KASEA

Quarterly

Korean Academy of Scientists and Engineers in Australasia

Vol 5 Issue 1

Image: Generated by Canvas AI

February 2026

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Editor-in-chief: Soonja Yeom

Editorial board:

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Quarterly Vol. 4 Issue 1

Publication date: 2026.02
Editor-in-chief: Soonja Yeom
Publisher: Korean Academy of Scientists and Engineers in Australasia

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ISSN 5986-4118 (online)

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FAREWELL FROM THE PREVIOUS KASEA PRESIDENT

카세아 회원분들께

저는 지난 2 년간 맡았던 결코 가볍지 않았던 짐을 내려놓고 이제 가벼운 마음으로 내년을 바라봅니다. 그리고 다시 지부로 돌아가 지부 활성화에 보탬이 되려고 합니다. 소속된 기관 특성상 물리적으로 활동에 제약이 있어 외부 활동을 많이 하지는 못했지만 지난 2 년간 협회의 조직 강화를 위해 노력했습니다. 회원으로부터 회비를 받지 않는 다는 것은 지속적인 회원관리가 필요하다는 의미로 보았고 이를 위해 홈페이지를 개편하여 실시간 업데이트된 회원관리가 가능하게 되었습니다. 하지만 아직 지부 차원에서는 정기적으로 지부회원들과의 소통이 잘 되는 것 같지는 않아 보입니다. 내년에 열릴 AKC2026 행사에서 관련분야 세션준비에 도움이 되도록 하기 위해서 올해에는 두차례 학술발표회를 열어 Bio Science 와 AI, computer science & IT 쪽 전문가들이 모이는 자리를 마련하였습니다. 다른 분야도 지속적으로 전문가 그룹을 만들어 학술단체로의 체계를 갖추어 나가면 좋겠습니다.

AKC 행사를 준비하고 운영하는 데 있어 타 과협과의 소통도 한층 중요해져 가고 있어 재싱과협, 재중과협 그리고 재 UAE 과협까지 같이 행사를 준비할 수 있도록 지속적으로 소통하기를 바랍니다. 제 22 대 과총회장으로 권오남 서울대 교수님이 선출되었습니다. 아마도 여과총의 역할이 더욱 강화될 것으로 예상합니다. 재일과협과는 직접적으로 소통하기 어려운 구조이지만 저희 과협의 학술활동 활성화를 위해 개별적으로 재일 한인 과학기술인들과의 교류는 필요하다고 판단하여 이번 학술발표회 때 일본에 계시는 신중필 교수을 초청하였습니다. 물론 호불호가 있겠지만 AI 분야 특별사업을 신청하고 채택되는 데 도움이 될것으로 봅니다. 그리고 다른 분야 전문가들과도 교류협력을 계속하면 언젠가는 AKC 행사에 재일 한인과학기술인들이 참여할 수 있을 것으로 기대합니다.

앞으로 2 년간 협회를 이끌어 가실 김태환교수님께 축하드리며 AKC2026 행사를 통해 협회의 위상이 한단계 도약하는 계기가 되기를 기대합니다. 저는 뒤에서 성공적인 행사가 될수 있도록 돕겠습니다.

그리고 2 년간 같이 동행해주신 사무국장 안상형교수님, 총무 양지현박사님, 감사 이윤영교수님께도 감사의 말씀을 드립니다.

KASEA 8th President Jun-Seok Bae

INAUGURAL ADDRESS OF THE NEW KASEA PRESIDENT

It is a profound honour to address you for the first time as the newly elected 9th President of the Korea Academy of Scientists and Engineers in Australasia (KASEA). As I begin this role, I want to acknowledge and thank the previous leadership. In particular, I deeply appreciate the 8th executive team for their dedication and contribution, which have significantly enhanced our association's standing in the local and international scientific communities.

KASEA has grown into a strong and vibrant network, with eight branches across Australia and New Zealand. Our association continues to serve as an important platform for academic exchange, professional development, and community building. The 9th presidency will focus on further strengthening this community by encouraging closer connections between established experts and the next generation of scientists and engineers.

I am also thrilled to officially announce that KASEA will be hosting the Asia-Korea Conference 2026 (AKC2026). This prestigious event represents an important milestone for our association and is central to our mission of promoting scientific and technological exchange between Korea and the Australasian region. I warmly invite you to visit and join our dedicated conference.

My vision for KASEA is guided by three key pillars: Community, Collaboration, and Mentorship. We will continue to expand our University Chapters and mentorship initiatives, supporting early-career researchers and fostering an environment where knowledge, experience, and new ideas can be shared openly.

Thank you for your continued support and active engagement. I look forward to working together to further strengthen and advance our Korean-Australasian scientific community.

KASEA 9th President Taehwan Kim

KASEA 2025 AI EXPERT GROUP CONFERENCE SUMMARY

- Date: 13th (Saturday) December 2025
- Venue: Room 402, Civil Engineering Building (H20
- Location: UNSW Sydney, NSW

Conference Overview

The KASEA 2025 December event featured five technical presentations covering AI safety, cybersecurity, computer vision applications, and medical imaging. The presentations demonstrated practical AI implementations across diverse domains, from fishery management to neurodegenerative disease diagnosis.

Presenter Profiles

Dr. Byeong Ho Kang (University of Tasmania) - Professor with 300+ publications spanning AI applications in health, manufacturing, and internet services. Led School of ICT (2018-2021) and secured 30+ funded projects since 2015.

Dr. Minjune Kim (CSIRO Data61) - Research engineer with industry background at Samsung Electronics (12+ years). Ph.D. from University of Queensland (2023), specialising in network security and IoT security.

Heemoon Yoon (AQ1Systems) - Machine learning engineer with M.S. from University of Tasmania (2020). Works in ML and data science R&D, focusing on AI and image processing applications.

Dr. Jungpil Shin (University of Aizu) - Senior IEEE member ranked in top 2% of scientists worldwide (Stanford/Elsevier 2024). 490+ publications covering pattern recognition, computer vision, and HCI. Editorial board member for multiple journals.

Dr. Mira Park (University of Tasmania) - Lecturer with 60+ peer-reviewed publications (1,000+ citations). Secured over $1M in research funding across medical imaging and AI-powered vision systems.

Presentation Summaries

1. Safe AI Orchestration Framework

Dr. Kang proposed an "orchestrated intelligence" architecture addressing AGI risks through machine-enforceable governance. The two-layer design separates control (governance) from execution (integration), incorporating symbolic gatekeeping, blockchain accountability, and human-in-the-loop auditing. The framework shifts focus from abstract principles to practical safeguards for auditable, human-centered AI.

2. CyberAlly - Knowledge Graph-Enhanced Defense

Dr. Kim presented an AI assistant integrating knowledge graphs with cyber ranges for Red vs. Blue Team training.

CyberAlly monitors SIEM alerts, tracks defender actions, and provides mitigation recommendations based on historical exercises. The system addresses the challenge of training on live infrastructure while adapting to evolving threats.

3. Bluefin Tuna Fishery Monitoring

Yoon demonstrated AI automation for underwater video analysis in BFT transfer operations. The system achieved 92.2% counting accuracy and 1.82% mean length measurement deviation (3.59±4.30 cm) compared to manual methods. Processing speed improved up to 74-fold, enabling real-time monitoring critical for fish survival and operational efficiency.

4. Human Activity Recognition Systems

Dr. Shin showcased multimodal approaches for healthcare diagnostics: Parkinson's detection (95%+ accuracy via handwriting/motion analysis), Alzheimer's diagnosis (99.05% accuracy using MRI + Haar wavelets), and ADHD/ASD screening (93%+ accuracy combining handwriting and fNIRs). The research integrates CNNs, RNNs, and attention mechanisms for real-time diagnostic systems.

5. Alzheimer's Plaque Detection

Dr. Park presented a deep learning pipeline for automated amyloid beta plaque quantification in mouse cortex. U-Net architecture achieved 83.98% segmentation accuracy and 91.21% Dice coefficient on 946 annotated brain sections. The framework enables high-throughput, region-specific analysis of histological images for scalable AD research.

Conference Assessment

Strengths:

- Strong technical depth across theoretical frameworks (Kang) and applied implementations (Yoon, Park)
- Practical validation with quantitative metrics demonstrating real-world impact
- Diverse domain coverage showcasing AI's broad applicability
- Balance across the domain (between security/safety considerations and performance optimization)

Areas for Development:

- Limited cross-domain integration between presentations
- Limited time to Q&A and networking
- Future Directions for AI Expert Group

Near-term Priorities:

- Establish collaborative research initiatives bridging presented domains
- Create working groups on AI safety, focusing on governance frameworks and audit mechanisms

Strategic Goals:

- Position group as regional hub for applied AI research with industry partnerships
- Build interdisciplinary collaborations connecting ML

engineers, domain experts, and policymakers
- Secure funding for large-scale validation studies demonstrating clinical and operational impact

Community Building:

- Organize quarterly technical workshops rotating through member institutions
- Create mentorship programs connecting senior researchers with emerging ML engineers

Develop training programs addressing identified gaps in AI safety and deployment expertise

The conference demonstrated mature AI applications with measurable impact. The expert group should leverage this foundation to address integration challenges, establish governance standards, and scale proven methodologies across domains..

UPCOMING ASIA-KOREA CONFERENCE (AKC2026)

- Date: 26 – 28 November
- Location: InteContinental Sydney, Australia

Inspiring collaboration. Advancing innovation. Shaping the future.

The Asia–Korea Conference on Science and Technology (AKC) is one of the most significant annual gatherings for Korean and Asia Pacific scientists, engineers, innovators, and industry leaders. Since its establishment, the AKC has served as the flagship event for Korean Academy of Scientists and Engineers in Australasia (KASEA) chapters across the Asia–Pacific region, providing a dynamic platform for scientific exchange, technological collaboration, and cross border partnership.

Each year, the AKC brings together experts from academia, major research institutes, government agencies, and the private sector to explore emerging trends and address the most pressing challenges of our time. The conference has become a cornerstone for strengthening cooperation between Korea and neighbouring countries, fostering a vibrant network of researchers and professionals committed to advancing science and engineering across the region.

AKC2026: Creating the Future Through Science and Engineering

The 14th AKC, to be held in Sydney from 26–28 November 2026, embraces the theme "Creating the future through science and engineering." We are living through a period of rapid transformation, driven by breakthroughs in artificial intelligence, biotechnology, sustainable energy, and digital innovation. These shifts are reshaping the way we live and work, presenting both complex challenges and extraordinary opportunities.

AKC2026 invites participants to engage with these global transitions through a multidisciplinary lens. By bringing together diverse expertise across physical, digital, and biological fields, the conference aims to spark new ideas, inspire collaboration, and accelerate the development of solutions that will shape the world of tomorrow.

The strength of the AKC lies in its people, scientists, engineers, students, and professionals who share a commitment to innovation and global cooperation. Whether you are an established researcher or an emerging leader, the AKC offers a welcoming environment to exchange ideas, showcase your work, and contribute to a shared vision for the future.

We warmly invite you to join us in Sydney for AKC2026. Together, let us continue building the networks, knowledge, and inspiration needed to create a better future through science and engineering.

Dr Amy Kwon & Dr Soonja Yeom
Conference Co-Chairs of AKC 2026

KASEA PARTNERSHIP

Korean Federation of Science and Technology Societies

KOFST

Korean Scientists and Engineers Association in Singapore

싱가폴 한인과학기술자협회
Korean Scientists and Engineers Association in Singapore

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KSEAU
재UAE 한인과학기술자협회
The Korean Scientists and Engineers Association in the UAE