics and data science in improving human health and supporting evidence-based decision making.

Food, Medicine, and Belief: Scientific Evidence in the Age of Uncertainty

As a biostatistician working in cancer research, I have spent much of my career studying how evidence shapes medical decisions when the stakes are high. In this talk, I will share examples from my own research to illustrate how modern science navigates uncertainty, belief, hope, and rapidly evolving data. I will discuss a randomized clinical trial evaluating neutropenic diets in patients with blood cancer, observational studies examining ivermectin and cancer outcomes using large-scale electronic health records, and ongoing work on mRNA-based cancer vaccines and immunotherapy. I will also reflect on how data science, AI, and large-scale health data are creating new opportunities (and new challenges) for generating and interpreting medical evidence. As scientific information becomes easier to produce, questions about causation, uncertainty, and human judgment may become even more important. Ultimately, the goal of science is not simply to generate more data, but to help people understand what the evidence truly shows.

2026 KSEA Awards



Eun-Suk Seo

Professor
University of Maryland
College Park, MD

Outstanding Contribution to KSEA Award (presented by KSEA and MSIT)

Dr. Eun-Suk Seo is a Professor at the University of Maryland, College Park, MD. She obtained her B.S. and M.S. in Physics from Korea University in 1984 and 1986, respectively. She subsequently earned her Ph.D. in Physics from Louisiana State University, Baton Rouge, LA, in 1991.

Dr. Seo has established a legacy of research leadership and field-defining contributions. She has authored approximately 200 peer-reviewed journal articles and more than 300 conference proceedings papers, amassing over 26,000 citations with an h-index of 67. Demonstrating sustained international recognition, she has delivered 213 invited talks worldwide, which includes twelve in the year 2025 alone. Her cumulative research funding exceeds \$30 million. Through this robust funding, over 100 students have been trained in her laboratory, extending the intellectual reach of her program as many now contribute to academia, national laboratories, and industry.

Throughout her distinguished career, Dr. Seo has received numerous prestigious accolades. She was the recipient of the Presidential Early Career Award for Scientists and Engineers from the White House in 1997. She received the NASA Group Achievement Award from the National Aeronautics and Space Administration in both 2006 and 2011. In 2008, the National Science Foundation awarded her the Antarctica Service Medal of the United States of America. She was elected as an American Physical Society Fellow in 2010. Additionally, she was honored with the Scientist of the Year Award by KSEA and KOFST in 2015 and was named the Korean-American Day Honoree by the Korea Economic Institute in Washington DC in 2017.

Dr. Seo's contributions to the KSEA represent some of her most noteworthy achievements. Her extensive leadership across major scientific associations includes her involvement in the Korean-American Aerospace Science and Technology Association (KASSTA). She has dedicated significant service as the 46th President of the Korean-American Scientists and Engineers Association (KSEA), the 4th President of Korean-American Women in Science and Engineering (KWiSE), and the 29th President of the Association of Korean Physicists in America (AKPA). Furthermore, she holds a position on the Board of Directors of the Korea-U.S. Science Cooperation Center (KUSCO).

2026 KSEA Awards



Ji-Hyun Lee

Professor, Department of Biostatistics,
University of Florida;

Associate Director and Division Director
for Cancer Quantitative Sciences,
University of Florida Health Cancer
Institute

Scientist of the Year Award (presented jointly by KSEA and KOFST)

Dr. Ji-Hyun Lee is a distinguished biostatistician whose career has strengthened the role of statistics in biomedical science and expanded the visibility of Korean-American scientists in international scientific leadership.

In 2025, Dr. Lee served as the 120th President of the American Statistical Association (ASA), the world's largest statistical society, founded in 1839. She became the first Korean-American and first East Asian to hold this office in the organization's history. In this role, she championed the importance of statistical science in addressing societal and biomedical challenges. She previously served as President of the Caucus for Women in Statistics and Data Science, reflecting her commitment to mentorship, inclusion, and service.

Dr. Lee has authored more than 210 peer-reviewed publications in leading journals, including Nature, Cell, and the Journal of Clinical Oncology. She is co-first author of a Phase III randomized clinical trial that influenced clinical perspectives on dietary management in immunocompromised cancer patients. She has also contributed to studies demonstrating that mRNA COVID-19 vaccines can enhance anti-tumor immune responses, advancing next-generation cancer immunotherapy. In addition, she is a co-inventor of an emerging machine learning approach that uses brain imaging patterns to predict tumor characteristics and improve the identification of pseudoprogression, advancing efforts toward non-invasive cancer characterization. She currently contributes statistical leadership to multiple NIH-, NCI-, and PCORI-funded cancer research projects as lead biostatistician, core director, and co-investigator.

Dr. Lee established the first statistical advisory panel at Nature Medicine, bringing together 57 statisticians to strengthen rigor and reproducibility in biomedical research. She also initiated the ASA Clinical Trials Certification Program to bridge the gap between statistical education and clinical research practice.

Dr. Lee is a dedicated mentor and educator. She has mentored numerous graduate students and early-career scientists and co-authored *궁금하면 과학이야*, a book written to encourage young Korean women to pursue STEM careers.

Dr. Ji-Hyun Lee exemplifies scientific excellence, leadership, and service to the broader scientific community. Through her scholarship, mentorship, and international leadership, she has helped expand the visibility of Korean-American scientists while supporting and inspiring future generations of researchers.

2026 KSEA Awards



Young-Shin Jun

Anna McKelvey Professor
McKelvey School of Engineering
at Washington University

Engineer of the Year Award (presented by KSEA and KOFST)

Dr. Young-Shin Jun is Professor of Energy, Environmental & Chemical Engineering at Washington University in St. Louis (WashU). She earned her B.S. and M.S. in Environmental Science and Engineering from Ewha Womans University, and her S.M. and Ph.D. from Harvard University. After postdoctoral research at the University of California-Berkeley/Lawrence Berkeley National Laboratory, she joined WashU in 2008 and was promoted early to both Associate and Full Professor.

Dr. Jun is recognized for her pioneering contributions to mineral nucleation and water-solid interfacial processes, translating nanoscale phenomena into scalable, sustainable technologies for water, energy, and resource recovery. A highly influential leader bridging the scientific communities of the United States and South Korea, she chaired the symposium "*Achieving Carbon Neutrality*" at the 2023 US-Korea Conference (UKC) in Dallas. Since 2013, she has served as the McDonnell International Scholars Academy Ambassador to Seoul National University and has fostered educational and research collaborations with leading Korean universities and research institutions.

Dr. Jun is a globally recognized leader in environmental and chemical engineering. Her innovations in three major thrusts—energy-related CO₂ systems, critical mineral recovery for a circular economy, and advanced nanomaterials for clean water—are transforming how society stores carbon, secures critical elements, and delivers safe drinking water. Her research advances CO₂ capture, utilization, and storage and CO₂-enabled energy systems. She has developed several patented technologies for recovering critical minerals and nutrients from unconventional resources, along with photothermal membrane systems for clean water production.

Dr. Jun's scholarly impact is demonstrated by 159 peer reviewed publications and four granted patents. She has received numerous honors, including the 2011 U.S. NSF CAREER Award, the 2020 James Lee Award, and the 2025 IUPAC Distinguished Women in Chemistry or Chemical Engineering Award. She was named a 2015 Kavli Fellow by the U.S. National Academy of Sciences, a 2016 Frontiers of Engineering Fellow by the U.S. National Academy of Engineering, a 2018 Fellow of the Royal Society of Chemistry, a 2019 Fellow of the American Chemical Society (ACS), and a 2024 Fellow of the American Association for the Advancement of Science. As chair of the ACS Committee on Science, she identifies and advances the frontiers of chemical science. She has mentored 119 students and supported K-12 STEM education since 2008.

2026 KSEA Awards



John Jungwoo Ha

Founder & Chief Executive Officer
Bear Robotics, Inc.

Entrepreneur of the Year Award (presented by KSEA and Maeil Business Newspaper)

Dr. John Jungwoo Ha is the Co-Founder and Chief Executive Officer of Bear Robotics, a global Physical AI company building full-stack autonomous robotics platforms that enable intelligent automation across hospitality, healthcare, logistics, manufacturing, and other commercial and industrial environments. Under his leadership, Bear Robotics has evolved beyond a service robotics company into a robotics platform company, integrating AI software, autonomous mobility, fleet management, cloud infrastructure, and operational intelligence to power the next generation of Physical AI applications.

Dr. Ha earned his bachelor's degree in Computer Science from Seoul National University and his Ph.D. in Computer Science from The University of Texas at Austin. Prior to founding Bear Robotics, he held engineering and research roles at technology startups and served as a Research Scientist at Intel and a Technical Lead at Google. He also gained firsthand experience operating a restaurant, providing unique insight into frontline operational challenges and shaping his vision for practical robotics solutions. In addition, he served as an Adjunct Professor at KAIST, helping bridge academic research and industry innovation.

Since co-founding Bear Robotics in 2017, Dr. Ha has led the company's growth into one of the world's largest deployed Physical AI and autonomous robotics platforms. Bear Robotics develops both robotic hardware and AI-driven software infrastructure, creating a full-stack ecosystem that enables robots to operate, learn, and collaborate effectively in dynamic real-world environments. Unlike many robotics companies focused primarily on prototypes or limited deployments, Bear Robotics operates at scale, with more than 15,000 robots deployed globally across thousands of customer locations. Today, the company's technology is deployed in more than 20 countries and 46 U.S. states, supporting mission-critical workflows across hospitality, healthcare, retail, logistics, and industrial sectors.

Dr. Ha has published numerous research papers in artificial intelligence, machine learning, and computer systems, and his leadership has helped earn global recognition for Bear Robotics, including the iF Design Award, International Design Awards (IDA), Kitchen Innovation Award, and Hospitality Innovation Planet (HIP) Award.

As a pioneer in Physical AI, he is focused on bridging the gap between AI breakthroughs and large-scale commercial adoption, building the infrastructure that enables intelligent robots to become an integral part of the future workforce.

2026 KSEA Awards



Sung-Sil Moon

Senior Research Microbiologist,
CDC
President, KWiSE

Outstanding Community Service Award

Dr. Sung-Sil Moon is a scientist, mentor, and community builder whose seventeen years of sustained service to KSEA represent the very spirit of excellence. While maintaining a distinguished research career at the Centers for Disease Control and Prevention (CDC), she has dedicated herself to building institutions and advancing women in STEM—from young students in Atlanta to postdoctoral researchers across two continents.

As a Senior Research Microbiologist at the CDC, Dr. Moon leads critical vaccine development for rotavirus and has contributed significantly to global emergency responses for COVID-19, Ebola, and Monkeypox. Her professional credibility, recognized by honors such as the CDC Honor Award and the NCIRD Director's Award for Innovation, serves as the foundation for her influential community leadership.

As President of KWiSE Headquarters, Dr. Moon strengthened national networks and established enduring pathways for female scientists. Under her leadership, KWiSE launched the Young Scientist Scholarship and the Outstanding Woman Scientist Award. She has also been the driving force behind the Women in STEM Forum at the U.S.–Korea Conference (UKC), elevating it into a flagship program. In 2025, her role as UKC Poster Director further demonstrated her commitment to supporting early-career researchers with professional care.

Her impact on mentorship is perhaps most evident in the KWiSE–WiSET Global Mentoring Program, which in 2025 served 168 mentees. Through structured curricula in career and leadership development, Dr. Moon has provided guidance that many credit as pivotal to their professional trajectories.

Since 2008, Dr. Moon has also been a cornerstone of the KSEA Georgia Chapter. She established a dedicated KWiSE Award for top-performing female students in the KSEA Math Competition, encouraging young girls in the Atlanta region to pursue STEM with confidence. Furthermore, as a member of the UKC 2025 Organizing Committee, she successfully engaged local political and business leaders to expand KSEA's visibility across the southeastern United States.

Dr. Sung-Sil Moon exemplifies outstanding community service: consistent, creative, and genuinely dedicated to others. From the laboratory bench to the conference stage, she continues to advance KSEA's mission with humility and purpose.

2026 KSEA Awards



North Carolina Chapter Sung-Ju Kim

Associate Professor
School of Social Work
North Carolina State University

Outstanding Chapter and Chapter President Award

Dr. Sung-Ju Kim is a tenured Associate Professor at North Carolina State University's School of Social Work and an affiliated faculty member in the School of Public and International Affairs, specializing in nonprofit management, philanthropy, and civil society. He holds a Ph.D. from Indiana University and a Master of Social Administration from Case Western Reserve University, and has published extensively in peer-reviewed journals on topics including nonprofit management, philanthropic giving, and NGO education across East Asia and the West. He has served various nonprofit organizations both in South Korea and the U.S. and Korean-American professional communities, including KSEA (President of the KSEA North Carolina Chapter (2023–2026), nonprofit director and advisor since 2017), Korean Nonprofit and Philanthropy Researchers Association (KNPRN, Founder and executive director, 2008–2024); KASWEA, SPIA, the Beautiful Foundation, and others.

2026 KSEA Awards



Georgia Chapter

Jae-Kyung Lee

Associate Professor
University of Georgia

Outstanding Chapter and Chapter President Award

The Korean-American Scientists and Engineers Association has continued to expand its regional impact through scientific conferences, mentorship programs, outreach initiatives, and professional networking activities that support the Korean-American STEM community across Georgia and the southeastern United States. Under the leadership of Dr. Jae-Kyung Lee as Chapter President in 2025, the chapter successfully organized the joint KSEA-KWiSE Southeast Chapter Conference, bringing together more than 50 participants from universities and research institutions across the region to strengthen interdisciplinary collaboration and engagement between the KSEA and KWiSE communities. The chapter also played an active role in regional preparation and participation in the U.S.-Korea Conference (UKC) 2025, promoting involvement of faculty, postdoctoral researchers, and students in national KSEA programs and increasing the chapter's visibility within the broader KSEA network. Additional chapter activities included executive committee meetings, membership drives, postdoctoral networking events, student and young professional outreach programs, and the successful organization of the 2026 National Math and Science Competition (NMSC), which hosted 90 student participants. These activities reflected the chapter's strong commitment to scientific exchange, mentorship, leadership development, and STEM outreach.

Dr. Jae-Kyung Lee is an Associate Professor in the Department of Physiology and Pharmacology at the University of Georgia College of Veterinary Medicine, with affiliated appointments in the Neuroscience Ph.D. Program and the Regenerative Bioscience Center. Her research focuses on neuroinflammation and neurodegenerative diseases, including Parkinson's disease, Alzheimer's disease, and Lewy body disorders, with particular emphasis on immune regulation and α -synuclein pathology. Her research has been supported by the National Institute of Neurological Disorders and Stroke and the Michael J. Fox Foundation for Parkinson's Research.

Prior to serving as Chapter President, Dr. Lee contributed as a Vice President in 2024, helping organize seminars and networking events that promoted scientific exchange and professional collaboration among Korean-American researchers across academia and industry. She has also demonstrated a sustained commitment to mentorship and community service through the KWiSE-WiSET Global Mentorship Program, serving as a mentor for four consecutive years (2021–2024) and supporting approximately 50 mentees annually from Korea and the United States through career guidance and research mentorship. In recognition of her scientific achievements, leadership, and service within the Korean-American scientific community, Dr. Lee received the Korean-American Women in Science and Engineering, honoring both her contributions to neuroimmunology research and her dedication to mentoring the next generation of scientists.

2026 KSEA Awards



Woo Jong "Kevin" Kim

Senior Associate, SOCOTEC US

Young Generation Leadership Award (presented by KSEA and KOFST)

Mr. Woo Jong "Kevin" Kim is recognized for his outstanding leadership and sustained contributions to the Korean-American Scientists and Engineers Association (KSEA), particularly in advancing the growth, engagement, and development of the Young Generation (YG) community.

Over the course of his involvement with KSEA, Mr. Kim has demonstrated a remarkable trajectory of leadership, beginning as a student leader and continuing through chapter and national roles. From serving as Student Chapter President to Young Professional Director, Chapter Vice President, and currently as a Council Member of the New York Metropolitan Chapter, he has consistently dedicated himself to strengthening the foundation and future of the organization. His leadership reflects not only continuity but also a deep commitment to cultivating the next generation of KSEA members. At the national level, Mr. Kim has played a pivotal role in shaping YG initiatives and programs. As Young Generation Director and as Chair of IMPACTs, he led efforts to design and deliver impactful programming that connects students and early-career professionals with emerging technologies, career pathways, and professional networks. Under his leadership, these initiatives have expanded opportunities for engagement and learning, while reinforcing KSEA's mission to support the growth of young scientists and engineers.

Mr. Kim's contributions are distinguished by his focus on building a strong and sustainable YG pipeline. He has been instrumental in developing structured mentorship and professional development programs, strengthening member engagement and retention, and fostering meaningful collaboration across generations within KSEA. His efforts have helped create an inclusive and supportive environment where students and young professionals can connect, grow, and contribute to the broader community. Beyond his formal roles, Mr. Kim is widely recognized for his dedication to mentoring emerging members and promoting a culture of service and leadership. His ability to connect individuals, inspire participation, and build lasting relationships has significantly enhanced the vitality and cohesion of the YG and YP community. For his exemplary leadership, vision, and enduring commitment to the advancement of KSEA's Young Generation, Mr. Woojong Kim is a most deserving recipient of the 2026 Young Generation Leadership Award.

2026 KSEA Awards



Hanwha Group

2026 Distinguished Sponsor Award

Hanwha Group is recognized for its steadfast dedication to advancing STEM education and empowering the next generation of innovators. Since 2021, the organization has been a vital benefactor of KSEA's National Math and Science Competition, contributing \$70,000 annually for total sponsorship of \$350,000 to date. In addition to this foundational support, Hanwha Group proudly partnered with KSEA to inaugurate the KSEA Mathematics Olympiad. By annually awarding \$3,000 scholarships to ten top finalists (total of \$30,000 per year), Hanwha grants these bright students the opportunity to attend prestigious national math camps across the United States. In profound appreciation of their philanthropic leadership and investment in young talent, the Committee is proud to recognize Hanwha Group.

2026 KSEA Honors



Kang-Wook Lee

Retired from IBM T.J. Watson
Research Center

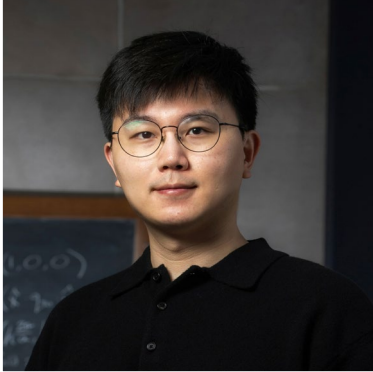
2026 Distinguished Service Membership (DSM)

Dr. Lee had a distinguished career, having worked for IBM T.J. Watson Research Center (1988-2018) and receiving 3 IBM Outstanding Technical Achievement Awards, Tenth Plateau IBM Invention Achievement Awards as well as 2 IBM Research Division Awards and 7 other IBM recognition awards for contributions. He received his Ph.D. from Rutgers University (Organic Chemistry) in 1982 and BS from Seoul National University (Applied Chemistry) in 1974. He served Korean Navy Officer & Naval Academy Instructor (해군사관학교 교관) for 1974-1977. He was an awardee of the 2021 Outstanding Contribution to KSEA award presented jointly by KSEA and the Ministry of Science & ICT.

During his tenure as the KSEA's 37th President, he chaired the UKC2008 with a great success in fund-raising as well as scientifically superb programs. He led to have both the Bylaws and Policies amended enabling E-voting and establishing two VPs. Dr. Lee's service record within KSEA is unparalleled in both depth and breadth. His cumulative service activities reflect decades of continuous engagement at the chapter, regional, and national levels. More importantly, his service has been transformative rather than merely participatory. One of Dr. Lee's most enduring legacies is his foundational role in KSEA's educational outreach. As the founding chair of the first KSEA New York Metro Math & Science Olympiad (KMSO) in 1994, he helped establish a flagship program that has now continued for more than three decades and inspired similar national programs, including the National Math & Science Competition (NMSC). His vision for engaging students and parents helped anchor KSEA's mission firmly within the broader Korean-American community. Dr. Lee has also been a central architect of KSEA's Young Generation (YG) programs. From early regional YG activities in the late 1990s to the eventual creation of the Young Generation Leadership Forum (YGLF) and its evolution into today's YGTLC (Ygnite), his ideas, proposals, and fundraising efforts laid the groundwork for programs that now serve hundreds of young scientists and engineers annually.

Dr. Kang-Wook Lee exemplifies the very essence of the Distinguished Service Member Award. He serves with humility, works tirelessly behind the scenes, and approaches every responsibility with a deep sense of stewardship. His contributions have shaped KSEA's programs, strengthened its institutions, and inspired generations of members.

2026 KSEA Young Investigator Grants



Jong Yeon Lee

Assistant Professor
University of Illinois
Urbana-Champaign

2026 KSEA YIG Award in Science

Dr. Jong Yeon Lee is an Assistant Professor at the University of Illinois, Urbana-Champaign. He received his B.S./M.S. in Physics and Mathematics from the California Institute of Technology, Pasadena, in 2015. He earned his Ph.D. in Physics from Harvard University in 2020, under the supervision of Professor Ashvin Vishwanath.

Dr. Lee has received numerous accolades, including the AKPA Outstanding Young Researcher Award in 2022, the Gordon and Betty Moore Fellowship in Kavli Institute of Theoretical Physics, Santa Barbara, for 2020-2023, and the 2015 Richard P Feynman Prize. His prolific publication record exceeds 30 papers published in high impact journals including solo author paper in Phys. Rev. Lett. in 2025. He has given over 40 invited talks at very prestigious venues.

Dr. Lee's research is distinguished by its ability to turn abstract ideas from quantum information into concrete conceptual advances and experimentally relevant tools for open quantum systems. On the experimental front, he developed efficient decoding observables that make measurement-induced phase transitions accessible on existing platforms by linking entanglement criticality to classical post-processing protocols. On the theoretical front, he discovered strong-to-weak spontaneous symmetry breaking, a new phenomenon in open quantum systems that has opened a significant new research direction and drawn broad attention in the field. In particular, his theory offers a bottom-up route from microscopic dynamics to transport laws such as diffusion and sound, directly connecting microscopic models to measurable quantities in quantum devices. Furthermore, he has established an information-theoretic framework for nonequilibrium phases of matter, providing new ways to characterize phases ranging from quantum error-correcting codes under decoherence to noisy quantum resource states. Together, these advances provide algorithmic, diagnostic, and theoretical tools that bridge fundamental quantum information theory and the practical development of next-generation quantum technologies.

2026 KSEA Young Investigator Grants



Junsoo Kim

Assistant Professor
Department of Mechanical Engineering
Northwestern University

2026 KSEA YIG Award in Engineering

Dr. Junsoo Kim is an Assistant Professor in the Department of Mechanical Engineering at Northwestern University. He received his B.S. and M.S. degrees in Mechanical & Aerospace Engineering from Seoul National University, Republic of Korea, in 2011 and 2013, respectively. He earned his Ph.D. in Materials Science & Mechanical Engineering from Harvard University in 2022, under the supervision of Professor Zhigang Suo.

Dr. Kim has received several Honors and Awards, including the Kavli Frontiers of Science Fellow (2024) from the National Academy of Sciences, Scialog Fellow (2024) from the Research Corporation for Science Advancement, two Scialog Awards (2024 and 2025), and the Haythornthwaite Foundation Research Initiation Grants (2025). His prolific publication record is significant over 38 papers published in top journals including Nature, Science, Advance Materials, Proceedings of the National Academy of Sciences, Matter, and Chemical Reviews.

Dr. Kim's research to reinforce the durability of soft materials has great potential to address grand challenges in our society such as polymer pollution and health care. The impact of his study reaches fundamental science in soft matter, engineering of soft biomedical devices, and even traditional materials such as tires. In the past five years, he identified a novel design principle to greatly improve the fracture resistance of hydrogels and rubbers by engineering the molecular structure of polymer networks. He also showed how to apply this principle to various types of soft materials such as industrial polymers and natural polymers. Dr. Kim is a rising research star and leading scholar in the fracture of soft materials, a topic area that has drawn a large amount of interest due to its far-reaching impact and interdisciplinary characteristics.

Program at a Glance

Time	8/4/2026 (Tue)	8/5/2026 (Wed)	8/6/2026 (Thu)			8/7/2026 (Fri)			8/8/2026 (Sat)
7:00-8:00	Breakfast								
8:00-10:00		SEED	Opening / Plenary I			Plenary II, Fireside chat with Chris A. Malachowsky			TG Symposiums/ FIRE
10:00-10:15			Break						
10:15-12:00			Signature Symposiums			Sponsor Forums			Closing / Plenary III
12:00-1:00	SEED	SEED	Lunch						
1:00-3:00			Distinguished Sponsor Forums			KSEA Forums			
3:00-3:15			Break in the Exhibit Hall						
3:15-5:00			KSEA Forums	IES opening		TG Symposiums	FIRE	IES	
5:00-6:45			TG Symposiums	FIRE	IES	Posters	IES SPC		
7:00-9:00		Sponsor Welcome Reception & Dinner Invitation Only	Gala Dinner			Networking Dinner			

Room Information

Thursday, August 6, 2026								
Room/Time	7:00-8:00	8:00-10:00	10:15-12:00	12:00-1:00	1:00-3:00	3:15-5:00	5:00-6:45	7:00-9:00
International Ballroom I	Sponsor Booth / IES Global R&D Demo							
International Ballroom II			Signature Symposium - Space					
International Ballroom III	Breakfast			Lunch			Bio I	
National Ballroom A		Opening / Plenary I	Signature Symposium - AI					Gala Dinner
National Ballroom B								
National Ballroom C								
Royal Melbourne						IES		
Royal Dublin	IES Startup Demo							
Augusta A					Hyundai Motors Chung Mong		IT, Quantum & Semiconductors	
Augusta B					Koo Foundation Forum		Infrastructure, Mobility & Robots	
Champions-Gate			Signature Symposium - Semiconductors		Innopolis Forum		FIRE	
Olympic A, B					NRF	Joint Science Policy and Diplomacy Forum	Bio II	
Colonial A					TIPA	KEIT Forum	Emerging Areas	
Colonial B					KOR-US Quantum	KWISE - WISET Women Forum	Basic Sciences	
Congressio-nal A			Ewha womans University Community Meeting (11:00-1:00)				Agriculture, Food, Nutrition	
Congressio-nal B			Korea University Community Meeting(12:00-2:00)			NST Forum	Energy, Materials & Resources	
Oakmont A					Yonsei University Community Meeting(2:00-3:30)		Aerospace & Ocean	
Oakmont B						KIAT-K TAG	Emerging Areas 2	
Suite#245		Hanyang University Interview						

*Please be aware that the room assigned above is subject to change.

Friday, August 7, 2026								
Room/ Time	7:00-8:00	8:00-10:00	10:15-12:00	12:00-1:00	1:00-3:00	3:15-5:00	5:00-6:45	7:00-9:00
International Ballroom I	Sponsor Booth							
International Ballroom II				Poster Prep (12:00-5:00) Poster Session (5:00-6:45)				
International Ballroom III	Breakfast			Lunch				
National Ballroom A, B, C		Plenary II						Networking Dinner
Royal Melbourne			Gyeongsang National Univ.			IES (3:15-5:00) IES SPC (5:00-6:45)		
Augusta A			Innopolis Forum			IT, Quantum & Semiconductors		
Augusta B			Rural Development Admin.			KWiSE - WISET Women Forum		
Champions-Gate			SNU Forum	YGF Forum		FIRE		
Olympic A, B					Future Tech	Bio II		
Colonial A			KIAT			Emerging Areas		
Colonial B			Sookmyung Women's University (SMWU)			Bio I		
Congressio-nal A			Catholic Kwandong & Kangwon National Univ.	R&D Leadership Forum		Agriculture, Food, Nutrition		
Congressio-nal B			KHIDI	Univ. Leadership Forum		Energy, Materials & Resources		
Oakmont A			IES Global R&D			Aerospace & Ocean		
Oakmont B						Basic Sciences		
Suite#245		Hanyang University Interview						

*Please be aware that the room assigned above is subject to change.

Saturday, August 8, 2026

Room/Time	7:00-8:00	8:00-10:00	10:15-12:00	12:00-1:00	1:00-2:00
International Ballroom II					
International Ballroom III	Breakfast				
National Ballroom A			Closing / Plenary III		
National Ballroom B					
National Ballroom C					
Royal Melbourne A, B					
Augusta A		IT, Quantum & Semiconductors			
Augusta B		Infrastructure, Mobility & Robots			
ChampionsGate		FIRE			
Colonial A		Emerging Areas			
Colonial B		Bio I			
Congressional A		Agriculture, Food, Nutrition			
Congressional B		Energy, Materials & Resources			
Oakmont A		Aerospace & Ocean			
Oakmont B		Basic Sciences			
Olympic A		Bio II			
Olympic B					

*Please be aware that the room assigned above is subject to change.

Plenary Schedule

Thursday, August 6, 2026			
8:00–10:00 am	Opening Ceremony (Chaired by Prof. Gloria Kim & Prof. Jin W Choi) • KSEA Introduction Video • National Anthems (Korea and USA) - Dr. Sharon Baik • Opening Remarks - Yong-Kyu Yoon, President, Korean American Scientists and Engineers Association (KSEA) • Welcoming Remarks - Oh Nam Kwon, President, Korean Federation of Science and Technology Societies (KOFST) - Won-Hwa Hong, President, KUSCO/National Research Foundation (NRF) • Congratulatory Remarks - In Kyu Park, Vice Minister for Science, Technology and Innovation Ministry of Science and ICT - Darren Michael Soto, U.S. representative for Florida's 9th district - Andy Kim, U.S. Senator, New Jersey (Video) - Matt Swanson, President and Chief Executive Officer of SelectFlorida - Joon Ho Lee, Consul General of the Republic of Korea in Atlanta - Alexander N. Cartwright, President, University of Central Florida • Introducing Dignitaries & Sponsor Representatives • Award Ceremony I - Outstanding Contribution to KSEA Award Presented by MSIT - Scientist of the Year Award Presented by KOFST - Engineer of the Year Award Presented by KOFST - Young Generation Leadership Award Presented by KOFST • Plenary Lecture I - Dr. William D. Phillips, 1997 Nobel Prize in Physics for developing methods, NIST Fellow, Distinguished University Professor at the University of Maryland, College Park • <i>"A New Measure: the Quantum Reform of the Modern Metric System"</i> • Group Photo		National Ballroom
10:00–10:15 am	Break		
10:15–12:00 pm	UKC 2026 Signature Symposium • AI Forum Chair: Young-Kee Kim, Professor, University of Chicago • Space Forum Chair: Eun-Suk Seo, Professor, University of Maryland • Next Generation Semiconductor Forum Chair: Jin W Choi, Professor, Michigan Tech University		National Ballroom, International Ballroom and Champions Gate
12:00–1:00 pm	Lunch		International Ballroom
1:00– 3:00 pm	Distinguished Sponsor Forums		
3:00 – 3:15 pm	Break		
3:15 – 5:00 pm	KSEA Forums (KWiSE-WISET Forum/ Science Policy & Diplomacy Forum)		IES Opening
5:00 – 6:45 pm	Fostering Innovation with Rising Expert (FIRE)	Technical Group Symposiums	IES

Thursday, August 7, 2026

7:00 – 9:00 pm	UKC Gala Dinner (MC - Ms. Stella Kim) • Dinner • Opening Remarks - Yong-Kyu Yoon, President, Korean-American Scientists and Engineers Association (KSEA) • Welcome Remarks - Oh Nam Kwon, President, Korean Federation of Science and Technology Societies (KOFST) Awards Ceremony II (Honors and Awards Committee Chair Prof. IL Minn) - Young Investigator Grant Award in Science - Young Investigator Grant Award in Engineering - Distinguished Membership Award - Distinguished Sponsorship Award - Entrepreneur of the Year Award - Outstanding Community Service Award - Outstanding Chapter and Chapter President Award (2) • Music Performance Rohan Reid Jazz Trio	National Ballroom
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Friday, August 7, 2026

8:00–10:00 am	Plenary Session (Chaired by Prof. Soyeon Kum & Prof. Harold Kim) • KSEA-KUSCO Graduate Scholarship Award • Research Vision Talks • Hee Kwon Jung, President, Korea Innovation Foundation (Innopolis) <i>"Innovation Ecosystem of INNOPOLIS"</i> • Ricky Kim, Chief Operating Officer (COO), Open Healthcare <i>"Riding the Next K-Wave: K-Dx"</i> • Seung-Wook Baek, Director/Program Manager, National Research Foundation of Korea (NRF) on behalf of Korea-US Quantum Technology Cooperation Center <i>"The Quantum Race: Unlocking the Invisible"</i> • Jaeyoon Kim, Third General Manager of Research Department, Kongju National University <i>"TBD"</i> Plenary Lecture II - Chris A. Malachowsky, Co-Founder, Fellow, and Senior Technology Executive of NVIDIA <i>"Expanding Access, Building the Future"</i> Fireside Chat with Chris A. Malachowsky			National Ballroom
10:00–10:15 am	Break			
10:15–12:00 pm	Sponsor Forums			Various
12:00–1:00 pm	Lunch			International Ballroom
1:00– 3:00 pm	KSEA Forums (University Leadership Forum/ R&D Leadership Forum/KWiSE Forum/ KOFST Next Generation Alumni Forum)			Various
3:00 – 3:15 pm	Break			
3:15 – 5:00 pm	Technical Group Symposia	Fostering Innovation with Rising Expert (FIRE)	IES	Various
5:00 – 6:30 pm	Poster Session		IES Startup Pitch Competition	
7:00 – 9:00 pm	Networking Dinner			National Ballroom

Saturday, August 9, 2026		
8:00–10:00 am	Technical Group Symposiums	Various
10:00–10:15 am	Break	
10:15–12:00 pm	Plenary & Closing (Chaired by Dr. Jinho Park & Prof. Hyun Dong Kim) • Plenary Lecture III - Dr. Ji-Hyun Lee, Former President, American Statistical Association, Professor, University of Florida <i>"Food, Medicine, and Belief: Scientific Evidence in the Age of Uncertainty"</i> • Award Ceremony III - IES Award - UKC 2026 Poster Award • UKC 2026 Raffle Announcement • UKC 2027 Announcement, Ohbong Kwon, President-Elect of KSEA • Closing Remarks, Yong-Kyu Yoon, President of KSEA	National Ballroom

Signature Symposium

AI Signature Symposium

Thursday, Aug 6 10:15 – 12:00pm National Ballroom

Chair



Young-Kee Kim

Albert A. Michelson
Distinguished Service
Professor of Physics,
University of Chicago

Speakers



Rebecca Willet

Worah Family Professor of
Statistics and
Computer Science
Faculty Director of AI,
Data Science Institute
The University of Chicago



Sowjanya Gollapinni

Senior Scientist, Los Alamos
National Laboratory
Co-Spokesperson,
DUNE Experiment

The AI Signature Symposium: The Genesis Mission highlights a transformative U.S. national initiative launched in November 2025 and led by the U.S. Department of Energy (DOE). The Genesis Mission brings together national laboratories, academia, industry, and government partners to harness artificial intelligence for breakthroughs in energy dominance, discovery science, and national security.

This symposium showcases how AI, high-performance computing, and experimental science are converging through the Genesis Mission to accelerate innovation at an unprecedented scale.

Panelists



Oh Nam Kwon

President of the Korean
Federation of Science and
Technology
Societies (KOFST)



William Phillips

Nobel Laureate in Physics
Fellow, NIST
Distinguished University
Professor,
University of Maryland



Youngsuk "YS" Chi

Chairman, Elsevier
Director,
Corporate Affairs at RELX



Sangig Rho

Executive Vice President,
Acryl Inc.

It also provides a platform to discuss ways to strengthen U.S.–Korea collaboration in AI, fostering deeper partnerships that advance shared scientific and technological priorities.

Time	Title and Speaker
10:15	Opening Remarks Young-Kee Kim
Part I: Presentations About The Genesis Mission	
10:20	Introduction of the Genesis Mission Young-Kee Kim
10:30	Perspectives from National Laboratories Sowjanya Gollapinni (LANL)
10:50	Perspectives from Academia Rebecca Willet (University of Chicago)
Part II: Panel Discussions Strengthening the Korea-U.S. Partnerships in AI: Opportunities and Pathways	
11:10	Moderator - Young-Kee Kim / Panelists - Oh Nam Kwon (KOFST), William Phillips (NIST, University of Maryland), Youngsuk (YS) Chi (Elsevier), Sangig Rho (Acryl Inc). Sowjanya Gollapinni (LANL), Rebecca Willet (University of Chicago)
11:55	Closing Remarks and Group Photo

*Please be aware that the schedule mentioned above is subject to change based on unforeseen circumstances.

AeroSpace Signature Symposium

Thursday, Aug 6 10:15 – 12:00pm International Ballroom

Chair



Eun-Suk Seo

President of KASSTA
Professor of Physics
University of Maryland

Speakers



Soyeon Yi

Astronaut, GBD at
SPEX, Inc.



Dae Young Lee

Professor,
Department
of Aerospace
Engineering, KAIST



Eun Jung Chae

Professor, Dept. of
Mech. and Aerospace
Engineering,
California State
University, Long Beach



Kyongsik Yun

Technologist, NASA Jet
Propulsion Laboratory

Shaping the future of Space

The AeroSpace Signature Forum offers a comprehensive perspective on the future of space through advances in human spaceflight, soft robotics, aerospace engineering, and next-generation space computing. Bringing together leading experts from academia, industry, and national laboratories, the forum highlights innovative technologies and interdisciplinary approaches that are redefining the capabilities of space systems and enabling the next era of exploration beyond Earth orbit. The forum is designed to inspire new partnerships and strategic collaborations while providing a forward-looking view of how scientific discovery and engineering innovation can collectively expand humanity's presence and capabilities in space.

- KASSTA - Korean American AeroSpace Science and Technology Association

Time	Title and Speaker
10:15	Welcoming Remarks Eun-Suk Seo (Chair) Congratulatory Remarks
10:25	Healthcare Challenges of Space Flight Soyeon Yi (Astronaut, GBD at SPEX, Inc.)
10:45	Reliability through Softness: A Soft Robotics Approach to Space Exploration Dae Young Lee (Department of Aerospace Engineering, KAIST)
11:05	Aerodynamic Performance of the Next Generation Aircraft/Spacecraft Eun Jung Chae (Department of Mechanical and Aerospace Engineering, California State University, Long Beach)
11:25	Next-Generation Space Processors: HPSC and Hybrid Co-Processor Architectures Kyongsik Yun (Technologist, NASA JPL)
11:45	Concluding Remarks and Photo

*Please be aware that the schedule mentioned above is subject to change based on unforeseen circumstances.

Next-Generation Semiconductors Signature Symposium

Thursday, Aug 6 10:15 – 12:00pm ChampionsGate

Imagining Tomorrow’s Semiconductor Technologies

The Signature Symposium on Semiconductors will explore emerging trends, opportunities, and challenges shaping the future of semiconductor technologies and the global semiconductor ecosystem. The forum aims to bring together experts from academia, industry, government, and research organizations to exchange ideas on innovation, manufacturing, advanced materials, packaging, supply chains, workforce development, and future applications enabled by semiconductor technologies. Through invited talks and a panel discussion, the forum seeks to encourage collaboration, foster innovation, and promote strategic partnerships that will help advance the next era of semiconductor research, development, and commercialization.

Chair



Jin W. Choi

President of KEEE
Professor of Electrical and
Computer Engineering
Michigan Technological
University

Speakers



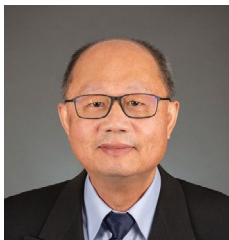
Jinho Ahn

Executive Vice President
for Research,
Hanyang University



Dae-Seok Byeon

President and CEO, Korea
Advanced Nano Fab
Center, KANC



Rockwell Hsu

Technical Leader,
Engineering,
Cisco System, Inc

Time	Title and Speaker
10:15	Welcoming Remarks and Introduction Jin W. Choi (Symposium Chair)
10:20	From Imagination to Reality: The EUV Lithography Journey through Open Innovation Jinho Ahn (Executive Vice President for Research, Hanyang University)
10:45	Innovation and Imagination of Compound Semiconductors Accelerating the Penta-Singularity Era Dae-Seok Byeon (President and CEO, Korea Advanced Nano Fab Center, KANC)
11:10	Meeting System Requirements for High-Speed Signaling in Scalable AI Data Centers: Design Challenges and Manufacturing Considerations Rockwell Hsu (Technical Leader, Engineering, Cisco Systems, Inc.)
11:35	Panel Discussion Moderator: Jin W. Choi

*Please be aware that the schedule mentioned above is subject to change based on unforeseen circumstances.

Technical Clusters

Cluster

Aerospace/Ocean	C-3	Chair: Martin Byung-Guk Jun (Purdue University) Co-Chairs: Cha Bum Lee (Texas A&M University), Chang-Hwan Choi (Stevens Institute of Technology)
Agriculture/Food/Nutrition	B-2	Chair: Sung Woo Kim (North Carolina State University) Co-chairs: Jooyeoun Jung (Oregon State University), Soonkyu Chung (University of Massachusetts Amherst)
Biology/Biotechnology/Health	B-1 / B-3 / C-1	Chairs: Jungho Ahn (Sungkyunkwan University), Bong-Ihn Koh (Yale University) Co-Chairs: Byullee Park (Sungkyunkwan University), Hungoo Lee (Johns Hopkins University), Soo Jin Yoo (The University of Texas Rio Grande Valley)
Energy/Materials/Resources	C-2/ C-4	Chair: Jaewon Lee (University of Missouri, Columbia) Co-Chairs: Hyun-Tae Hwang (University of Kentucky) Sungwoo Nam (University of California, Irvine), Inseok Chae (Texas Tech University)
IT/Quantum/Semiconductors	C-6 / C-7	Chair: Mignon Kang (University of Nevada, Las Vegas) Co-Chairs: Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)
Infrastructure/Mobility/Robots	C-5 / C-8	Chairs: Ryan Choi (Eastern Michigan University), JuHyeong Ryu (West Virginia University) Co-Chair: Seokgi Lee (Youngstown State University), Eul-bum Lee (POSTECH)
Basic Sciences	A-1 / A-2 / A-3	Chair: Harold Kim (Georgia Institute of Technology) Co-Chairs: Bumjung Kim (New Jersey City University), Soeun Kim (Azusa Pacific University)
Emerging Areas (Entertainment Technology & STEAM-centered Social Sciences)	D-1	Chair: Hyoungah Park (Saint Peter's University) Co-Chairs: Jung Han (K-EnterTech Hub), Danielle Lee (American Board of Internal Medicine), Benjamin Ahn (The Ohio State University)

UKC 2026 features eight interdisciplinary technical clusters that bring together researchers, industry leaders, and innovators across diverse fields of science and technology. These clusters highlight emerging research areas, foster cross-disciplinary collaboration, and provide a platform for exchanging ideas that drive innovation and global impact.

Technical Symposium Groups

Technical Group A-1	Physics (PHY)	Chair: Harold Kim (Georgia Tech) Co-Chairs: Wonhee Ko (University of Tennessee, Knoxville), K.C. Kong (University of Kansas)
Technical Group A-2	Chemistry (CHM)	Chair: Kyo Young Han (University of Central Florida) Co-chairs: Hoi Sung Chung (National Institutes of Health), Kwang Seob Jeong (Korea University)
Technical Group A-3	Math/Applied Math/Statistics (MAS)	Chair: Soeun Kim (Azusa Pacific University) Co-Chair: Seongho Song (University of Cincinnati), Daewa Kim (University of Delaware)
Technical Group B-1	Medical and Pharmaceutical Science (MPS)	Chair: Soojin Yoo (University of Texas - Rio Grande Valley) Co-Chairs: Younghee Lee (Seoul National University), Hungoo Lee (Johns Hopkins School of Medicine)
Technical Group B-2	Food, Agriculture, Ecology and Nutrition (FAN)	Chair: Sung Woo Kim (North Carolina State University) Co-Chairs: Yangha Kim (Ewha Womans University), Si Hong Park (Oregon State University)
Technical Group B-3 / C-1	Biological and Biomedical Sciences (Biology, Molecular Biology, Cognitive Science, Botany, Zoology, Biomechanics, etc.)/Bioengineering and Biomedical Engineering (BME)	Chair: James Moon (University of Michigan) Co-Chairs: Young Bin Choy (Seoul National University), Youngjae Chun (University of Pittsburgh)
Technical Group C-2	Chemical, Textile, Energy, and Nuclear Engineering (CHE)	Chair: Hyun-Tae Hwang (University of Kentucky) Co-Chair: Jaewon Lee (University of Missouri), Tae-Sik Oh (Auburn University)
Technical Group C-3	Mechanical, Aerospace and Naval Engineering (MAN)	Chair: Eon Soo Lee (New Jersey Institute of Technology) Co-Chairs: Hongseok Choi (Clemson University), Junsoo Kim (Northwestern University)
Technical Group C-4	Materials Science and Engineering, Nanotechnology (MSE)	Chair: Sung Woo Nam (University of California, Irvine) Co-Chairs: Soon-Yong Kwon (Ulsan National Institute of Science & Technology), Chang-Yong Nam (Brookhaven National Laboratory)
Technical Group C-5	Civil and Environmental Engineering, Architecture (CEA)	Chair: JuHyeong Ryu (West Virginia University) Co-Chair: Eul-Bum Lee (POSTECH), Boo Hyun Nam (Kyung Hee University)
Technical Group C-6	Electrical and Computer Engineering (ECE)	Chairs: Jin W. Choi (Michigan Technological University) Co-Chairs: Jeongwon Park (University of Nevada at Reno), JungKwun Kim (University of North Texas)
Technical Group C-7	Computer and Information Sciences (CIT)	Chair: Sam Chung (City University of Seattle) Co-Chairs: Jaerock Kwon (University of Michigan-Dearborn), Taejin Kim (City University of Seattle)
Technical Group C-8	Industrial and Systems Engineering Management Sciences and Decision Science (IMD)	Chair: Hyesung Park (Georgia Gwinnett College) Co-Chair: Ji-Hung (Ryan) Choi (Eastern Michigan University), Hyo Kyung Lee (Korea University)
Technical Group D-1	Social Sciences (Anthropology, Economics, Political Science, Sociology, Public Policy, etc.), Psychology, Digital Arts, STEM Education, and Other Sciences (SSP)	Chair: Jongpil Cheon (Texas A&M University) Co-Chairs: Junghwan Kim (Texas A&M University), Benjamin Ahn (Ohio State University), Kyung-Shick Choi (Boston University)

Poster Session Chair

Hyo-Joo Han Georgia Gwinnett College

Innovation and Entrepreneurship Symposium (IES) Group

Jeho Park Claremont McKenna College

Aerospace / Ocean

The Aerospace and Ocean Cluster Technical Symposium explores emerging technologies that are transforming aerospace, space exploration, ocean engineering, and autonomous systems. As humanity expands its presence beyond Earth while addressing increasingly complex challenges in maritime environments, the symposium highlights innovative research that advances the design, operation, intelligence, and resilience of next-generation aerospace and ocean systems.

The symposium features two podium sessions and one poster session showcasing recent advances in space systems and exploration, aerospace structures and aerodynamics, autonomous aerial and maritime vehicles, ocean and coastal engineering, robotics, artificial intelligence, advanced sensing, digital engineering, and computational modeling. Presentations span fundamental science, engineering innovation, and real-world applications from academia, government laboratories, and industry, emphasizing interdisciplinary approaches that bridge aerospace, ocean, manufacturing, and intelligent systems.

Supporting contributions are provided by the Mechanical, Aerospace, and Naval Engineering (C-3 MAN), Civil and Environmental Engineering and Architecture (C-5 CEA), and Industrial, Manufacturing, and Systems Engineering (C-8 IMD) Technical Groups, along with the Astronautics and Space Engineering (A-1 ASE) and Ocean Science and Engineering (A-3 OSE) Affiliated Professional Societies (APS). Together, these communities foster interdisciplinary collaboration and the exchange of ideas that advance aerospace, space, and ocean engineering.

Chair



Martin Jun

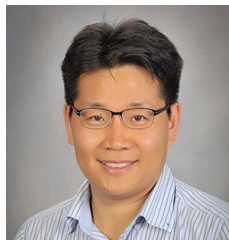
Purdue University

Co-chairs



Chang-Hwan Choi

Stevens Institute of
Technology



Cha Bum Lee

Texas A&M University

Aerospace and
Ocean

@ Oakmont A

Thursday, Aug 6 5:00 – 6:45pm

Aerospace and Ocean Cluster Session I

Chair: Martin BG Jun (Purdue University), Chang-Hwan Choi (Stevens Institute of Technology) and ChaBum Lee (Texas A&M University)

Time	Title and Speaker
5:00	The Role of Submerged Aquatic Vegetation in Coastal Protection and Resilience Hyun Dong Kim (Old Dominion University)
5:25	Performance Evaluation of Transport Algorithms in the General Ocean Model (GOM) (Invited) Jungwoo Lee (East Carolina University)
5:50	Performance Prediction of an Electro-Optical Payload Focus Control System Based on Artificial Neural Networks Jingwang Kim (Korea Aerospace Research Institute)
6:05	Apophis 2029: What Happens When an Asteroid Passes Close to Earth? Yaeji Kim (University of Maryland)
6:20	Beyond the Cradle: Structural Foundations for the First Step of Human Civilization on the Moon Simon Shim (Active Design Group)

Aerospace and
Ocean

@ Oakmont A

Friday, Aug 7 3:15 – 5:00pm

Aerospace and Ocean Cluster Session II

Chair: Martin BG Jun (Purdue University), Chang-Hwan Choi (Stevens Institute of Technology) and ChaBum Lee (Texas A&M University)

Time	Title and Speaker
3:15	Generating Machining Sound Using Operational Context Invited Eunseob Kim (Wayne State University)
3:40	Origami Engineering for Space Robotics Invited Dae-Young Lee (Korea Advanced Institute of Science and Technology)
4:05	Fabrication and Synthesis of the Nickel Cobalt Sulfide Nanowire Woven Kevlar Fiber and Polyester Composites Hyungwook Park (Ulsan National Institute of Science and Technology)
4:10	Laser Powder Directed Energy Deposition of Al6061: Defect Evolution and Processing Window Development Chang-Hwan Choi (Stevens Institute of Technology)
4:35	Knowledge-Graph Integrated Agentic Physical/Shadow AI for Autonomous Ships: A Hybrid Approach with LLM and Ontology Geonwoo Kim (POSTECH)

Poster Session

@ International
Ballroom II

Friday, Aug 7 5:00 – 6:45pm

Aerospace and Ocean Cluster Poster Session

Chair: Martin BG Jun (Purdue University), Chang-Hwan Choi (Stevens Institute of Technology) and ChaBum Lee (Texas A&M University)

P1	Geometry-Controlled Deployment Energy in FW-TAK Kirigami Yeongeun Ki (Purdue University)
P2	Indigenous Development of High Resolution Optical Camera for CAS500(Compact Advanced Satellite 500) -1 and -2 in Korea Deoggyu Lee (Korea Aerospace Research Institute)
P3	Structural Reorganization of the Global Container Shipping Network under Geopolitical Risk: The Case of the Red Sea Crisis Suyeon Park (Inha University)
P4	CABLESSail: Solar Sail Momentum Management Using Shape Control Soojeong Lee (University of Minnesota – Twin Cities)
P5	Interpretable Prediction of Stem-to-Stem Contact-Regime Boundaries in Submerged Aquatic Vegetation using a Physics-guided Teacher-Student Surrogate Framework Sebin Oh (Old Dominion University)
P6	μLIBS : ELEMENTAL MAPPER, IN SITU PLANETARY EXPLORATION Dong Jae Lee (Purdue University)

Agriculture, Food & Nutrition

Agriculture, Food, and Nutrition Symposium (AFN) will provide professional opportunities for leading and rising scientists and engineers to share, discuss, and learn the latest scientific, and technical advances in various fields of agriculture, ecology, food, and nutrition in the US, Korea, and the world. The symposium covers all areas related to the UKC 2026's topic, 'From Imagination to Innovation – Into Reality. Areas include:

1. Agricultural sciences including agricultural & bio-engineering, agricultural economics & agribusiness agronomy, animal science, crop science, entomology, environmental science, horticulture, plant science, smart farming & precision agriculture, soil science, veterinary sciences, and other emerging areas.
2. Ecology including behavioral & physiological ecology, community ecology, ecosystem, human ecology, landscape, population ecology, and other emerging areas.
3. Food sciences including food chemistry, food engineering, food microbiology, food nanotechnology, food processing, food safety & regulation, functional food, sensory science, and other emerging areas.
4. Nutritional sciences including community nutrition, intestinal microbiota and diets, international nutrition, gene & diet interactions, metabolic diseases, nutrient metabolism & physiology, muscle & protein metabolism, precision nutrition, nutrition, and other emerging areas.

Chair



Sung Woo Kim

North Carolina State
University

Co-chairs



Jooyeoun Jung

Oregon State University



Soonkyu Chung

University of
Massachusetts
Amherst

Thursday, Aug 6 5:00 – 6:45pm

Nutrition Session

Chair: Soonkyu Chung (University of Massachusetts Amherst)

Time	Title and Speaker
5:00	Welcome and introduction Sung Woo Kim (AFN chair, North Carolina State University)
5:05	Welcome Soonkyu Chung (Nutrition Session Chair, University of Massachusetts Amherst)
5:10	Obesity-induced epigenetic dysregulation of hypothalamic leptin signaling Min-Hyun Kim (Arizona State University)
5:25	Developing and evaluating a social media intervention to promote locally grown fruit and vegetable consumption among college students Seung Eun Jung (Cluster invited speaker, University of Alabama)
5:45	Toward precision zinc nutrition: from genetic regulation to aging-associated zinc dyshomeostasis Sangyong Choi (University of Connecticut)
6:00	Development and validation of an ai-generated food-as-medicine recipe platform Heewon L. Gray (University of South Florida)
6:15	The effect of US-grown Teff (Eragrostis Tef) consumption on obesity-associated metabolic dysfunction in mice Ji-Young Lee (University of Connecticut)
6:30	Repeated weight cycling disrupts hypothalamic neuroendocrine signaling through gut microbiota remodeling Soonkyu Chung (University of Massachusetts Amherst)

Friday, Aug 7 3:15 – 5:00pm

Agriculture session

Chair: Sung Woo Kim (North Carolina State University)

Time	Title and Speaker
3:15	Welcome Sung Woo Kim (AFN chair, North Carolina State University)
3:20	Welcome Rural Development Administration
3:25	Temperature-dependent energy allocation drives growth and storage trade-offs in juvenile black sea bass Gwangseok Yoon (University of New England)
3:40	A novel DNA-based vaccine for reduction of Salmonella in broilers Young Min Kwon (Cluster invited speaker; University of Arkansas)

Agriculture, Food
& Nutrition

@ Congressional A

Friday, Aug 7 3:15 – 5:00pm

Agriculture session

Chair: Sung Woo Kim (North Carolina State University)

Time	Title and Speaker
4:00	Roles of non-starch polysaccharide degrading enzymes to mitigate non-starch polysaccharide interference with intestinal health in pigs Hyunjun Choi (North Carolina State University)
4:15	From genome editing to adaptive evolution: engineering yeast for better fermented foods Yong-Su Jin (University of Illinois)
4:30	Leveraging Integrated AI, agriculture, and global partnerships for resilient food systems: A UF/IFAS GFSI collaboration framework Adegbola Adesogan (University of Florida)
4:45	Milk oligosaccharides for mucosal microbiota and mucosa immunity in the jejunum of young pigs post-weaning Sung Woo Kim (North Carolina State University)

Agriculture, Food
& Nutrition

@ Congressional A

Saturday, Aug 8 8:00 – 10:00am

Food Session

Chair: Jooyeoun Jung (Oregon State University)

Time	Title and Speaker
8:00	Welcome Jooyeoun Jung (Food Session Chair; Oregon State University)
8:05	Kahweol, a diterpene found in coffee, reduces fat accumulation and extends lifespan in <i>Caenorhabditis elegans</i> Yeonhwa Park (Cluster invited speaker; University of Massachusetts Amherst)
8:25	Identification of host-associated genomic features in <i>Salmonella enterica</i> serovar Dublin using machine learning Kwang Cheol Jeong (University of Florida)
8:45	Dynamic remodeling of DNA methylation during fruit ripening in octoploid strawberry Seonghee Lee (University of Florida)
9:05	Effect of processing and cooking conditions on chicken aroma characteristics evaluated by instrumental and consumer evaluation Jihye An (Auburn University)
9:25	Development of AI and omics-based quantitative PCR (qPCR) assay for food safety and quality Si-Hong Park (Oregon State University)
9:45	Upcycling agri-food biowastes into functional fibers for sustainable molded pulp packaging Jooyeoun Jung (Oregon State University)

Friday, Aug 7 5:00 – 6:45pm

Agriculture, Food & Nutrition Poster Session

Chair: Yong-Su Jin (University of Illinois)

P1	Development and evaluation of a bench-scale flume washer for ozone micro-nano bubble washing of fresh produce Haknyeong Hong (University of California Davis)
P2	Blue light treatment of whole avocados to inactivate <i>Listeria monocytogenes</i> and <i>Salmonella enterica</i> on their exocarp surfaces Minji Hur (University of Georgia)
P3	Comparative evaluation of expert and AI greenhouse climate control for winter strawberry cultivation Yuseok Jeong (National Institute of Agricultural Sciences)
P4	Development of an end-effector system for apple harvesting using modular design and a custom PCB Sang-Hyeon Kang (Rural Development Administration)
P5	Haplotype-resolved genome assembly of strawberry cultivars Florida Encore and Florida Ember Jaejoon Lee (University of Florida)
P6	Exploring drought adaptation mechanisms in soybean genotypes: A pathway-based metabolomics approach Namhee Lee (University of Georgia)
P7	Anti-proliferative properties of <i>Humulus lupulus</i> (hops) flavonoids in human colorectal cancer cells Seong-Ho Lee (University of Maryland)
P8	Hemp seed attenuates colon tumorigenesis and immune responses in colitis-associated colorectal cancer mouse Jieun Woo (Purdue University)
P9	Effect of thermal processing on nutritional and quality parameters of grape juice Moonsun Yang (Wilberforce University)
P10	A protective effect of aged parsnip extract on diet-induced metabolic dysfunction-associated steatotic liver disease (MASLD) in vivo Tongkewn Yoo (Purdue University)
P11	Autonomous ground robotics for precision strawberry production in Florida Daeun Choi (University of Florida)
P12	Engineering multifunctional PBAT/PLA/Cu-MOF hybrid composites: Insights into structure property function relationships Sujung Hong (Virginia Tech)

Biology, Biotechnology & Health 1

Dedicated to advancing human health and life sciences, this cluster covers cutting-edge research in biotechnology, biomedical sciences, medical technologies, and translational medicine shaping the future of healthcare.

The Biology, Biotechnology & Health Technical Symposium will feature four podium sessions and a poster session. We invite scientists, engineers, and professionals from academia, industry, and government to share their work, foster collaboration, and address critical challenges in life sciences and healthcare, while engaging researchers from related fields—including information science, nanotechnology, advanced materials, and robotics—to advance interdisciplinary innovation in health and biotechnology.

This symposium is jointly organized by three Technical Groups (TGs) of KSEA and their affiliated professional societies (APS): Health Sciences; Biological and Biomedical Sciences; and Bioengineering and Biomedical Engineering.

The Health Sciences TG (B-1 MPS) brings together members working in medical science, veterinary medicine, pharmaceutical science, public health, nursing, and related fields, with shared interests in improving human and animal health, advancing clinical and translational research, and addressing emerging challenges in healthcare systems and biomedical practice.

The Biological and Biomedical Sciences TG (B-3 BME) is a community of members working in biology, molecular biology, cognitive science, botany, zoology, biomechanics, and related fields, with shared interests in understanding living systems across scales, advancing fundamental and translational bioscience, and addressing emerging challenges at the intersection of biology, health, and technology.

The Bioengineering and Biomedical Engineering TG (C-1 BME) includes members working in bioengineering, biomedical engineering, and related fields, with shared interests in applying engineering principles to biological systems, advancing medical technologies and devices, and addressing emerging challenges in healthcare, diagnostics, and human performance.

Chair



Bong-Ihn Koh (B3)

Yale University

Co-chairs



Soo Jin Yoo (B1)

The University of
Texas Rio Grande
Valley



Hungoo Lee (B1)

Johns Hopkins
University

Invited Speakers



Jong Yun Park

Moffitt Cancer
Center



Do-Gyoon Kim

Ohio State University

B-1 Symposium: Medical, Pharmaceutical, and Physical Education Sciences (MPS)

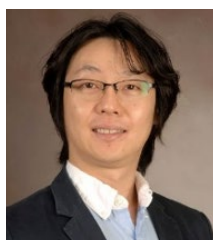
From Discovery to Practice in Health Sciences

The Medical, Pharmaceutical, and Physical Education Sciences Symposium brings together scholars, clinicians, and practitioners from diverse disciplines—including medical science, veterinary medicine, pharmaceutical science, public health, nursing, and related fields—who share a common commitment to advancing health and well-being for both humans and animals. This interdisciplinary forum fosters collaboration and knowledge exchange aimed at strengthening clinical and translational research, promoting innovative therapeutic and preventive strategies, and addressing emerging challenges in healthcare systems and biomedical practice. By integrating expertise across sectors, the symposium highlights the critical importance of cross-disciplinary approaches in tackling complex health issues, improving patient outcomes, and shaping the future of global health.

B-3 Symposium: Biological and Biomedical Sciences (BME)

Reading the Niche: How Cells Sense and Respond Across Tissues

How do cells read their environment – and how do those responses scale into tissue function, organ physiology, and disease? This question sits at the heart of the most exciting work in modern biomedicine, cutting across vascular biology, neuroscience, and stem cell biology. In this session, featured talks illuminate how hemodynamic forces reprogram endothelial identity in atherosclerosis, how ultrasound mobilizes mechanosensory responses in immune cells, how skeletal stem cell heterogeneity is regulated within the perivascular niche during aging, how synaptic connectivity encodes neurotransmitter identity in whole-brain connectomes, how translational kinetics shape proteome integrity in the aging brain, and how human organoids recapitulate the developmental program of the amygdala. Together, they reveal that cell fate is not intrinsic but relational, shaped continuously by the mechanical, molecular, and architectural context of the niche.



Sungha Hong

University of
Rochester Medical
Center



Mi Ho Jeong

Mass General
Brigham



Hanjoong Jo

Emory University/
Georgia Institute
of Technology



Dongsu Park

Baylor College of
Medicine

Biology,
Biotechnology &
Health 1

@International
Ballroom II

Thursday, Aug 6 5:00 – 7:00pm

B-1 Session I: Innovative Diagnostic and Molecular Approaches to Cancer and Disease Detection

Chair: Jihyun Song (University of Utah)

Time	Title and Speaker
5:00	Differentially methylated genes in aggressive prostate cancer Jong Yun Park (Moffitt Cancer Center & Research Institute Invited)
5:25	Artificial Intelligence for Comparative Oncology: Modeling Rare Cancers Using Naturally Occurring Canine Cancers Jong Hyuk Kim (University of Florida)
5:50	Plasma-based single extracellular vesicle analysis for diagnosis of cholangiocarcinoma Mi Ho Jeong (Mass General Brigham) Invited
6:15	VASP, a F-actin polymerization factor, is a novel YAP-TEAD target gene in MDA-MB-231 cells Tae-Hyung Kim (University of New Mexico Health Sciences Center)
6:40	Activated Transient Receptor Potential Vanilloid Type 1 (TRPV1) endures global hypoperfusion following subarachnoid Hemorrhage (SAH) Sung Ha Hong (University of Rochester Medical Center) Invited

Biology,
Biotechnology &
Health 1

@International
Ballroom II

Thursday, Aug 6 5:00 – 7:00pm

B-3 Session I: Reading the Niche: How Cells Sense and Respond Across Tissues

Chair: Bong Ihn Koh (Yale School of Medicine)

Time	Title and Speaker
5:00	Ultrasound-induced Macrophage Mechanotransduction via Actin Reorganization and Ca²⁺ Responses Myeong Ryeol Choi (Pohang University of Science and Technology)
5:30	Flow-Induced Reprogramming of Endothelial Cells (FIRE) in Atherosclerosis Hanjoong Jo (Emory University/Georgia Institute of Technology)
6:00	Skeletal Stem Cell Heterogeneity and Regulatory Mechanism in Aging Dongsu Park (Baylor College of Medicine)
6:30	Human Amygdala-like Telencephalic Organoids Capture Developmental Program of Human Amygdala In-Hyun Park (Yale University)

Friday, Aug 7 3:15 – 5:00pm

B-1 Session II: Innovative Diagnostic and Regenerative Therapies for Musculoskeletal and Cardiac Disease

Chair: Whasil Lee (University of Rochester, NY)

Time	Title and Speaker
3:15	Can Cone Beam Computed Tomography Assess Oral Bone Density? Do-Gyoon Kim (Ohio State University) Invited
3:40	Cytoprotective Effect of Kartogenin-Loaded Nanosomes on Arthritic Chondrocytes Hongsik Jake Cho (University of Tennessee Health Science Center)
4:00	Engineered 3D Microphysiological Systems for Identification of Therapeutic Myokines Young Charles Jang (Emory University)
4:20	Development of Antibody-Immobilized Electrodes to Detect Osteocalcin for Racehorse Bone Health Monitoring Daniel Sim (University of Tennessee)

Saturday, Aug 8 8:00 – 10:00am

MPS/BME Joint Session: Multiscale Perspectives on Neural Function, Aging, and Human Health

Chair: Bong Ihn Koh (Yale School of Medicine); Soojin Yoo (U Texas Rio Grande Valley)

Time	Title and Speaker
8:00	Altered translation elongation contributes to key hallmarks of aging Jae Ho Lee (Stony Brook University)
8:30	Predicting Neurotransmitter Identity from Synaptic Connectivity in Drosophila Connectomes Hyunju Kim (Georgia Institute of Technology)
9:00	Nociceptive Nerve Remodeling in Osteoarthritic Mouse Knee Joints Whasil Lee (University of Rochester)
9:20	Effect of Aymara Enriched NFKB1 SNP on Acute Mountain Sickness in Austrians Exposed to Acute Hypoxia Grace Min (University of Utah)
9:40	Academic Engagement in Children with Autism Brandon Yoo (University of Puget Sound)

Friday, Aug 7 5:00 – 6:45pm

B-1 Poster Session

Chair: Soojin Yoo (U Texas Rio Grande Valley); Hungoo Lee (Johns Hopkins University)

P1	Intra-Articular Oxygen Dynamics in Post-Traumatic Osteoarthritis After ACL Rupture Jinha Kwon (University of Michigan)
P2	Algorithmic Fairness in Machine Learning Prediction for Long-Term Adjuvant Endocrine Therapy Adherence among Breast Cancer Survivors Yeijin Kim (University of Texas at Austin)
P3	Effects of Long-Term Episodic Heat Therapy on Skeletal Muscle Morphology and Capillarization in Aged Obese Mice Bohyun Ro (Purdue University)
P4	Asian-White Racial Disparities in Severe Maternal Morbidity within the State of Georgia, 2016-2022 Katherine Cho (Emory University)
P5	Clonal Convergence Between Mucosal and Systemic Human IgA Repertoires Following Norovirus Challenge Dae Sung Kim (University of Texas at Austin)
P6	Qualitative Insights from a Pilot Randomized Trial of a Decisional Intervention for Older Adults with Acute Myeloid Leukemia (UR-GOAL 2) Emily Oh (University of Rochester Medical Center)
P7	A Bayesian Cross-Classified Multilevel Analysis of Healthcare Access Effects on SPD by Occupation and Industry for Workplace CDSS Dayeon Heo (Purdue University)
P8	Aberrant Progesterone Receptor (PGR) Expression is Associated with Estrogen Receptor 1 (ESR1) Expression in the Endometrium from Infertile Women with Endometriosis Soo Lim Kim (Texas A&M Health Science Center Institute of Biosciences & Technology)
P9	Integrating PharmD-Informed Medication Literacy into Diabetes Self-Management Education and Support (DSMES) Programs to Address Polypharmacy in Type II Diabetes Lucy Lee (UTHealth School of Public Health)
P10	The Relationship Between Depression and Inflammatory Markers in Head and Neck Cancer Patients Undergoing Radiation Therapy Hyein Kim (Emory University)
P11	Predictors of 3-Month Anxiety Among Intimate Partners of ICD Recipients Following a P+P Intervention Jinseon Hwang (University of Washington)
P12	Targeting NUA2 to Suppress Fibroblast Activation and Pathologic Tissue Remodeling Jiyeon Kim (University of Arkansas for Medical Sciences)

Friday, Aug 7 5:00 – 6:45pm

B-1 Poster Session

Chair: Soojin Yoo (U Texas Rio Grande Valley); Hungoo Lee (Johns Hopkins University)

P13	Exogenous mitochondrial transplantation improves tendon regeneration via modulating apoptosis signaling Jimin Lee (Colorado State University)
P14	Functional Connectome Alterations Underlying Posttraumatic Stress Disorder Eun Namgung (Texas A&M University Health Science Center)
P15	Household Living Arrangement, Obesity, and Psychosocial Risk Across the U.S. Ilsoo Park (Azusa Pacific University)
P16	Associations Between Greenspace Exposure and Cancer Outcomes in the U.S. Jeonggyo Yoon (University of Arizona)
P17	Early-Life Adversity Alters the Neuro-Immune Axis and Limits Anti-PD-1 Therapy Yea In Park (George Washington University)
P18	Electrochemical Detection of Respiratory Viruses Using a Nanowell Biosensor Platform Youngtae Seo (MARA Nanotech New York Inc.)
P19	Mass-produced Nanowell Biosensor for Clinical COVID-19 Diagnosis Youngtae Seo (MARA Nanotech New York Inc.)
P20	Comparative Evaluation of Cryogen Spray Cooling (R134a vs HFO-1234ze) Yurie Jeong (UC Irvine / Johns Hopkins University)
P21	Identifying the Epigenetic Mechanisms of Fragile X syndrome and Inducing the Contraction of CGG repeats and FMR1 reactivation Hungoo Lee (Johns Hopkins University)
P22	BMI Masks Significant Differences in Metabolic Risk Indicators Soojin Yoo (U Texas Rio Grande Valley)
P23	Scalable Microelectrode for Assessing Drug-Induced Cardiotoxicity in Cardiac Organoids Youngtae Seo (Mara Nanotech New York INC.)

Friday, Aug 7 5:00 – 6:45pm

B-3 Poster Session

Chair: In-Hyun Park (Yale University)

P1	Hippocampal α-Synuclein PFF mouse model recapitulates key pathological and cognitive features of Lewy Body Dementia Jung Ha Byun (University of Georgia)
P2	Multi-Omic Characterization of the Senescent Niche in Aging Skin Yeaen Han (Mayo Clinic)
P3	A Novel PKD1–mTOR–DRP1 Signaling Axis Mediates Compensatory Responses to Mitochondrial Oxidative Stress in Dopaminergic Neurons Ahyoung Jang (University of Georgia)
P4	Biomimetic Intrafibrillar Mineralization of Collagen Hoyeon Jang (The Ohio State University)
P5	Electrical Transduction Assay for Diagnostic Applications Hyounarm Joung (Kompass Diagnostics Inc.)
P6	Causal interrogation of bipolar disorder GWAS risk genes: cell- and circuit-targeted in vivo CRISPR editing at single and multiple loci Yeonha Ju (University of Texas at Austin)
P7	Bridging Functional Annotation and Molecular Interactions: Trustworthy Deep Learning for Enzyme and Protein-Compound Prediction Mingon Kang (University of Nevada Las Vegas)
P8	Endothelial tmTNFα as a Regulator of Immune-Related Networks and Schizophrenia-Relevant Phenotypes Sanghyeon Kim (SMRI)
P9	Gene–Diet Interactions in Alzheimer’s Disease: APOE4 Rewires Astrocytic Ketone Metabolism to Drive Amyloid Pathology Youbin Kim (Icahn School of Medicine at Mount Sinai)
P10	Probing the paradoxical relationship between marine diazotrophs and oxygen through controlled hypoxia Michael Kim (Johns Hopkins University, University of Southern California)
P11	Functional Specialization of Craniofacial Bone Marrow Vasculature Bong Ihn Koh (Yale School of Medicine)
P12	Therapeutic Potential of Graphene Quantum Dots on Pterygium Donghoon Koo (Seoul National University)
P13	A Counterfactual Framework for Estimating Infectious Disease Prevalence under Repeated Testing with Symptomatic and Contact-Tracing Components Jeongjin Lee (The Ohio State University)

Friday, Aug 7 5:00 – 6:45pm

B-3 Poster Session

Chair: In-Hyun Park (Yale University)

P14	Mitochondrial Dysfunction Induces Asparaginase Resistance in R-Spondin Fusion Colorectal Cancer Su Hyun Lee (St. Jude Children's Research Hospital)
P15	The role of KAZN in osteoclastogenesis Sun Young Lee (Sookmyung Women's University)
P16	Remote Ischemic Conditioning Rescues Delayed Transneuronal Degeneration and Promotes Long-Term Stroke Recovery Keun Woo Park (Bergen Community College)
P17	Epigenetic Memory Drives Fetal-like Revival Stem Cell Identity During Small Intestine Regeneration Onyu Shin (Center for Genome Engineering, Institute for Basic Science (IBS), Korea)
P18	Foot Placement as a Mediolateral Balance Control Strategy in an Avian Bipedal Animal Model During Sloped Perturbations Junhyuck Woo (University of California, Irvine)
P19	The Effects of Exercise Training on Anxiety and Insular-Centered Functional Connectivity in Healthy Older Adults Kihoon Yuk (Program in Neuroscience and Cognitive Science, University of Maryland)

Biology, Biotechnology & Health 2

As in any other major industry, problem solving in modern medicine increasingly requires a true convergence of many scientific and engineering fields. While some of the last frontiers of biomedicine, such as neuroscience and regenerative medicine, critically demands new ideas and tools from other disciplines, paradigm-shifting technological innovations in information science, nanotechnology, and robotics could open new opportunities in healthcare. At the same time, a new generation of engineers, "fluent" in many different languages of science, are creating entirely new fields to view the old questions with a fresh look. In the BME symposium, we strive to provide a stimulating forum for all researchers willing to go beyond the "comfort zone" to explore new opportunities in biomedical engineering.

Chair



James Moon

University of Michigan

Co-chairs



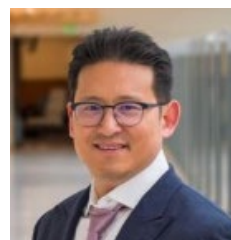
Chun Gwon Park

Sungkyunkwan University



Youngjae Chun

University of Pittsburgh



Jung Soo Suk

University of Maryland

Biology,
Biotechnology &
Health 2

@ Olympic A, B

Friday, Aug 7 3:15 – 5:00pm

BME Session I: Biomaterials, Immunotherapy, and Drug Delivery

Chairs: TBD

Time	Title and Speaker
3:15	Translational Research for Female Reproductive System Jungho Ahn (Sungkyunkwan University) Invited
3:35	Evidence for Collective NK Cell Surveillance Revealed by Causal Network Analysis in Tumor-on-a-Chip Models Invited Sangyoon J. Han (Michigan Technological University)
3:55	Heart dECM Hydrogel Facilitates Structural Maturation and Functional Stability of Human Cardiac Organoids Jaemyung Shin (Johns Hopkins University)
4:10	Development of Inducible Stable Cell Lines for rAAV Production: From Packaging to Producer Cell Line Seongkyu Yoon (University of Massachusetts Lowell)
4:25	Hybrid Mechanistic-Gaussian Process Framework for Optimization of Bead-Immobilized T7 RNA Polymerase in In Vitro Transcription of Therapeutic RNA Yoonyoung Choi (University of Massachusetts Lowell)
4:40	Self-aggregating Long-acting Injectable Microcrystals (SLIM): A Versatile Platform Sanghyun Park (Massachusetts Institute of Technology)

Saturday, Aug 8 8:00 – 10:00am

BME Session II: Bioelectronics and Medical Devices

Chair: TBD

Time	Title and Speaker
8:20	Multiscale Photoacoustic Imaging: From Nanostructures to Human Tissues I Byullee Park (Sungkyunkwan University) Invited
8:40	Toward Genetic Manipulation of Patient-Derived Circulating Tumor Cells Using Integrated Microfluidic Electroporation Invited Soojung Claire Hur (Johns Hopkins University)
8:55	A Synergistic Hybrid Bioceramic for Structural Reinforcement and Bioelectric Stimulation for Smart Implants Albert Kim (University of South Florida)
9:10	Multiplexed Microfluidics Decodes Antibiotic Combination and Sequence Effects Yoon Jeong (University of Chicago)
9:25	A Wireless Wearable Monitoring System with a Smart Mouthguard and Soft Chest Patches for Dehydration and Health Monitoring of Athletes Karam Kim (Georgia Institute of Technology)
9:40	Clinically Translatable Arthroscopic Instrument Stabilization Interface with Defined Regulatory Pathway Sang-Eun Song (The University of Akron)

BME Poster Session

Chairs: TBD

P1	A Nanoemulsion-Based TLR7/8 Adjuvant Platform for Coordinated Immune Activation Against Diverse Viral Threats JuA Song (Sungkyunkwan University)
P2	Integrated spatial multi-omics identifies TRPS1 as a regulator of joint cell fate linking cartilage development to osteoarthritis Ji-Hye Yea (Johns Hopkins University)
P3	Assessing the Role of GAN-Based Synthetic Data in Cell Microscopy Classification under Limited Data Conditions So-yun Park (Kumoh National Institute of Technology)
P4	A Rat Glioma Spheroid-Neural Cell Tri-Culture Model to Investigate Cellular Crosstalk in Glioma Pathology Testaverde Sangwoo Kim (University of California, Davis)
P5	Rootin: A Mobile Symptom Tracking and Self-Care App for Women with Breast Cancer on Aromatase Inhibitors Soyeon Lee (University of Connecticut)
P6	Dual-Responsive Gelatin Microspheres for Ultrasound-Regulated Enzyme-Mediated Drug Release in Cancer Therapy Yuri Kang (Pohang University of Science and Technology)
P7	Rational Design of Injectable Materials for Myocardial Infarction by Tuning Hydrophilic-Hydrophobic Balance and Hydrophobic Chain Length for Enhanced Mechanical Support Sujeong Park (University of Pittsburgh)
P8	Capacitive Sensors for Non-invasive Monitoring of Vital Signs in Small Animals Ethan Reyes (The Geneva Foundation)
P9	Flexible, Three-Dimensional Electronic Framework for Electromechanical Monitoring in Engineered Heart Tissues Hayeon Yun (Northwestern University)
P10	Machine Learning Prediction of CaHA Responsiveness in Fibrosis: Toward Precision Anti-Fibrotic Therapy Younjee Jeong (Busan Foreign School)
P11	Soft Wearable BW-NIRS for Monitoring Sleep-Dependent Brain Water Dynamics Seunghyeob Ban (Georgia Institute of Technology)
P12	A 3D Brain Geometry Toolkit for Scalable Multisite Vertex-wise Brain Morphometry Analysis Yanghee Im (University of Southern California)
P13	Multiscale Biointerfaces for Neuromodulation: Access, Targeting, Modeling, and Sensing Eunji Hong (Binghamton University)

BME Poster Session

Chairs: TBD

P14	A Minimally Invasive Magnetically Actuated Intravesical Occlusion Device for Urinary Incontinence Youngjae Chun (University of Pittsburgh)
P15	Microfluidic and Machine Learning–Guided Fabrication of Sub-5 μm PLGA Microparticles with Adhesive Integration for Vascular Drug Delivery Youngjae Chun (University of Pittsburgh)
P16	Soft Wearable NIRS for Monitoring Cardiac, Respiratory, and Slow-Oscillation Rhythms during Sleep Junwoo Kwon (Cornell University)
P17	Cytoprotective Effect of Kartogenin-Loaded Nanosomes on Arthritic Chondrocytes Ryan Qiu (University of Tennessee Health Science Center)
P18	Biophysical control of cell density promotes stem cell retention and tissue healing Gwang-Bum Im (Boston Children's Hospital, Harvard Medical School)
P19	Computational modeling of durotactic cell migration Donghyun Yim (Purdue University)
P20	Reactive Oxygen Species, Electrode Potential and pH Affect CoCrMo Alloy Corrosion and Semiconducting Behavior in Simulated Inflammatory Environments Hwaran Lee (Clemson University)\
P21	Large Language Model and Human Performance on a Motor Sequence Learning Task Hakjoo Kim (McLean Hospital, Harvard Medical School)

Energy, Materials & Resources

This cluster explores next-generation energy systems, advanced materials, and sustainable resource technologies that support global energy transition and industrial innovation.

The Energy, Materials & Resources Technical Symposium will feature three podium sessions and one poster session. We invite researchers and professionals conducting experimental, computational, and integrated work in chemical engineering, materials science, nanotechnology, advanced manufacturing, energy systems, and related fields to present innovations that address emerging challenges in energy, materials, and resource-related engineering, while engaging in discussions that foster interdisciplinary collaboration and new research connections.

This symposium is jointly organized by two Technical Groups (TGs) of KSEA and their affiliated professional societies (APS): Chemical, Textile, Energy, and Nuclear Engineering; and Materials Science and Engineering, Nanotechnology.

The Chemical, Textile, Energy, and Nuclear Engineering TG (C-2 CHE) is a community of researchers and professionals advancing chemical engineering across fundamental and applied domains. The group encompasses areas including advanced nanomaterials and biomaterials, nanoscience and nanotechnology, and complex processes addressing challenges in energy, health, and environmental systems.

The Materials Science and Engineering TG (C-4 MSE) includes members working across materials innovation and advanced manufacturing, with shared interests in electronic materials, functional materials, nanomaterials, and related emerging areas that support advances in micro/nanoelectronics, energy conversion and storage, additive manufacturing, and other technologies critical to sustainable innovation.

Supporting contributions are provided by the Mechanical, Aerospace, and Naval Engineering (C-3 MAN) TG in mechanics, thermal systems, and precision manufacturing; the Civil and Environmental Engineering and Architecture (C-5 CEA) TG in sustainable infrastructure and environmental quality; and the Computer and Information Sciences (C-7 CIT) and Industrial, Manufacturing, and Systems Engineering (C-8 IMD) TGs in data-driven methods, optimization, and circular resource management.

Chair



Jaewon Lee (C2)

University of
Missouri - Columbia

Co-chairs



Inseok Chae (C2)

Texas Tech University



Sungwoo Nam (C4)

University of
California, Irvine



Hyun-Tae Hwang (C2)

University of Kentucky

Thursday, Aug 6 5:00 – 6:45pm

CHE Session: Hydrogen, Catalysis, and Sustainable Energy

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University), Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

Time	Title and Speaker
5:00	Vapor Pressure Suppression of Hydrocarbons under Nanoconfinement Revealed by Differential Scanning Calorimetry Hyeyoung Cho (Florida Polytechnic University)
5:12	Korea's Path to Fusion Energy: Progress and Strategic Vision Yeongkook Oh (Korea Institute of Fusion Energy)
5:24	Optimization of Surfactant-Imbibition In-situ DNAPL Remediation with Horizontal Wells Seung Ihl Kam (Louisiana State University)
5:36	Sorp-Vection: A Non-Equilibrium Transport Platform for Complex Fluid Separations Jinyoung Kim (Georgia Institute of Technology)
5:48	Two-dimensional gas chromatography (GC×GC) Applications in Plastic Pyrolysis Research Do Hyun Lee (Penn State University)
6:00	A Semi-Markov Process Approach to Quantify Material Content Over Multiple Product Lifecycles with Application to a Hard Disk Drive Yong Han Kim (Purdue University)
6:12	Controlling Surface Cation Configurations in Ir_xRu_{1-x}O₂(110) and Their Effects on Adsorption Jisu Shin (Purdue University)
6:24	Balancing Dark Current and Photoresponse in Organic Photodetectors via Cleavable Side Chain Engineering Seung Hyun Kim (University of North Carolina at Chapel Hill)
6:36	Innovative Process Development for Natural Hydrogen as a primary energy source Jihyun Hwang (Korea Institute of Energy Technology)
6:48	Improved Hydrogen Yield and Safety in Solid-State Hydrolysis of Sodium Borohydride Using Water Adsorbents Hyun-Tae Hwang (University of Kentucky)

Friday, Aug 7 3:15 – 5:00pm

MSE Session: Advanced Manufacturing, Functional Materials, Nanomaterials

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University), Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

Time	Title and Speaker
3:15	Novel Nanophotonic Devices based on Strong Light-Matter Interaction Hong Gyu Park (Seoul National University)
3:27	Fabrication of Textured pHEMA Hydrogels: The Impact of Micro/Nano Textures on Optical Property Chang-Hwan Choi (Stevens Institute of Technology)
3:39	Simulation Study of Mechanically Tunable Phononic Crystals: Effects of Scatterer Geometry and Material on Acoustic Band Gap Properties Taeyul Choi (University of North Texas)
3:51	Orientation-Dependent Residual Lattice Strain in Single-crystal Sapphire Cutting with Hard X-ray Nanoprobe Sangkee Min (University of Wisconsin-Madison)
4:03	Thermal Management Technologies for High-Thermal-Load Systems: Applications in Data Centers and Re-Entry Spacecraft Tae Young Kim (Seoul National University of Science and Technology)
4:15	Low-Cost Titanium Powder Design and in-situ Alloying Approach for Laser Powder Bed Fusion Bin Lee (Kyung Hee University)
4:27	Entanglements in Polymer Networks: A New Pathway for Soft Material Design Junsoo Kim (Northwestern University)
4:39	Purpose-Engineered Alloys for LPBF Additive Manufacturing: From Computational Alloy Design to Functional Component Demonstration Yongho Sohn (University of Central Florida)

Saturday, Aug 8 8:00 – 10:00am

CHE, MSE & CEA Session : Advanced Materials, Resources, Separations

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University), Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

Time	Title and Speaker
8:00	Soft Piezoelectric-Powered Capacitive Sensor for High-Fidelity Vibration Detection Jeng-Hun Lee (Georgia Institute of Technology)
8:12	Plasticization-Driven Ionic Transport in AlBr₃-Based Solid Electrolytes Kyunghyun Kim (Hongik University)
8:24	Materials and Devices for Event-Memory Bifurcation in Dynamic Vision Won Il Park (Hanyang University)

**Energy, Materials
& Resources**

@Congressional B

Saturday, Aug 8 8:00 – 10:00am

CHE, MSE & CEA Session : Advanced Materials, Resources, Separations

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University), Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

Time	Title and Speaker
8:36	Highly Efficient Triboelectric Nanogenerator Based on Low Impedance and High Charge Density through Multi-Layer Design JinKyeom Kim (University of Wisconsin-Madison)
8:48	Effect of Hexagonal Boron Nitride Fillers on Ion Transport and Viscoelasticity of Vitrimers Electrolytes Seongon Jang (University of Pennsylvania)
9:00	Analysis of Cutting Force Characteristics in Ultra-Precision Milling of Single Crystal Sapphire Jinho Park, (Korea Aerospace University)
9:12	Effectiveness of Low-Cost Window Fans for reducing Indoor Cooking Emissions Compared with Kitchen Hoods Semi Park (University of Texas at Arlington)
9:24	From Classroom to Community: Preparing Next-Generation Engineering Through Municipal Water Quality Projects Jun Kim (Florida Polytechnic University)
9:36	Virus-Based Sustainable Recovery of Critical Minerals Inseok Chae (Texas Tech University)
9:48	Machine Learning Enhanced Modeling of Orientation-Dependent van der Waals Interactions in Nanostructured Cuboids with Surface Roughness Effects Jaewon Lee (University of Missouri)

Poster Session

**@ International
Ballroom II**

Friday, Aug 7 5:00 – 6:45pm

Energy, Materials & Resources Poster Session

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University), Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

P1	Mitochondrial Dysfunction Induces Asparaginase Resistance in R-Spondin Fusion Colorectal Cancer Su Hyun Lee (St. Jude Children's Research Hospital)
P2	The role of KAZN in osteoclastogenesis Sun Young Lee (Sookmyung Women's University)
P3	Remote Ischemic Conditioning Rescues Delayed Transneuronal Degeneration and Promotes Long-Term Stroke Recovery Keun Woo Park (Bergen Community College)
P4	Sustainable AI: Routing Queries to Small Language Models Yun Kim (University of Minnesota)

Energy, Materials & Resources Poster Session

Chair: Jaewon Lee (University of Missouri-Columbia), Inseok Chae (Texas Tech University),
Sungwoo Nam (University of California, Irvine), Hyun-Tae Hwang (University of Kentucky)

P5	Quantifying the Ultimate Potential of Nucleate Pool Boiling Under Idealized Bubble Dynamics Junseo Gu (Gyeongsang National University)
P6	Development and Evaluation of an Alkaline Water Electrolysis Hybrid System for Resource Recovery Sang Yong Nam (University of Florida)
P7	Evaluation of Do-It-Yourself (DIY) Air Cleaner Performance: A State-of-the-Art Review Semi Park (University of Texas at Arlington)
P8	Self-crosslinking of PDMS on metal substrates for self-healing coatings Kyujin Ko (University of Cincinnati)
P9	Toward Automated Physics-Grounded Interpretation of HVAC Operational Data Using Large Language Models Yujin Kim (North Carolina State University)
P10	Opto-charge Microscopy (OCM) for Resolving Particle Dynamics in Electrochemical Network Materials Jeongok Choe (Purdue University)
P11	Electrification of Conventional Sustainable Aviation Fuel Production: Greenhouse Gas Emissions Benefits and Costs TJ Park, (MIT)
P12	Porosity Dependence of Furnace Thermal Cycling Lifetime and Failure Characteristics of Multi-layer Thermal Barrier Coatings Hye-Yeong Park (University of Central Florida)
P13	Development of a Thermal Energy Storage Combined with Water-side Economizer System Kwanghee Kim, (Gyeongsang National University)
P14	Plasmon Resonance Color Shifts in Nanogaps for Rapid Thickness Mapping in Two-Dimensional Materials Lauren Park (Korean Minjok Leadership Academy)
P15	Implementation of Radially Graded TPMS Lattice Structures for Stress Shielding Reduction and Optimized Material Utilization in Dental Implants Abdus-Samad Shaik (University of Central Florida)
P16	ZIF-8 as a Porous Additive for Phosphogypsum-Based Materials Hyeyoung Cho (Florida Polytechnic University)
P17	Resilient and Low-Cost Passive Thermosyphon Cooling for Climate-Vulnerable and Low-Income Households Hyun Jin Kim (California Polytechnic State University)

IT, Quantum & Semiconductors

This cluster brings together leaders in computing, information technologies, quantum science, and semiconductor systems to highlight breakthroughs that are shaping the future of artificial intelligence, digital infrastructure, intelligent devices, and next-generation computing.

The IT, Quantum & Semiconductors Technical Symposium will feature three podium sessions and one poster session. We invite researchers and professionals from academia, industry, and government laboratories to share advances spanning computer science, information technology, artificial intelligence, data science, quantum technologies, semiconductor devices and systems, computing hardware, communications, cybersecurity, software systems, and related emerging areas. The symposium aims to foster interdisciplinary discussions and new collaborations across computing, electronics, quantum engineering, and digital innovation. This symposium is jointly organized by two Technical Groups (TGs) of KSEA and their affiliated professional societies (APS): Electrical and Computer Engineering; and Computer and Information Sciences.

The Electrical and Computer Engineering TG (C-6 ECE) includes members working across electrical engineering, computer engineering, semiconductors, quantum technology, circuits, systems, communications, computing hardware, signal processing, intelligent devices, and related emerging technologies. The group promotes innovations that advance electronics, information systems, semiconductor platforms, and next-generation computing technologies.

The Computer and Information Sciences TG (C-7 CIT) connects researchers and professionals working in computer science, information technology, artificial intelligence, IoT, data science, software systems, cybersecurity, connected technologies, human-centered systems, and emerging digital innovations. The group supports advances in computation, intelligent systems, secure and connected infrastructure, and data-driven technologies that shape research, industry, and society.

Supporting contributions are provided by related KSEA Technical Groups, including Materials Science and Engineering, Nanotechnology (C-4 MSE) in electronic, quantum, and functional materials; Industrial, Manufacturing, and Systems Engineering (C-8 IMD) in AI-enabled manufacturing, optimization, and industrial systems; and Physics (A-1 PHY) in quantum science, photonics, and fundamental physical platforms that support emerging quantum and semiconductor technologies.

Chair



Mingon Kang

University of Nevada,
Las Vegas

Co-chairs



Sam Chung

City University of
Seattle



Jungkwun Kim

University of North
Texas

IT, Quantum &
Semiconductors

@Augusta A

Thursday, Aug 6 5:00 – 6:45pm

Session 1: Next-Generation Computing & Intelligence

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

Time	Title and Speaker
5:00	Member introduction
5:10	Invited talk: An Artificial-Intelligence Agent Framework for Intelligent Livingcare Services at Smart Home Jaehoon Jeong (Sungkyunkwan University)
5:30	A Large Language Model-Based Analysis for Identifying Mold-Related Issues in Buildings San Jin (The University of Texas at Arlington)
5:45	Topological Patching for Time Series Forecasting: A Noise-Immune Transformer Framework Hyeonkyu Kim (Arizona State University)
6:00	Towards Efficient and Context-Aware KV Cache Management for Long-Context LLMs Gyuwan Kim (University of California, Santa Barbara)
6:15	Building Social Presence in Virtual Offices: A Three-Phase Framework Integrating Metaverse, Agentic AI, and MMORPG Principles Jinho Kim (University of Houston Downtown)
6:30	Elevator Talks

Friday, Aug 7 3:15 – 5:00pm

Session 2: Advanced Materials & Quantum Physics

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

Time	Title and Speaker
3:15	Member introduction
3:25	Novel framework for non-equilibrium quantum physics Jong Yeon Lee (University of Illinois at Urbana-Champaign) Invited
3:45	Radiation Effects on DDR4 DRAM Under Cryogenic Conditions: Temperature-Dependent Analysis with Proton and Gamma-Ray Jungsik, Kim (Gyeongsang National University)
4:00	Electric-Field-Driven Quantum Control of Exciton Motion in Semiconducting Carbon Nanotubes Dong Yoon Shin (University of Maryland)
4:15	Metal-Insulator-Metal (MIM) Diode with Different Work Function Metals Jeongwon Park (University of Nevada Reno)
4:30	Classical Simulation of Noisy Random Circuits from Exponential Decay of Correlation Su-un Lee (University of Chicago)
4:45	Emission from Isolated Organic Chromophores within a Metallocene Single Crystal Bumsu Lee (Southern Illinois University-Carbondale)

Saturday, Aug 8 8:00 – 10:00am

Session 3: Hardware Architecture & Future MEMS

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

Time	Title and Speaker
8:00	Highly Efficient Triboelectric Nanogenerator Based on Low Impedance and High Charge Density through Multi-Layer Design JinKyeom Kim (University of Wisconsin-Madison)
8:05	Effect of Hexagonal Boron Nitride Fillers on Ion Transport and Viscoelasticity of Vitrimers Electrolytes Seongon Jang (University of Pennsylvania)
8:25	Analysis of Cutting Force Characteristics in Ultra-Precision Milling of Single Crystal Sapphire Jinho Park, (Korea Aerospace University)
8:45	Effectiveness of Low-Cost Window Fans for reducing Indoor Cooking Emissions Compared with Kitchen Hoods Semi Park (University of Texas at Arlington)

Saturday, Aug 8 8:00 – 10:00am

Session 3: Hardware Architecture & Future MEMS

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

Time	Title and Speaker
9:00	Multiphysics Analysis of Architecture-Dependent Variability in Valence-Change Resistive Memory Yongwoo Kwon (Hongik University)
9:15	Silicon/Glass Interposer Metrology and Inspection by Shadowgraphy Chabum Lee (Texas A&M University)
9:30	AIN MEMS Oscillators Operating in Harsh Environment Jaesung Lee (University of Central Florida)
9:45	Atmospheric Pressure Plasma Deposition for High-Performance PVDF-Based Piezoelectric Nanogenerator Choonsang Park (Milligan University)

Poster Session

@ International
Ballroom II

Friday, Aug 7 5:00 – 6:45pm

IT, Quantum & Semiconductors Poster Session

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

P1	Estimating the Empowerment of Language Model Agents Jinyeop Song (MIT)
P2	An Autonomous Patrol Framework for Speeding Vehicles with Unmanned Aerial Vehicles Younseong Jeong (Purdue University)
P3	On the Phase of Autocorrelation for Initializing Fourier Phase Retrieval DongHun Ryu (MIT)
P4	Toward the Quantum Simulation and Computing Platform of Ultracold Quantum Gases of Polar Molecules Sungjun Lee (Pohang University of Science and Technology)
P5	Air-Hermetic Wafer-Level Packaging for High-Power RF MMICs Jongmin Yook (KETI, Korea Electronics Technology Institute)
P6	Research Trends in LLM-Based Code Generation Uisang Lee (Seoul National University)
P7	Mode conversion of hyperbolic phonon polaritons in van der Waals terraces Byung-II Noh (Auburn University)

Poster Session

@ International
Ballroom II

Friday, Aug 7 5:00 – 6:45pm

IT, Quantum & Semiconductors Poster Session

Chair: Mingon Kang (University of Nevada, Las Vegas), Sam Chung (City University of Seattle), Jungkwun Kim (University of North Texas)

P8	How Data Centers Stream Videos Edward Hong (Independent Researcher)
P9	End-to-End Computer Vision Pipeline for Perforation Defect Detection and Classification in Industrial Imaging Joanne Yun (University of Wisconsin-Madison)
P10	Comparative Analysis of ARIMA, LSTM, Transformer, and Prophet Models for Stock Price Forecasting Jiyoon Moon (Queen Mary University of London)
P11	Fully Optical Synaptic Operations Enabled by Wavelength-Tunable Wafer-Scale PtSe₂ Layers Sang Sub Han (Korea Basic Science Institute)
P12	A Low Loss RF Conductor Using Cu/Co Multilayer Metaconductor for W Band Applications Hanna Jang (University of Florida)
P13	IGZO-Based Neuromorphic System for Spiking Neural Networks Yumin Yun (Seoul National University)
P14	When Machine Think, What Makes Us Human Young Choi (Regent University)
P15	Experiential Learning for non-STEM Major Students' Computational Thinking Through AI-Enabled Website Development with No Coding Sehee Ha (City University of Seattle)
P16	Dry Metal-Assisted Chemical Etching (MACE) for Black Silicon Fabrication Taeyon Kwon (University of Florida)
P17	Effectiveness of Input Vector Control on CNFET Devices Joseph Kim (Illinois Institute of Technology)

Infrastructure, Mobility & Robots

The physical world is being reshaped by rapid advances in infrastructure systems, mobility technologies, and intelligent machines. Infrastructure is becoming increasingly instrumented, data-rich, adaptive, and connected. Mobility systems are evolving into intelligent ecosystems that integrate autonomous agents, human decision-making, and real-time data. Robots are expanding from controlled industrial environments into construction sites, warehouses, healthcare settings, public spaces, and homes. Addressing these transformations requires collaboration across disciplinary boundaries. The Infrastructure, Mobility, and Robots symposium explores how the built environment, mobility systems, and intelligent machines can be designed, operated, and integrated to address complex societal and technological challenges. By bringing together researchers, practitioners, and emerging scholars, the IMR symposium provides a platform for sharing innovative research, identifying cross-disciplinary collaboration opportunities, and shaping the future of intelligent, resilient, and human-centered physical systems.

Chair



JuHyeong Ryu

West Virginia
University

Co-chairs



Eul-Bum Lee

POSTECH



Seokgi Lee

Youngstown State
University



Ryan Choi

Eastern Michigan
University

Infrastructure,
Mobility & Robots

@Augusta B

Thursday, Aug 6 5:00 – 6:45pm

Connected Mobility, Cybersecurity, and Adaptive Systems

Chair: Seokgi Lee (Youngstown State University), Ji-Hung (Ryan) Choi (Eastern Michigan University)

Time	Title and Speaker
5:00	Session Introduction JuHyeong Ryu (Session Chair)
5:15	An Attribute Group-Based Conjoint Analysis Model for Consumer Preference Measurement: Application to EV Design Rhim, Hosun (Korea University Business School)
5:30	Structural Reorganization of the Global Container Shipping Network under Geopolitical Risk: The Case of the Red Sea Crisis Park, Suyeon (Inha University)
5:45	FI-DARA: Adaptive Edge-Cloud Routing for Privacy-Preserving Health Monitoring Choi, Michael (University of Illinois Chicago)

Infrastructure,
Mobility & Robots

@Augusta B

Thursday, Aug 6 5:00 – 6:45pm

Connected Mobility, Cybersecurity, and Adaptive Systems

Chair: Seokgi Lee (Youngstown State University), Ji-Hung (Ryan) Choi (Eastern Michigan University)

Time	Title and Speaker
6:00	Beyond Economic Returns: The Duality of AI Adoption on Data Breach Incidents Jaesung Shin (Mississippi State University)
6:15	A Semi-Markov Process Approach to Quantify Material Content Over Multiple Product Lifecycles with Application to a Hard Disk Drive Yong Han Kim (Purdue University)
6:30	Nudging Secure Behavior: Examining the Effects of Attentional Nudge Strategies on Phishing Email Detection Performance Seeung Oh (South Carolina State University)
6:45	Session Q&A and Conclusion

Infrastructure,
Mobility & Robots

@Augusta B

Friday, Aug 7 3:15 – 5:00pm

Resilient Infrastructure and Intelligent Physical Systems

Chair: JuHyeong Ryu (WVU), Eul-Bum Lee (POSTECH)

Time	Title and Speaker
3:15	Session Introduction JuHyeong Ryu (Session Chair)
3:15	Compound Heatwave–Extreme Rainfall Effects on Urban Drainage and LID Performance: A SWMM Continuous Simulation Study in Seoul Hyeryeong Yun (Seoul National University)
3:30	Value for Money Analysis of Public–Private Partnership and Public Sector Comparator for Building Project Joseph Kim(California State University Long Beach)
3:45	Safe, Permeable and Quiet Highway Pavement Infrastructure for the States with Severe Freeze/Thaw Cycles Hosin Lee (University of Iowa)
4:00	Mixed Traffic Cooperative Platooning using Multi-Agent Reinforcement Learning Byungkyu Brian Park (University of Virginia)
4:15	Knowledge-Graph Integrated Agentic Physical/Shadow AI for Autonomous Ships: A Hybrid Approach with LLM and Ontology Geonwoo Kim (POSTECH)
4:30	Generating Machining Sound Using Operational Context Eunseob Kim (Wayne State University)
4:45	Narrative Manufacturing: A Human-Centered Path from Automation to Mass Innovation Changheon Han (Purdue University)
5:00	Session Q&A and Conclusion

Saturday, Aug 8 8:00 – 10:00am

Sensing, Automation, and Infrastructure Intelligence

Chair: Woo Hyoung Lee (University of Central Florida)

Time	Title and Speaker
8:00	Session Introduction JuHyeong Ryu (Session Chair)
8:00	Novel Electrochemical MIP Sensors for Monitoring Emerging Water Contaminants: PFAS and Odor Detection Woo Hyoung Lee (University of Central Florida)
8:15	Performance Assessment of Permeable Pavement under Intense Rainfall in U-Ecotron: A CFD-Based Approach Seunghun Baek (Seoul National University)
8:30	Automated System for Bridge Corrosion Detection and Severity Classification Joseph Kim (California State University Long Beach)
8:45	AI-Driven Pavement Crack Detection and Severity Classification Joseph Kim (California State University Long Beach)
9:00	Beyond Structure-from-Motion: Using NeRF and 3D Gaussian Splatting for Photorealistic 3D Documentation of Infrastructure Sun Ho Ro (AECOM)
9:15	Mobile Routing System for Older Adults' Walking John Sohn (University of Nevada Las Vegas)
9:30	Exploring the Electro-Tribological Behavior of Laser Cladded High Entropy Alloys Dongyun Lee (Iowa State University)
9:45	Optimal Camera Placement for 3D Surface Coverage Sumin Hu (University of Texas at Austin)
10:00	Session Q&A and Conclusion

Emerging Research in Infrastructure, Mobility, and Robots

Chair: JuHyeong Ryu (WVU), Eul-Bum Lee (POSTECH), Seokgi Lee (Youngstown State University), Ji-Hung (Ryan) Choi (Eastern Michigan University)

P1	Influence of cementitious additives mixing method with clay soil in unconfined compressive strength Hyunjong Cha (Texas A&M University)
P2	Hierarchical Framework using Reinforcement Learning for AMR Dispatching in Flexible Job Shop Environment Jaemin Park (Purdue University)
P3	AI-CFD Coupled Simulation for Urban Ventilation and Heat Island Mitigation of Green Infrastructure atop the Yangjae IC Underground Road Hyunjae Kim (Seoul National University)
P4	Automated Urban Flood Risk Screening Across Diverse Korean Terrain Types Using SWMManywhere and SSP Climate Scenarios Nayoung Kim (Seoul National University)
P5	Safety-by-Design Vision-Language Models for Bridge Inspection Documentation Quality Control Kyubyung Kang (Purdue University)
P6	Metaheuristic Optimization of Railroad Horizontal Alignment with Complete Curve Geometry and Obstacle Avoidance Myungseob Kim (KOTTA)
P7	CROP-LO: Crop-Row-Optimized LiDAR Odometry for Autonomous Navigation and Crop Monitoring in Cornfields Kitae Kim (Purdue University)
P8	A Post-Hurricane Building Roof Damage Assessment Using Multi-Source Aerial Observations Anjin Chang (Michigan State University)
P9	A Preliminary Study on the Feasibility of UAS-Based Lighting in Road Construction Work Zones Kyubyung Kang (Purdue University)
P10	AI-Enabled Drone for Wildfire Spread Classification Using Synthetic Image Sequences Kevin Lee (Cornell University)
P11	A Smart Home Interface Design Framework to Support Energy-Saving Behaviors Jinmog Han (Iowa State University)
P12	Heuristic Approach for Collaborative UAV-UGV Area Coverage Path Planning with Battery Constraints Jackie Lee (Texas A&M University)

Poster Session

@ International
Ballroom II

Friday, Aug 7 5:00 – 6:45pm

Emerging Research in Infrastructure, Mobility, and Robots

Chair: JuHyeong Ryu (WVU), Eul-Bum Lee (POSTECH), Seokgi Lee (Youngstown State University), Ji-Hung (Ryan) Choi (Eastern Michigan University)

P13	Physics-Informed Neural Network Modeling of Salt Transport and Thermal Conductivity Evolution in Unsaturated Soils Jongwan Eun (University of Maryland)
P14	Estimating the natural gas demand margin of electricity load growth Jin Wook Ro (Oak Ridge National Laboratory)
P15	End-to-End Computer Vision Pipeline for Perforation Defect Detection and Classification in Industrial Imaging Joanne Yun (University of Wisconsin-Madison)
P16	Developing an Interactive Maritime Dashboard Using Public AIS Data Eunsu Lee (Kean University)
P17	An Optimal Consolidation Policy for Vehicle Routing Plans in Last-Mile Delivery: A Deep Q-Learning Approach Seokgi Lee (Youngstown State University)
P18	Analysis of the Impact and Time Lag of Maritime Supply Chain Disruption on Air Freight Demand and Freight Rates Seryang Kim (Inha University)
P19	From Scene Perception to Actionable Space: Semantic Risk Field for Safe Robot Navigation Seonho Woo (Purdue University)
P20	Short-Term Resilience Strategies Amid Supply Disruptions: An Analytical Perspective Ryan Choi (Eastern Michigan University)
P21	Mixed Reality Training for Industrial Assembly: Integrating Optimized Task Sequences with Motion-Based Ergonomic Monitoring JuHyeong Ryu (West Virginia University)

Basic Sciences

This cluster highlights foundational research in physics, chemistry, mathematics, and other core sciences that drive fundamental discoveries and enable technological breakthroughs across disciplines.

The Basic Sciences Technical Symposium will feature three podium sessions and a poster session. We invite researchers and professionals from diverse scientific backgrounds to participate, share their latest work, and engage in vibrant discussions that foster new ideas and interdisciplinary connections.

This symposium is jointly organized by three Technical Groups (TGs) of KSEA and their affiliated professional societies (APS): Physics; Chemistry; and Mathematics, Geology, Meteorology, and Statistics.

The Physics (A-1 PHY) TG represents a community advancing theoretical, experimental, and applied physics, with work spanning fundamental studies of matter, energy, and the universe, as well as interdisciplinary areas connected to emerging scientific and technological frontiers.

The Chemistry (A-2 CHM) TG brings together scientists whose work advances molecular understanding and chemical innovation across diverse domains, including materials, biological systems, energy, photonics, and other interdisciplinary areas.

The Mathematics, Geology, Meteorology, and Statistics (A-3 MAS) TG includes researchers contributing to quantitative and earth-system sciences through theoretical development and practical applications in modeling, prediction, data analysis, environmental systems, and quantitative methods that support scientific decision-making.

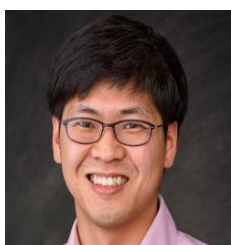
Chairs



Harold Kim

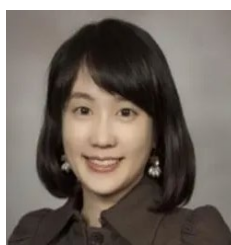
Georgia Institute of
Technology

Co-chair



Bumjung Kim

New Jersey City
University



Soeun Kim

Azusa Pacific
University

Basic Sciences

@Colonial B

Thursday, Aug 6 5:00 – 6:45pm

CHM Session: Frontiers in Analytical Chemistry: Spatiotemporal Resolution, Molecular Insights, and Structural Control

Moderator: Bumjung Kim (Kean University)

Time	Title and Speaker
5:00	Modeling secondary organic aerosol formation from atmospheric process of wildfire smoke: Chamber experiments to air quality simulations Myoseon Jang (University of Florida)
5:17	In Situ Raman Spectroscopy Reveals Bacterial Viability and Colony Growth Dynamics Kaeul Lim (Purdue University)
5:35	Fluorogenic Covalent Probes for RNA via 2'-OH-Selective Acylation Jinwoo Shin (Stanford University)
5:53	Complexation-Mediated Diffusion-Limited Crystal Growth: A General Framework for Anisotropic Crystal Growth Youngjong Kang (Hanyang University)
6:10	Accelerating Materials Characterization Using 4D-STEM and Data Analytics Honggye Kim (University of Florida)
6:27	Ultrafast Phase Transformation Studies using X-ray Free-Electron Lasers Hyunjung Kim (Sogang University)

Basic Sciences

@Oakmont B

Friday, Aug 7 3:15 – 5:00pm

PHY Session: Investigating Nature Across Scales in the Physical Sciences

Moderator: Harold Kim (Georgia Institute of Technology)

Time	Title and Speaker
3:15	Purely GHZ-like Entanglement is Forbidden in Holography Monica Kang (Invited Speaker, Texas A&M University)
3:35	Light-Front Helicity Chueng Ji (North Carolina State University)
3:52	Search for Associated Production of a Higgs Boson and Two Vector Bosons via Vector Boson Scattering Philip Chang (University of Florida)

Basic Sciences

@Oakmont B

Friday, Aug 7 3:15 – 5:00pm

PHY Session: Investigating Nature Across Scales in the Physical Sciences

Moderator: Harold Kim (Georgia Institute of Technology)

Time	Title and Speaker
4:09	Coherent Terahertz Radiation from Laser-Wakefield Acceleration Ki-Yong Kim (University of Maryland)
4:26	How molybdenum disulfide (MoS₂) modulates actin assembly dynamics and fibroblast cell viability Ellen Kang (University of Central Florida)
4:43	Poloidal Dynamics of DNA Minicircles Harold Kim (Georgia Institute of Technology)

Emerging Areas (Entertainment Tech & STEAM)

This cluster explores emerging areas in Social Sciences (Anthropology, Economics, Political Science, Sociology, Public Policy, etc.), Psychology, Digital Arts, STEM Education, and Other Sciences. The STEAM-Centered Social Science will feature three podium sessions and one poster session. We invite researchers and professionals conducting qualitative, quantitative, computational, and integrated work in artificial intelligence, educational technology, behavioral health, criminal justice, and related STEAM fields to present empirical findings and conceptual frameworks that address emerging challenges in human-AI interaction, educational ecosystems, and societal well-being, while engaging in discussions that foster interdisciplinary collaboration and new research connections.

The Framework & Artificial Intelligence Session examines how AI is transforming diverse domains through innovative frameworks and applications. Presentations introduce machine learning insights into volunteer mentor retention over time, analyses of university knowledge complexity versus regional innovation, an adaptive behavioral health platform, tools for evaluating AI-integrated STEM teaching and teacher-AI collaboration, and building social presence in virtual offices.

The Diverse Methodologies Session highlights the breadth of qualitative and quantitative approaches used to address critical questions across education, psychology, engineering, and healthcare. The qualitative studies explore the distinctive cultural assets of international female STEM students and analyze mentoring ecosystems in the engineering research center. The quantitative studies examine engineering team communication in a video game environment, investigate the relationship between children's emotion regulation and emotional responses using electroencephalography (EEG) and electrocardiography (ECG) measures, and evaluate the effects of feedback in medical certification standard-setting using survey data and statistical analyses.

The Artificial Intelligence and Practice Session highlights the practical implementation and direct impact of artificial intelligence across critical societal sectors, with a strong emphasis on criminal justice and education. Presentations in this session explore how AI is actively reshaping professional practices and operational security, including its dual role as an investigative tool and emerging threat in criminology, its effects on institutional security in U.S. prisons, and the use of deep learning for automated scoring of police shooting targets. Furthermore, the session addresses practical educational applications, examining the reliability of prompt engineering in human-AI grading agreements and the utilization of AI-powered student-emulating agents to enhance preservice teachers' responsive instruction.

Chairs



Hyoungah Park

Saint Peter's University

Co-chair



Benjamin Ahn

The Ohio State University



Danielle Lee

American Board of Internal Medicine



Jung Han

K-EnterTech Hub

Emerging Area

@Colonial A

Thursday, Aug 6 5:00 – 6:45pm

Session A: Framework & Artificial Intelligence

Chair: Benjamin Ahn (The Ohio State University)

Time	Title and Speaker
5:00	Temporal Shifts of Key Factors for Volunteer Retention in Local Mentoring Programs Using a Machine Learning Approach Juyoung Lee, Sunghyun Kim, Saumya Diwan (Emory University)
5:20	University Complexity and the Decoupled Role of Universities in U.S. Regional Innovation Systems Sooyeon Lee (Georgia Institute of Technology, Seoul National University)
5:40	FitMindMove: Multi-Dimensional Hybrid Model Selection for Behavioral Health AI Systems Saahoon Hong, Hea-Won Kim (Indiana University Indianapolis), Terry Choi, Dongwoo Shin (A TO Z Service Inc)
6:00	Development of a Teacher-AI Collaboration Framework (TAiCF) in AISTEM Lessons Younkyeong Nam, Jina Yoon, Dongyoung Lee, Woonseok Cho (Pusan National University)
6:20	Building Social Presence in Virtual Offices: A Three-Phase Framework Integrating Metaverse, Agentic AI, and MMORPG Principles Jinho Kim (University of Houston Downtown)

Emerging Area

@Colonial A

Friday, Aug 7 3:15 – 5:00pm

Session B: Diverse Methodologies

Chair: Danille Lee (American Board of Internal Medicine)

Time	Title and Speaker
3:15	Purely GHZ-like Entanglement is Forbidden in Holography Monica Kang (Invited Speaker, Texas A&M University)
3:40	Light-Front Helicity Chueng Ji (North Carolina State University)
4:00	Search for Associated Production of a Higgs Boson and Two Vector Bosons via Vector Boson Scattering Philip Chang (University of Florida)
4:20	Child Executive Function Predicts Neurophysiology Indicators of Emotion Regulation: Insights from Frontal Alpha Asymmetry and Respiratory Sinus Arrhythmia Yelim Hong (The University of Texas at Austin)
4:40	How Does Feedback Influence Standard-Setting Ratings in Medical Certification Assessments? Danielle Lee (American Board of Internal Medicine)

Emerging Area

@Colonial A

Saturday, Aug 8 8:00 – 10:00am

Session C: Artificial Intelligence & Practice

Chair: Jung Han (kentertechhub)

Time	Title and Speaker
8:00	AI and the Future of Criminology: Investigative Tool and Emerging Threat Max Chang (Liner)
8:20	Technological Changes in U.S. Prisons: Contraband, AI, and Institutional Security Hyesun Kim (Worcester State University)
8:40	Prompt Engineering and Human-AI Grading Agreement Jesse Ha (Indiana University)
9:00	AI-Based Automated Scoring for Police Shooting Targets Hyoungah Park (Saint Peter's University)
9:20	Preservice Teachers' Responsive Mathematics Teaching with AI-Powered Student Emulating Agents Dabae Lee (Kennesaw State University)
9:40	Q&A

IES Symposium

Innovation and Entrepreneurship Symposium (IES)

The Korean-American Scientists and Engineers Association (KSEA) cordially invites you to the 8th Innovation and Entrepreneurship Symposium (IES). This premier symposium aims to bridge entrepreneurial communities from the US and Korea, fostering unparalleled networking opportunities.

The IES Workshop Program brings together leading founders, investors, researchers, and innovators for an intensive, insight-driven series of sessions designed to equip entrepreneurs with practical knowledge, global perspective, and meaningful partnership opportunities. With this year's emphasis on **R&D collaboration and strategic networking**, the program creates structured opportunities for startups, SMEs, and research institutions to explore cross-border joint development, technology commercialization, and long-term research partnerships. The IES Innovation Showcase Session provides a dynamic platform for selected startups and SMEs to showcase their technologies, products, and services to an audience of investors, researchers, and potential R&D partners. Designed to foster meaningful engagement, this session moves beyond traditional presentations by encouraging direct interaction, real-time feedback, and partnership exploration.

The IES offers the Startup Pitch Competition (SPC) and Idea Pitch Competition (IPC)—the symposium's pinnacle events. Through SPC, startups vie for a cash prize by pitching to potential investors and industry veterans. The Idea Pitch Competition (IPC) beckons early-stage startups and aspiring entrepreneurs to present their concepts, garnering invaluable feedback from investors.

The symposium is replete with diverse networking events, connecting attendees with investors, established entrepreneurs, funding agencies, and specialists in legal and financial domains. We warmly welcome all professionals with an entrepreneurial spirit to join us at the IES and delve into the burgeoning cross-border business vistas between the US and Korea.

Organizing Committee

Chair

Co-Chairs



Jeho Park

Claremont
McKenna College



Deok-Ho Kim

Workshop Program
Johns Hopkins
University



Jeniffer Cho

Pitch Competition
Solaris Venture
Partners



Martin Jun

Innovation
Showcase
Purdue University



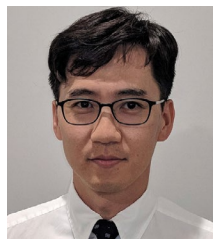
Kyeong Ho Yang

Fundraising/
Networking KITEE,
KoAm Partners



Kevin Kim

General Director,
PR/Web/Social
Media
Brave Turtles



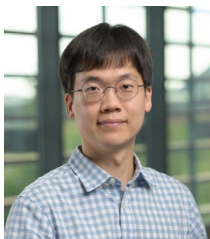
Joonyul Kim

Director, Workshop
Program, JHBIC



James Han

Director, Pitch
Competition
Harvard Medical
School



Hyunseok Kim

Director, Showcase
Demo, University
of Illinois, Urbana-
Champaign



Nathan Kim

Director, Networking
Program

Program Overview

Thursday, August 6

Time	Content	Title and Speaker	Location
10:15-6:45 pm	IES Innovation Showcase		International Ballroom
3:15-4:15 pm	IES Opening Session	- Opening Remarks: 박제호 (IES2026 Chair) - Congratulatory Remarks: 윤용규 (KSEA President) - Sponsor Introduction - Fireside Chat with 하정우 대표, CEO, Bear Robotics, "From Restaurant Floor to Robot Fleet : Building Bear Robotics"	Royal Melbourne (Open to all UKC participants)
4:20-5:30 pm	IES Workshop I - Bio / Health	- 이홍표 (CTO, Co-founder), Medic Lifescience - "From Functional Genomics to Precision Oncology: Building a Platform that Translates Biology into Medicines" - 임채민 (CTO, Co-founder), Coiled Tx - "How We Outlasted the Hype: A Small Biotech's Playbook" - 박상혁 (Associated Director of Research), Institute of Cannabis Research (ICR) at Colorado State University-Pueblo - "Cannabis from Prohibited Drug to Therapeutic Discovery"	
5:35-6:45 pm	IES Workshop II - AI / IT	- Heonmin Lim (Senior Development Manager), Microsoft - "A First-Hand View (25 Years @ Microsoft) - AI in the Real World" - 김태현 (Founder, CEO), Handiers Inc. - "Building an AI-Native Company: The Handiers&NextPros Story" - 김새순 (Technical Staff), Sygaldry Technologies - "Before the Killer App: Where Quantum Actually Is—and Why the Money Isn't Waiting"	

Friday, August 7

Time	Content	Title and Speaker	Location
10:15-12:00 pm	IES Global R&D Networking I	Closed Session for Registered Companies and Invited Participants	Royal Melbourne · Invitation Only
1:00-2:45 pm	IES Global R&D Networking II		
3:15-4:50 pm	IES Workshop III	- 손재권 (Founder & CEO), The Miilk – Korea's ₩5,000 Trillion Bet: Capital, Power, and the AI Infrastructure Race - Job Albo (VC, Early Stage Investor), Plug and Play – <i>Inside a Global Venture Capital Firm: Supporting Startups Entering the US Market</i> - 박현호 (IP Lawyer), McCarter & English, LLP – <i>Patent and Trade Secret Topics That Every Korean-American Professional Needs to Know</i> - 배정웅 (CEO & Executive Director), KIC Silicon Valley – <i>From Seoul to Silicon Valley: A Practical Playbook for Korean Startups Entering the US Market</i>	Royal Melbourne · Open to all UKC participants
5:00-6:45 pm	Startup Pitch Competition		Royal Melbourne · Open to all UKC participants

Saturday, August 8

Time	Content	Title and Speaker	Location
1:00-3:00 pm	IES SPC Networking Lunch		TBD · Invitation Only

Call for Participation: Startup Pitch Competition and Idea Pitch Competition at IES 2026

The Global R&D Partnership and Networking Program is a brand-new initiative at UKC 2026, specifically designed for growth-stage Korean tech SMEs seeking global R&D collaboration with US academic and research partners.

Through structured 1:1 meetings and small-group networking sessions, Korean corporate leaders and R&D executives will connect directly with vetted US experts to unlock cross-disciplinary, concrete partnership opportunities.

Date: August 6–8, 2026

Venue: Orlando, FL (UKC 2026 USA)

Participation Fee: \$3,000 per company

Format: 1:1 + Small Group Sessions (Each company participates in 2 sessions across 4 technology fields, designed in a 2x2 cross-disciplinary format)

Package Benefits

Field-Specific R&D Collaboration Matrix

Curated 1:1 meetings and small-group sessions with vetted US academic and research experts across core technology fields: AI/ICT, Robotics, SaaS, Pharma, Biotech, and Digital Healthcare.

Innovation Showcase (1-Day Booth Exhibition)

Opportunity to demo your technology, products, and services to all UKC attendees. Includes a 6 ft x 30 inch table, two chairs, and a basic tablecloth.

<https://ukc2026.ksea.org/exhibit-booths> (Please refer to the details from the UKC website.)

Booth prep starts on Wednesday at 6:00 pm.

IES Showcase Demo Booth exhibition will end on Thursday at 6:45 pm.

NOTE: UKC will not be able to provide 32-inch monitors for the IES Booths due to power limitations in the exhibition room. Please bring your own laptop, iPad, or portable monitor.

Exclusive Networking Access

IES Networking Dinner: An invitation-only evening with top investors, entrepreneurs, and technologists.

SPC Networking Lunch: Connect directly with pitch judges and KSEA experts.

Small-Group Sessions: 2 field-specific networking rounds tailored per company.

Complimentary Registration

Includes 1 complimentary full registration for UKC 2026.

Application & Inquiry

Application Deadline: July 10, 2026

Online Application: bit.ly/UKC_GlobalRnD2026

Email Submission & Inquiries: entrepreneurship@ksea.org

Official Website: ies.ksea.org



FIRE Symposium

FIRE Symposium

Thursday, August 6	5:00 - 6:45pm	ChampionsGate
Friday, August 7	3:15 - 6:45pm	ChampionsGate
Saturday, August 8	9:00 - 10:00am	ChampionsGate

The Fostering Innovation in Rising Experts (FIRE) Symposium at UKC brings together a dynamic community of young professionals, graduate and undergraduate students, postdoctoral researchers, and early-career faculty for a forum dedicated to career growth and leadership development. For UKC 2026, FIRE embraces the theme **"Connect Today. Build Beyond. Ignite Tomorrow."** a timely call to equip students and early-career professionals with the confidence and adaptability to thrive in an era of rapid change across STEM fields. Against the backdrop of evolving global challenges, this year's program offers a platform for growth, resilience, and visionary leadership. Through engaging discussions on career advancement, mentorship, and innovation, participants will leave equipped with practical tools to lead their careers with purpose and confidence.

Beyond keynote addresses from distinguished leaders in science and industry, FIRE participants will have the opportunity to showcase their career paths and professional work through four signature avenues of participation: **1) Mentoring Roundtables, 2) AI Build Challenge, 3) Career Flash Talk, and 4) Career Poster Presentation.** Together, these avenues cultivate a space for community building, peer support, and the exchange of ideas, helping shape the next generation of scientists and engineers. FIRE further offers participants meaningful opportunities to network within and beyond their respective disciplines, fostering cross-sector awareness of emerging innovations in science and engineering.

Organizing Committee

Chair



Taegon Jay Lee

Palantir AI & Data
Science Manager
at Department of
War

Co-Chair



Riky Bae

Manufacturing
Engineer at PECNA

Co-Chair



Judy Seohyun Kim

Co-Founder & CEO
at K-Leap Global

Programs & Networking



Lucy Lee

Pharmacist, Ph.D.
student at UTHealth
Houston



Helen Mah

Software Engineer
at Dell
Technologies



Youira Shin

Ph.D. Candidate
at New Jersey
Institute of
Technology

Admin and Communications



Lanette Choi

Graduate Student at
Rush University



Daniel Kim

Undergraduate Student at
University of Wisconsin-
Madison

I. FIRE Symposium Opening

Thursday, August 6 5:00 - 6:45pm ChampionsGate

Session Chair: Taegon Jay Lee (Department of War)

Time	Program and Speaker
5:00 - 5:15 pm	Welcoming Remarks Taegon Jay Lee (Department of War)
5:15 - 5:40 pm	Opening Keynote Dr. William D. Phillips, Nobel Laureate in Physics (1997) NIST Fellow and Distinguished University Professor
5:40 - 5:55 pm	Introductory Networking / Icebreaker Riky Bae(PECNA)

II. AI Build Challenge

Thursday, August 6 5:55 - 6:45pm ChampionsGate

Session Chair: Helen Mah (Dell Technologies)

Time	Program and Speaker
5:55 pm	TBD

III. Career Flash Talk

Friday, August 8 3:15 - 4:15pm ChampionsGate

Session Chair: Lucy Lee (UTHealth Houston)

Time	Program and Speaker
5:55 pm	TBD

IV. Mentorship Roundtable Program

Friday, August 8 4:15 - 5:00pm ChampionsGate

Session Chair: Youra Shin (New Jersey Institute of Technology)

Time	Program and Speaker
TBD	TBD

V. Poster Presentation

Friday, August 8 5:00 - 6:40pm ChampionsGate

Session Chair: Youra Shin (New Jersey Institute of Technology)

Time	Program and Speaker
TBD	TBD

VI. Closing & Award Ceremony

Saturday, August 9 9:00 - 10:00am ChampionsGate

Time	Program and Speaker
TBD	TBD

Distinguished Sponsor Forums

Innopolis Forum

Global Deep tech Commercialization forum

Thursday, August 6 1:00 - 3:00pm Championsgate

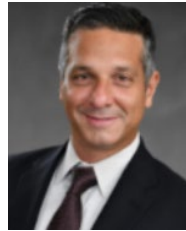


Chair



Hee Kwon Jung

President, Korea Innovation Foundation



Ron Piccolo

CEO, Florida Semiconductor Engine



Sung-Hee Yoon

CEO, U.S. Incorporation & Global Scaling Experience



Janice Logan

Partner, Morgan Lewis&Bockius LLP



Paul Sohl

CEO, Florida High Tech Corridor

Session2 Panelists



Gijeong Kwon

CEO, Narma



Young-Yeol Park

CEO, Elspes



Woojin Jeon

CEO, WIM



Sung-Hee Yoon

CEO, Erudio Bio
U.S. Incorporation & Global Scaling Experience

Time	Title and Speaker
12:30 - 1:00 pm	Registration & Networking
1:00 - 1:10 pm	Welcoming Remarks Heekwon Jung (President, Korea Innovation Foundation) Congratulatory Remarks Yongkyu Yoon (President, KSEA)
1:10 - 2:10 pm	Session 1: Policy, Strategies, and Founder Insights Focus: Policy framework and strategies for global expansion 1. Innovative Ecosystem & Synergy(Ron Piccolo, CEO, Florida Semiconductor Engine) 2. The Evolution of the AI Innovation Ecosystem(Sung-Hee Yoon, CEO, Erudio Bio, secured \$1M from the Gates Foudation in 2025) 3. IP Strategy Trends in the U.S. Market(Janice Logan, Partner, Morgan Lewis&Bockius LLP) 4. Soft Landing Strategies for Deep tech Startups(Paul Sohl, CEO, Florida High Tech Corridor)
2:10 - 2:20 pm	Coffee Break
2:20 - 3:00 pm	Session 2: Breaking Into the U.S. – Challenges & Opportunities Focus: Case studies and interactive talk concert (6-min pitch + 20-min discussion) 1. Narma (Gijeong Kwon, CEO) - Certification & Commercialization Insights 2. Elspes (Young-Yeol Park, CEO) - U.S. Manufacturing Setup & Investment Strategies 3. WIM (Woojin Jeon, CEO) - Local Networking & Partnership Strategies 4. Erudio Bio (Sung-Hee Yoon, CEO) - U.S. Incorporation & Global Scaling Experience
3:00- 3:10 pm	Closing Ceremony

Hyundai Motor Chung Mong-Koo Foundation Forum

Solving Social Challenges: Sci-Tech Innovation Driven by Next-Generation Leaders

Thursday, August 6 1:00 - 3:00pm Augusta



Chair



Gloria Kim

University of Florida

Presenters



Yuri Kang

Pohang University
of Science and
Technology



Kyunghyun Kim

Hongik University



Yurim Choi

Pohang University
of Science and
Technology

The Hyundai Motor Chung Mong-Koo Foundation is at the forefront of nurturing science and technology talent to address the complex societal challenges. In alignment with this mission, this year's forum adopts the theme "***Solving Social Challenges: Sci-Tech Innovation Driven by Next-Generation Leaders***" to showcase how the innovative research outcomes of three foundation scholars—bridging imagination and innovation—can translate into tangible solutions to real-world societal problems.

This forum, featuring foundation scholars as primary presenters, transcends traditional academic knowledge-sharing. Centered on the core concept of "***solving future challenges***," it serves as a pivotal platform to articulate on the global stage the philosophy and purpose behind the foundation's commitment to cultivating future talent through science and technology scholarships.

Time	Title and Speaker
1:00 - 1:05 pm	Opening & Introduction Gloria Kim (University of Florida)
1:05 - 1:10 pm	Introduction of Hyundai Motor Chung Mong-Koo Foundation(Video)
1:10 - 1:25 pm	Dual-Responsive Gelatin Microspheres for Ultrasound-Triggered Drug Release Yuri Kang (Pohang University of Science and Technology)
1:25 - 1:40 pm	Design of Non-Flammable, Clay-Like Solid Electrolytes via Lewis Acid-Base Interactions Kyunghyun Kim (Hongik University)
1:40 - 1:55 pm	Bridging Mechanical Discontinuity: Bioinspired Stress-Dissipating Interface for Human-Integrated Materials and Devices Yurim Choi (Pohang University of Science and Technology)
1:55 - 2:25 pm	Panel Discussion
2:25 - 2:30 pm	Concluding Remarks / Photo Session Gloria Kim (University of Florida)

Korea – US Quantum & AI Application Forum

Thursday, August 6 1:00 - 3:00pm Congressional A



Chair

Presenters



In-Saeng Suh

Oak Ridge National
Laboratory



Joongheon Kim

Korea University



Saesun Kim

Sygaldry
Technologies

This forum provides a platform to discuss current research trends and challenges in quantum and AI applications, a rapidly evolving field at the intersection of quantum computing and artificial intelligence.



Seung-Wook Baek

National Research
Foundation of Korea



Doyeol Ahn

Singularity
Quantum Inc. &
University of Seoul



Sean Oh

PsiQuantum

Time	Title and Speaker
1:00 - 1:02 pm	Opening Remarks
1:02 - 1:17 pm	National Quantum Strategy and Program Seung-Wook Baek (National Research Foundation of Korea)
1:17 - 1:32 pm	Quantum AI and Software: Current Status and Future Trends Joongheon Kim (Korea University)
1:32- 1:47 pm	Quantum Computing and Computational Fluid Dynamics for Precision Medicine Doyeol (David) Ahn (Singularity Quantum, University of Seoul)
1:47 - 2:02 pm	AI-driven Distributed QAOA for Materials Science In-saeng Suh (Oak Ridge National Laboratory)
2:02 - 2:17 pm	Fault-Tolerant Quantum Computing for Commercial Impact Sean Oh (PsiQuantum)
2:17 - 2:32 pm	Quantum and AI: Asking the Right Question Saesun Kim (Sygaldry Technologies)
2:32 - 2:57 pm	Panel Discussion: Quantum Application Research and Korea-US Collaboration In-saeng Suh (Oak Ridge National Laboratory)
2:57 - 3:00 pm	Closing Remarks & Photo Session

TIPA Distinguished Forum on Industry-Academic International Collaboration

TIPA Forum

Thursday, August 6 1:00 - 3:00pm Colonial A



Korea Technology and Information
Promotion Agency for SMEs

Chair



Martin Jun
Purdue University

Co-Chair



Hoon Bae Lee
TIPA US Office

Speakers



Keely DeGroot
NeoCity



Sangkee Min
University of Wisconsin



Manyeol Han
Embassy of Korea

This Distinguished Forum, sponsored by the Korea Technology and Information Promotion Agency (TIPA), brings together internationally recognized scholars and researchers to highlight innovative research and foster collaboration between the United States and Korea.

Presenters



Sooyeon Jeong
Purdue University



Huai-Rhin Kim
Purdue University



Garam Kim
Purdue University



Sunghwan Lee
Purdue University

The forum features invited presentations from leading experts alongside presentations by researchers who are currently conducting TIPA-funded projects, providing participants with a unique opportunity to learn about both emerging research directions and ongoing collaborative initiatives. By showcasing cutting-edge research across disciplines, the forum aims to promote the exchange of ideas, strengthen international research partnerships, and inspire future collaborations that advance scientific discovery, technological innovation, and global competitiveness.

Time	Title and Speaker
1:00 - 1:05 pm	Welcome Remarks Martin Jun (Purdue University)
1:05 - 1:15 pm	Welcome Remark and TIPA Introduction Hoonbae Lee (TIPA)
1:15 - 1:35 pm	Keynote Speech: Plug and Play Semiconductors: The NeoCity Model for Rapid Innovation Keely DeGroot (NeoCity)
1:35 - 1:55 pm	Keynote Speech: Defense Opportunity and Risk in US for Korean Companies Sangkee Min (University of Wisconsin-Madison)
1:55 - 2:15 pm	Keynote Speech: Intellectual Property (IP) Management in Korea-U.S. Joint Research Manyeol Han (Embassy of the Republic of Korea in the USA)
2:15 - 2:20 pm	Q&A Session
2:20 - 2:35 pm	TIPA Project Presentation: Development of a Socially Assistive Robot (SAR) for Korean language and cultural learning as a second language Sooyeon Jeong and Huai-Rhin Kim (Purdue University)
2:35 - 2:45 pm	TIPA Project Presentation: Development of composite additive manufacturing process and AI-based intelligent twin systems Garam Kim (Purdue University)
2:45 - 2:55 pm	TIPA Project Presentation: Development of current collector primer for dry electrode process in rechargeable batteries Sunghwan Lee (Purdue University)
2:55 - 4:00 pm	Q&A Session

Sponsor Forums

Seoul National University (SNU) Sponsor Forum

Innovate with SNU, Reinvent the Future

Friday, Aug 7 10:15 am - 12:00pm ChampionsGate



서울대학교
SEOUL NATIONAL UNIVERSITY

Chair



Ju Han Kim

Executive Vice
President for
Research Affairs
SNU

Presenters



Sung Jae Kim

Vice Dean of Public
Affairs, College of
Engineering
SNU



Hong-Gyu Park

Vice Chair for
Department
of Physics and
Astronomy
SNU



Junsuk Kang

Director for Specialized
Graduate School of
Intelligent Eco-Science
SNU

Seoul National University continues to lead in advanced research, technological innovation, and global collaboration, creating new value for the future. Under the theme "*Innovate with SNU, Reinvent the Future*," this year's forum will open with welcoming remarks by the Executive Vice President for Research Affairs and feature presentations by distinguished faculty representing SNU's strengths in engineering, photonics, and AI-driven green infrastructure. The forum will highlight forward-looking perspectives on future-shaping engineering, next-generation photonics technologies, and sustainable innovation connecting research, startups, and society. The forum will offer participants an opportunity to explore SNU's vision for interdisciplinary innovation, engage in meaningful global dialogue, and identify new possibilities for impactful research collaboration and partnership.

Time	Title and Speaker
10:15 - 10:30	Welcoming Remarks Ju Han Kim (Seoul National University)
10:30 - 10:50	SNU Engineering toward Future-Shaping Innovators Sung Jae Kim (Seoul National University)
10:50 - 11:10	Advancing Photonics for Future Technologies Hong-Gyu Park (Seoul National University)
11:10 - 11:30	From Intelligence to Impact: AI Green Infrastructure across Research, Startups, and Society Junsuk Kang (Seoul National University)
11:30 - 11:50	Open Discussion
11:50 - 12:00	Concluding Remarks and Photo

Sookmyung Women's University Forum

Proud Sookmyung, Beyond 120; Future Research at Sookmyung Women's University

Friday, Aug 7 10:15 am - 12:00 pm Colonial B



Chair



Si Yeun Moon

President of
Sookmyung Women's
University (SMWU)

Co-Chair



Hye On Yoon

President of WISET

Celebrating its 120th anniversary in 2026, Sookmyung Women's University has long served as a premier institution for fostering female leaders. Building upon this legacy, Sookmyung now declares its "*Third Founding*"—a strategic leap forward. Anchored in its 120-year identity as Korea's first private women's university, Sookmyung aims to strengthen its position as a leading global institution. Through the Korean Wave (Hallyu) as a converging platform for technology and the humanities, the university plans to expand its educational and research horizons while establishing itself as a hub for international exchange.

Featuring President Si Yeun Moon, this forum serves as a collaborative platform to share Sookmyung's future vision and highlight cutting-edge research in pharmacy, life sciences, and women's health, co-hosted by the Research Institute of Pharmaceutical Sciences and the Research Institute of Women's Health.

Presenters



Ho Sun Lim

Dean of
Research Affairs,
SMWU



Chang-Young Jang

Director of
Research Institute
of Pharmaceutical
Sciences, SMWU



Young Yang

Director of
Research Institute
of Women's Health,
SMWU



Jun Dong Park

Professor of
Department of
Chemical and Biological
Engineering, SMWU

Notably, the President of WISET will emphasize the importance of cultivating global female talent in STEM through strategic partnerships with Sookmyung. The forum will conclude with a brief introduction of key strategic research areas, followed by a Q&A session on recruiting outstanding researchers and fostering joint research initiatives.

Time	Title and Speaker
10:15 - 10:30	Welcoming Remarks Si Yeun Moon, President, Sookmyung Women's University(SMWU), Hye On Yoon, President, Korea Foundation for Women in Science, Engineering and Technology(WISET)
10:30 - 10:45	Proud Sookmyung, Beyond 120 – SMWU's 120 Year-Long Endeavor Ho Sun Lim (Sookmyung Women's University)
10:45 - 11:00	Drug Development for Healthy Aging in Research Institute of Pharmaceutical Sciences Chang-Young Jang (Sookmyung Women's University)
11:00 - 11:15	History and Milestones of the Research Institute of Women's Health, SMWU Young Yang (Sookmyung Women's University)
11:15 - 11:30	Sookmyung's 10 Years of Fostering Female Engineering Talent and Challenges for the Next 10 Years Jun Dong Park (Sookmyung Women's University)
11:30 - 11:45	Q&A
11:45 - 12:00	Concluding Remarks/Photo Session

KSEA Forums

KSEA University Leadership Forum (open to public)

Navigating the AI Frontier: Transforming University Education, Research, and Administration

Friday, August 7 12:00 - 3:00pm Congressional B

Chair



Yongho Sohn

Pegasus Professor
University of Central
Florida (UCF)

Co-Chair



Soyeon Kum

Assistant Professor
Angelo State
University (ASU)

Presenters



Stephen M. Kuebler

Professor and
Founding Director of
UCF Center for Ethics



Dong Hwan Kim

President of
Seoul National
University of Science
and Technology

Panelists



Hyang-Sook Lee

President of Ewha
Womans University



Si Yeun Moon

President of
Sookmyung
Women's University



Keechoo Choi

President of
Ajou University



Kunwoo Lee

President of
Daegu Gyeongbuk
Institute of Science
and Technology
(DGIST)



Jin Hwe Kweon

President of
Gyeongsang National
University



Sang Hoon Bae

President of
Pukyong National
University



Young-Woo Heo

President of
Kyungpook
National University



Ju Han Kim

Executive Vice
President of
Research
Seoul National
University



Seong Taek Yun

Executive Vice
President of
Research
Korea University



Dong-Hyun Baek

Executive Vice
President of
ERICA, Hanyang
University



Hyoung Jin Cho

Professor and Chair
Mechanical and
Aerospace Engineering
University of Central
Florida

KSEA and KOFST are pleased to host the 9th University Leadership Forum during the 39th US-Korea Conference on Science, Technology and Entrepreneurship (UKC 2026) in Orlando Florida. This forum offers a unique opportunity for university leaders from the United States and Korea to engage in meaningful dialogue on emerging issues in higher education.

Artificial intelligence is rapidly reshaping higher education, presenting universities with both unprecedented opportunities and complex challenges across teaching, research, and administration. This forum brings together university leaders to critically examine how AI is transforming the academic enterprise and to envision responsible pathways forward. AI enables personalized learning, automated assessment, and enhanced accessibility, while raising urgent questions about academic integrity, equity, and pedagogical adaptation. AI accelerates discovery across disciplines, yet concerns around data privacy, authorship attribution, and the integrity of AI-generated outputs demand clear ethical frameworks. AI-powered tools are improving student advising and retention outcomes, though algorithmic bias, data governance, and workforce implications require careful and equitable implementation strategies. Cutting across all domains of university operation are foundational questions of ethics, governance, and institutional strategy that no university can afford to ignore. Through facilitated discussions, university leaders will gain a sharper understanding of AI's transformative impact and concrete ideas for shaping their institution's response to this defining technological moment.

During the panel discussion, university leaders will engage in candid reflection on implementation realities, institutional power, and shared responsibility, addressing six critical considerations:

1. Governing the Ungovernable: How do institutions move from AI principles to enforceable, adaptive governance structures that keep pace with rapidly evolving capabilities?
2. Academic Integrity: Is the answer better detection/policing, or a fundamental reimagining of authentic assessment in an AI-saturated environment?
3. Amplified or Eroded Equity: Who truly benefits from AI-personalized learning, and are historically underserved students being supported or further sorted by algorithmic systems?
4. Research Authorship: How should universities define and enforce disclosure norms across disciplines where AI is now embedded in every stage of scholarship?
5. Global Convergence or Divergence: Should there be an international governing body specifically to regulate the AI in higher education?
6. The Workforce Question: What ethical obligations do universities hold toward staff and faculty whose roles are being redefined or eliminated by automation?

Through facilitated dialogue, participants will leave with actionable strategies and a deeper sense of collective responsibility for shaping higher education's response to this defining technological moment.

Time	Title and Speaker
12:00 - 1:00 pm	Group Lunch
1:00 - 1:05 pm	Welcoming Remarks from Chairs Yongho Sohn (University of Central Florida) and Soyeon Kum (Angelo State University)
1:05 - 1:25 pm	AI Leadership and the New Three Rs: Responsibility, Relevance, and Reason Stephen M. Kuebler (University of Central Florida)
1:25 - 1:35 pm	From AI Adoption to AI Transformation: Building an AI-Ready University – The Experience of Seoul National University of Science and Technology Dong Hwan Kim (Seoul National University of Science and Technology - SeoulTech)
1:35 - 2:50 pm	Panel Discussion
2:50 - 3:00 pm	Closing Remarks and Photo Session

KSEA Joint Science Policy and Diplomacy Forum (open to public)

Thursday, August 6 3:15 - 5:00pm Olympic

Co-Chairs



Jaehoon Yu

Professor
University of Texas
Arlington



Un-Ki Yang

Professor
Seoul National
University

Science Policy and Science Diplomacy are intimately intertwined. This year, the joint forum of Science Policy and Science Diplomacy invites the directors of the Advanced Science Computing Research (ASCR) directorate in the U.S. Department of Energy which provides strong support on fundamental sciences, and of the Korean Ministry of Science and IT, together with prominent scientists from each country to serve on the panel. The two directors will discuss the fundamental approach and the plan of close cooperation between the two countries on Artificial Intelligence (AI) and its roles on the basic science, in particular related to the DOE's Genesis Mission. Science policy must be established to ensure the U.S. and Korea to be a close partner to lead the science diplomacy for the good of the entire humanity in this rapidly changing world of AI.

- Hosting Presidents: Dr. Yong Kyu Yoon (KSEA), Dr. Oh Nam Kwon (KOFST)

Panel Members:

- National Institute of Science and Technology : Dr. William Phillips (Fellow)
- Department of Energy, USA: Dr. Hal Finkel (Director, Advance Scientific Computing Directorate)
- Ministry of Science & ICT, ROK: Dr. KyeongLim Lee (Director, America & Asia Cooperation)
- USA Scientist Expert: Dr. Sowjanya Gollipinni (DUNE Co-spokesperson)
- ROK Scientist Expert: Professor Myung Hun Park (Seoul National Univ. of Science and Technology)
- USA Scientist Expert: Dr. Jayhyun Jo (Brookhaven National Laboratory)

Presenters and Panelists



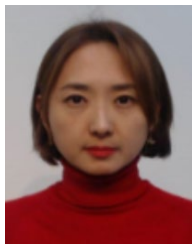
Inkyu Park

Vice Minister,
MSIT



William Phillips

Fellow, NIST
Professor, Dept. of
Physics, University of
Maryland, Maryland



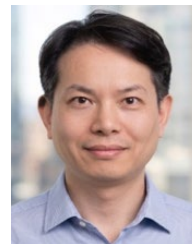
KyoungLim Lee

Director,
Americas and
Asia Cooperation
Division, MSIT



Sowjanya Gollapinni

Senior staff scientist
Los Alamos National
Laboratory
Co-Spokesperson DUNE



Myung Hun Park

Professor, Seoul
National University of
Science and Technology



Jayhyun Jo

Staff Scientist,
Brookhaven National
Laboratory

Time	Title and Speaker
3:00 – 3:15 pm	Meet and Greet All participants with the Co-chairs
3:15 – 3:25 pm	Welcoming Remarks Yong Kyu Yoon (KSEA President) & Oh Nam Kwon (KOFST President)
3:25 – 3:30 pm	Congratulatory Remark Inkyu Park (Vice Minister, MSIT, ROK)
3:30 – 3:40 pm	Participant Photo All participants
3:40 – 3:50 pm	Importance and roles of humanity in AI World & of fundamental sciences William Phillips (1997 Nobel Laureate, NIST, USA)
3:50 – 4:00 pm	DOE Genesis Mission and its Roles in Fundamental Sciences Hal Finkel (Director, Advanced Scientific Computing Research Directorate, DOE, USA) - TBC
4:00 – 4:10 pm	Pathways to U.S.-Korea Cooperation on Genesis Mission and Fundamental physics Kyeonglim Lee (Director, Asia-Americas International Cooperation, MSIT, ROK)
4:10 – 4:30 pm	Scientist Expert Short Statements Myung-Hun Park (ROK) & Dr. Jayhyun Jo (USA)
4:30 – 4:55 pm	Panel Discussion and Audience Q&A Phillips, Finkel (TBC), Lee, Park, Jo and Gollapini – Moderator: Jaehoon Yu
4:55 – 5:00 pm	Closing Un-Ki Yang (SNU)

KWiSE-WISET Women in STEM Forum

Thursday, Aug 6 3:15 - 5:00pm / Friday, Aug 7 1:00 - 3:00pm Augusta B

Chair



Sungsil Moon

President of KWiSE

Chair



Hye On Yoon

President of WISET

Co-Chair



Sun Mee Kang

President of KOFWST

Co-Chair



Chae Deok Lim

President of KWSE



Forum Overview

The KWiSE-WISET Women in STEM Forum brings together leading organizations and professionals to exchange ideas on career development, leadership, and the empowerment of women in STEM. This year's forum drives forward-looking discussions on the convergence of future science and technology, highlighting how interdisciplinary collaboration and strategic innovation can expand professional pathways and improve global societal outcomes.

To explore these dynamics, the forum features two distinct, cutting-edge technical sessions led by prominent women scientists and researchers:

- **The KWiSE-KOFWST Forum** will center on the theme, "**Empowering Women in the Age of AI: Breaking Barriers Across Generations.**" This session explores global strategies for a sustainable R&D ecosystem, focusing on how generative technologies and cross-generational mentorship can strengthen leadership, mitigate technical biases, and build career resilience for women scientists.
- **The KWiSE-KWSE Forum** will focus on the theme, "**The Future of Healthcare Across the Human Experience.**" This session features insights from researchers across diverse fields examining precision medicine, big data, and technology to address human health as a continuous, dynamic, and lifelong journey.

Key Highlights & Awards

- **Celebrating Excellence:** This year, the forum will proudly honor exceptional achievements with the **KWiSE Outstanding Women Scientist and Leadership Award.**
- **Nurturing Next-Gen Talent:** The forum will recognize emerging talent with the **Young Scientist Award** for outstanding participation in the KWiSE-WISET Global Mentoring program.
- We invite all interested participants to join us for insightful discussions, networking opportunities, and the celebration of achievements in the STEM community.

KWiSE-WISET Women in STEM 1 - KWiSE- KOFWST Forum

Empowering Women in the Age of AI: Breaking Barriers Across Generations

Thursday, Aug 6 3:15 - 5:00pm Colonial B Moderator : Hyunsook Park (California State University LA)

Time	Title and Speaker
3:15 - 3:20 pm	Opening Remarks Sung-Sil Moon (KWiSE President)
3:20 - 3:30 pm	Welcoming Remarks Hye On Yoon (WISET President)
3:30 - 3:40 pm	Welcoming Remarks Sun Mee Kang (KOFWST President)
3:40 - 3:45 pm	Welcoming Remarks Si Yeun Moon (Sookmyung Women's University President)
3:45 - 4:00 pm	KWiSE-WISET Global Mentoring Award Ceremony
	KWiSE-KOFWST Session
4:00 - 4:10 pm	Session topic and speaker introduction Hyunsook Park (KWiSE)
4:10 - 4:55 pm	Paner Discussion Dr. Hyunjung Kim (Sogang University) Dr. Ohbong Kwon (New York City College of Technology, President elected KSEA) Dr. Dabae Lee (Kennesaw University) Dr. Youbin Kim (Icahn School of Medicine at Mount Sinai) Dr. Su Hyun Lee (St. Jude Children's Hospital) Ms. Namhee Lee (University of Georgia)
4:55 - 5:00 pm	Closing Remarks/ Photo Session

KWiSE-WISET Women in STEM 2 - KWiSE-KWSE Forum

The Future of Healthcare Across the Human Experience

Friday, Aug 7 1:00 - 3:00pm Augusta B Moderator : Youbin Kim (Icahn School of Medicine at Mount Sinai)

Time	Title and Speaker
1:00 - 1:05 pm	Opening Remarks Sung-Sil Moon (KWiSE President)
1:05 - 1:15 pm	Welcoming Remarks Chae Deok Lim (KWSE President)
1:15 - 1:30 pm	KWiSE Outstanding Women Scientist Award Ceremony
	KWiSE-KWSE Forum
1:30 - 1:50 pm	From Cradle to Grave: Data Science for Women's Health Across the Life Course Mikyong Shin (KWiSE Southeastern Chapter)
1:50 - 2:10 pm	Modulation of stress-induced steroidogenesis Eun Sook Hwang (Ewha Womans University)
2:10 - 2:30 pm	Environmental Risk Factors in Pregnancy: Implications for Maternal and Fetal Health Bo Young Park (California State University Fullerton)
2:30 - 2:50 pm	Precision Sleep Health for Chronic Disease Prevention Ji-Eun Park (Korea Institute of Oriental Medicine)
2:50 - 3:00 pm	Closing Remarks/ Photo Session

KOFST Next Generation Alumni Forum

Friday, August 7 1:00 - 3:00pm

Chair



Clara Kim
Medical Impact Lead,
Boehringer Ingelheim

KSEA is proud to host the KOFST Next Generation Alumni Forum at UKC 2026 in Orlando. For over two decades, the Young Generation Forum (YGF) and Young Professional Forum (YPF) have connected young scientists and engineers of Korean heritage from around the world since 2002, building a global community that continues to shape innovation and international collaboration. This year’s forum, “*Roots & Reach*,” invites alumni to reflect on how their YGF/YPF experience has shaped their paths, and to pass that forward. Through energizing discussion, cross-sector dialogue, and a closing reflective activity, participants will leave with renewed connections, actionable ideas for the KSEA community, and a letter to the next generation of YGF/YPF alumni – bridging the past and future of this enduring program.

Time	Title and Speaker
1:00 - 1:10 pm	Welcoming Remarks
1:10 - 1:20 pm	<i>“Where Are We Now?”</i> Lightning Round
1:20 - 1:40 pm	Alumni Spotlight: Then vs. Now
1:40 - 1:50 pm	Global Citizenship in Practice – Panel + Audience Q&A
1:50 - 2:10 pm	Small Group Challenge: <i>“What Should YGF/YPF Build Next?”</i>
2:10 - 2:40 pm	Letter to a Future YGF/YPF Participant
2:40 - 3:00 pm	Closing Remarks + Photo Session

KSEA R&D Leadership Forum (open to public)

Roundtable discussion on US-Korea Institutional Research Matching and Global Collaboration

Friday, August 7 1:00 - 3:00 pm Congressional A

Chair



Ohbong Kwon

Associate Professor
New York City
College of
Technology

Co-Chair



Tae (Tom) Oh

Professor
Rochester Institute
of Technology

Presenter



Stacey Standridge

Acting Deputy
Office Head, NSF

This year's forum will focus on moving from dialogue to action by establishing concrete matching mechanisms and regional cooperation strategies between NSF and Korean research institutes. It will explore sustainable models for high-impact joint research and international science diplomacy.

R&D Leaders from Korea



Oh Nam Kwon

President of
KOFST



Dong Seob Kang

Director General
of NRF/KUSCO



**Hyunchul (Huey)
Kim**

President of KHIDI
USA



Hwan Il Yoo

Chief
Representative of
KIAT US office



Taemin Bae

President of
KIRD



Hye On Yoon

President of
WISET



Yeongkook Oh

President of KFE



Max Chang

US Business
Development
Manager, LINER



Chang-Jeon Hwang

Vice President of
KARI



Ji Woong Yoon

President of
Science and
Technology Policy
Institute



Chang Hoon Lee

Vice President of
KIMS

- KARI - Korea Aerospace Research Institute
- KFE - Korea Institute of Fusion Energy
- KIAT - Korea Institute for Advancement of Technology
- KIMS - Korea Institute of Materials Science
- KIRD - Korea Institute of Human Resources Development in Science and Technology
- KOFST -The Korean Federation of Science and Technology Societies
- KUSCO - Korea-US Science Cooperation Center
- NRF - National Research Foundation of Korea
- NSF - National Science Foundation
- STEPI - Science and Technology Policy Institute
- WISSET - Korea Foundation for Women in Science, Engineering and Technology

Time	Title and Speaker
1:00 - 1:10	Welcoming Remarks Ohbong Kwon (New York City College of Technology)
1:10 - 1:30	Keynote Talk Stacey Standridge (NSF)
1:30 - 2:50	Round Discussion and brainstorming with the participating institutes • Oh Nam Kwon, President, Korean Federation of Science and Technology Societies (KOFST) • Dong Seob Han, Director General, Directorate for International Affairs,, National Research Foundation (NRF) • Hyunchul(Huey) Kim, President of KHIDI USA, Korea Health Industry Development Institute (KHIDI) • Hwan IL Yoo, Chief Representative, Korea Institute for Advancement of Technology (KIAT) US office • Taemin Bae, President, Korea Institute of Human Resources Development in Science and Technology (KIRD) • Hye On Yoon, President, Korea Foundation for Women In Science, Eng. and Technology (WISSET) • Yeongkook Oh, President, Korea Institute of Fusion Energy (KFE) • Max Chang, US Business Development Manager, Liner • Chang-Jeon Hwang, Vice President, Korea Aerospace Research Institute (KARI) • Ji Woong Yoon, President, Science and Technology Policy Institute (STEPI) • Chang Hoon Lee, Vice President, Korea Institute of Materials Science (KIMS)
2:50 - 3:00	Concluding Remarks and Photo session

Scholarship Winners

2026 KSEA - KUSCO Graduate Scholarship Winners



Alice Lee
University of Pittsburgh
School of Medicine



Da Hae Choi
Albert Einstein College of
Medicine



Dayoung (Gloria) Lee
Columbia University



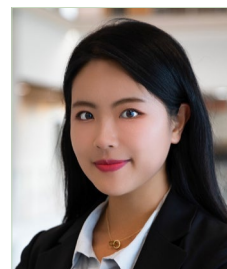
DongHun Ryu
Massachusetts Institute
of Technology



Gyuwan Kim
University of California
Santa Barbara



Jeong Hui Kim
Purdue University



Jiin Ryu
University of Florida



Kaeul Lim
Purdue University



Kihoon Yuk
University of Maryland,
College Park



Kihyeon Ahn
Virginia Tech



Kyujin Ko
University of Cincinnati



Michael Kim
Johns Hopkins University



Namhee Lee
University of Georgia



Sanghyun Park
Massachusetts Institute of
Technology



Soojung Lee
Columbia University



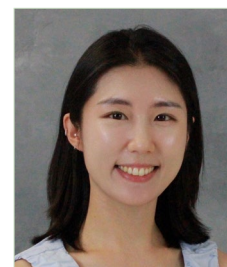
TJ (Tae Joong) Park
Massachusetts Institute of
Technology



Uk Jin Lee
Cornell University
Weill Cornell Medicine



Ye Eun Koo
Boston University Chobanian &
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Yeijin Kim
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- To support and leverage Korean-American scientists and engineers



MAJOR ACTIVITIES

- Enhance scientific and technological development of both Korea and the U.S.
- Support mutual cooperation and initiate joint programs with U.S. and Korean scientific and engineering societies, academic universities, and other institutions
- Assess significant trends in scientific research and technological developments affecting Korea and the U.S.
- Assist young Korean-American and other scientists in developing and maintaining networks addressing matters of scientific and technical interest to the two countries



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QR 접속 후 온라인 지원서 작성



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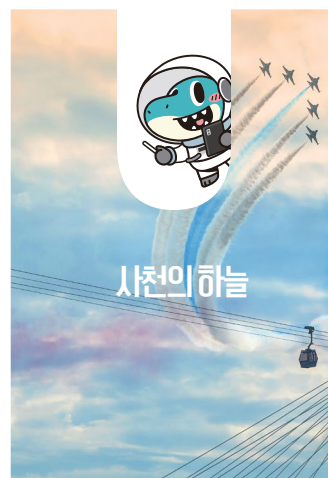
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370th in the world
QS World University Rankings 2026

3rd in Korea
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As a science and technology university established by the Korean government, DGIST contributes to society through the advancement of science and technology.

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2014: Opened Undergraduate School
2016: Conferred its first Ph.D. degrees
2018: Conferred its first B.S. degrees
2023: QS World University Rankings 2024 7th Global Ranking for "Citations per Paper by Faculty Member"

DGIST at a Glance

1. MEMBERS : TOTAL 2,920 PEOPLE

2,182	738
STUDENTS	FACULTY & STAFF

2. ALUMNI : 2,710

1,016	507	1,187
MASTER	PH.D.	BACHELOR

3. INTERNATIONAL MEMBERS

- 7.6% OF FACULTY MEMBERS
- 8.5% OF GRADUATE STUDENTS

4. STUDENT-FACULTY RATIO STATISTICS

10.44:1

STUDENT FACULTY

5. ARTICLE PUBLICATION

- FIELD-WEIGHTED CITATION IMPACT **1.5**
- CITATION PER PUBLICATION **18.7** (2020-2024)

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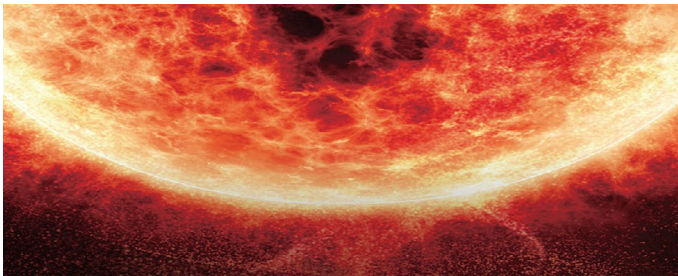
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National Nano Infrastructure of Korea, KANC

Korea Advanced Nano Fab Center (KANC) is Korea's national core R&D infrastructure in the field of nanotechnology. KANC's main goals are to establish a world-class nano facility for compound semiconductor-based nano devices and to offer its services to users worldwide. The center was established in 2003 and is located in East Suwon, the heart of Korea's semiconductor industry, funded by the government. KANC built a state-of-the-art facility in April 2006 and provides both domestic and international users with the best possible service through user-oriented operations.

Main Functions of KANC

- Equipment and facility support for FAB services
- Process technology-related R&D
- Professional manpower training in nanotechnology
- Promotion of the commercialization of research achievements and start-up support for related companies
- R&D support and industrialization promotion
- Development support for nanotechnology-related research and production equipment
- Programs for the dissemination and development of nanotechnology
- Domestic and international cooperation in nanotechnology



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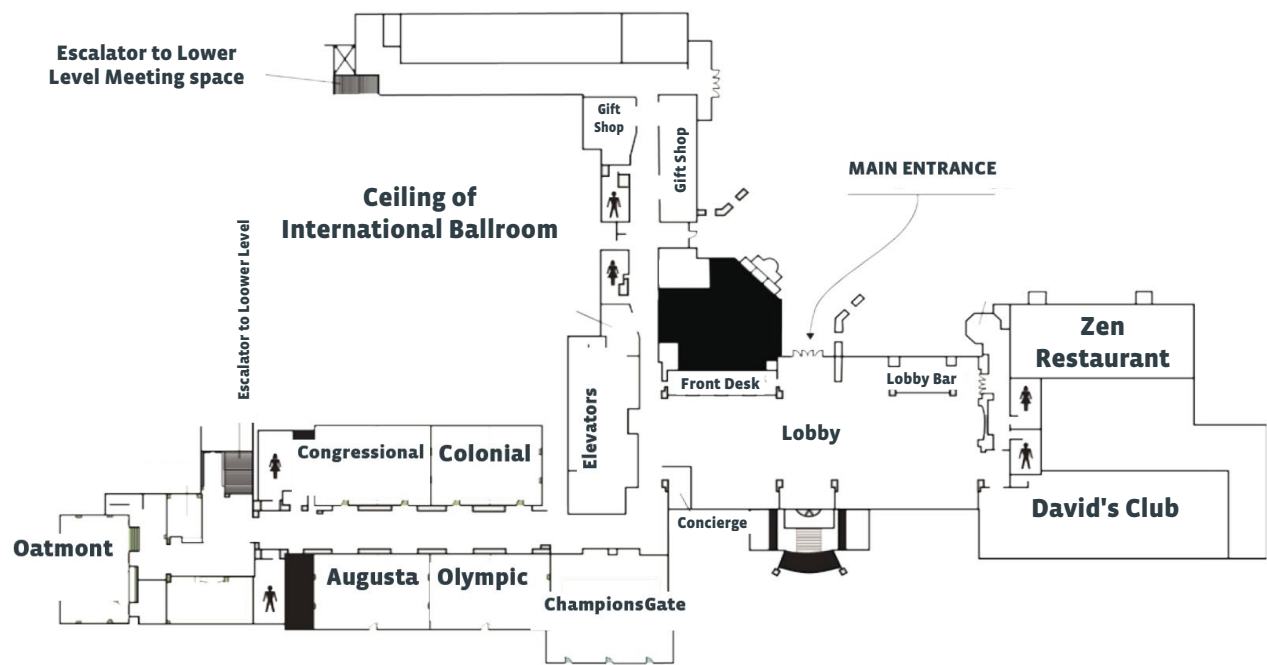
- 1,000억원 규모의 국가연구소 사업(NRL 2.0) 선정
- 2026년도 해외우수과학자유치사업(Brain Pool+) 기관유치형 선정
- THE 대학 영향력 평가 센터평등부분 6년 연속 국내 1위
- 국가고객만족도조사(NCSI) 사립대 4위
- 2025 중앙일보 대학평가 종합 6위
- 인간중심 인공지능연구원 대학기초연구소 지원사업(G-LAMP) 선정
- EWHA TRUE-AI 4단계 BK21 인공지능분야 선정
- 2025 전자전기공학전공 취업률 90% 전국 대학 2위

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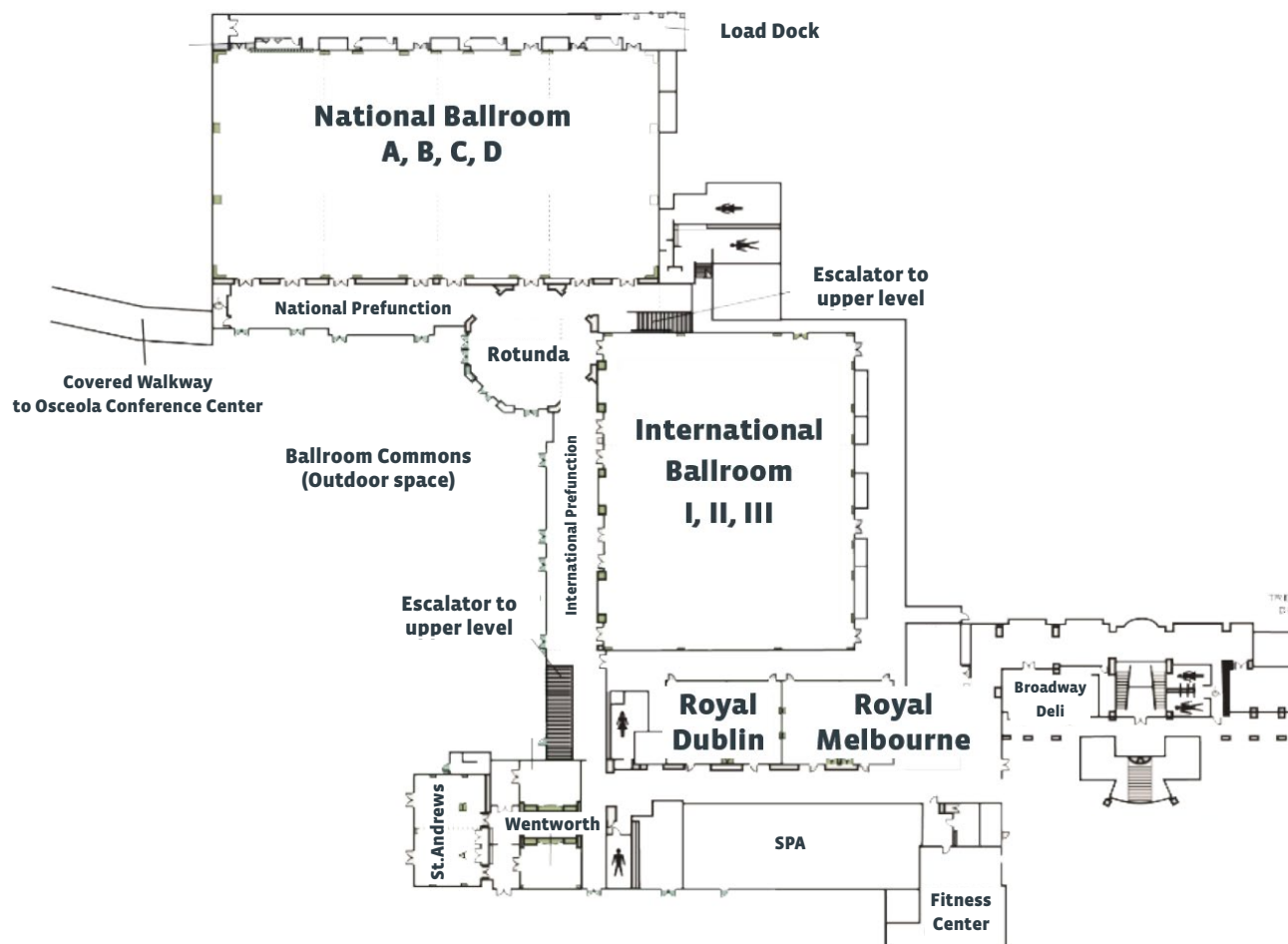


Conference Venue Map

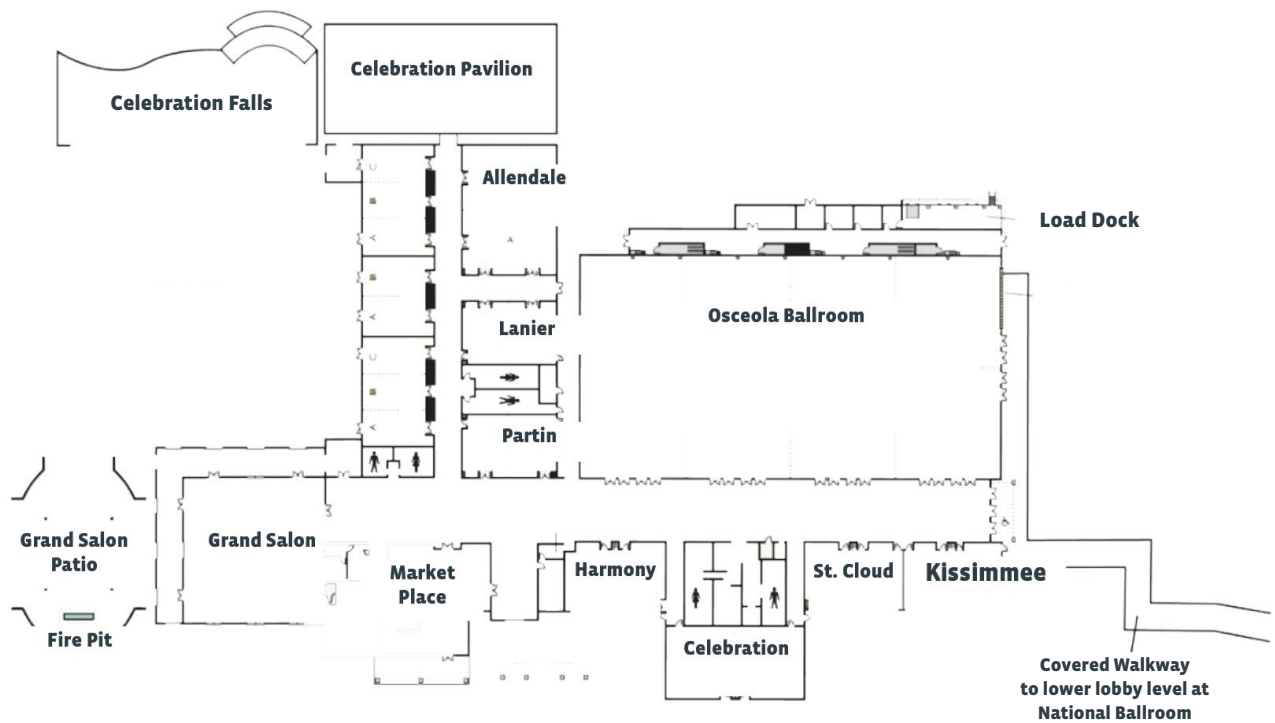
Lobby Level



Lower Lobby Level



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