

President's Foreword



The Academy of Engineering, Singapore (SAEng), had a very productive past year. Most notably, the Academy was involved in four high-profile events: (1) the inaugural symposium of SAEng's TechTalk Series, on urban sustainability, in September 2024; (2) the Nanyang Technological University Blockchain Symposium, also in September; (3) a joint symposium with the Chinese Academy of Engineering, on AI Frontiers and Governance, in October; and (4) the Singapore-China Bilateral Summit on Sustainability Frontiers, in January this year.

Looking ahead, there are opportunities to follow up on these events and collaborate with more international organisations.

First, in late September, we will co-host the second Singapore-China Joint Symposium, with the Chinese Academy of Engineering, with which we have signed a memorandum of understanding. The symposium will take place at Nanyang Technological University and will cover AI and sustainability, two areas that our fellows are well equipped to speak on.

Second, SAEng is working closely with the International Council of Academies of Engineering and Technological Sciences, which we joined in 2023. Three of our fellows are now members of the Council's Communications Committee, the Diversity and Inclusion Working Group, and the AI Working Group. We are also in talks with another member of the Council, the Australian Academy of Technological Sciences and Engineering, to explore deeper collaborations in energy, sustainability, and artificial intelligence.

On the local front, we also have two notable developments.

First, two of our fellows, Professor Phoon Kok Kwang and Professor Chua Chee Kai, are working with the National Research Foundation to determine the nation's foundational research capabilities in digital identity and consensus mechanisms; remote sensing, image processing, and satellite imagery; and bio-inspired cybersecurity. Rapid studies on each area were completed late last year, and reports have been submitted for review. The Foundation will select one area for a full, nine-month-long study to be completed in 2026. These studies are an opportunity for us to demonstrate the value of the Academy to the government sector and take leadership in areas critical to Singapore's future.

Second, to ensure that SAEng is at the forefront of the AI revolution, we recently created a fifth Expert Group to cover the field. The group is chaired by our Fellow, Professor Wen Yonggang, who is President's Chair in Computer Science and Engineering at Nanyang Technological University. Further initiatives by the group will be announced in due course.

These are just some of the exciting things taking place at SAEng. I encourage all of you to seek opportunities to demonstrate the leadership of our fellows, deepen the Academy's roots in Singapore, and expand the Academy's influence around the world.

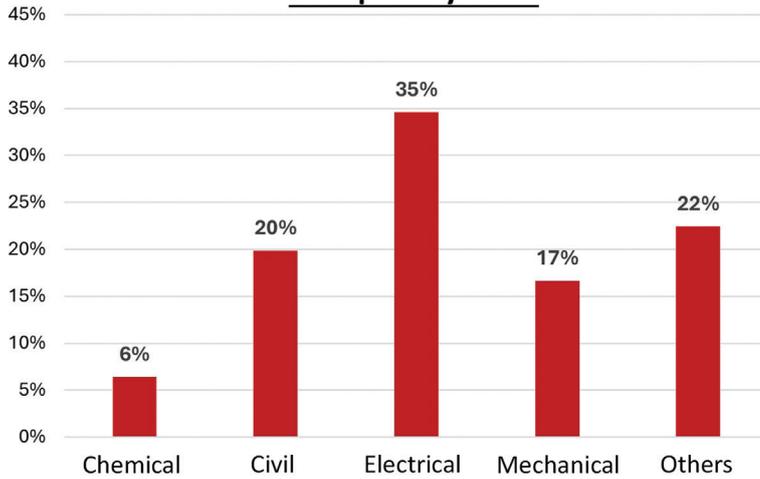
Professor Ho Teck Hua

About the Academy

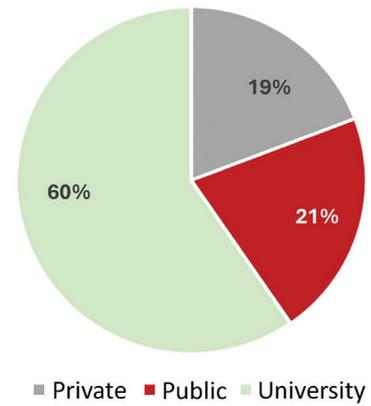
The academy's fellowship currently stands at 156 strong with the election of 3 new fellows in 2024.

As of May 2025, the demographics of our fellows are broadly illustrated below.

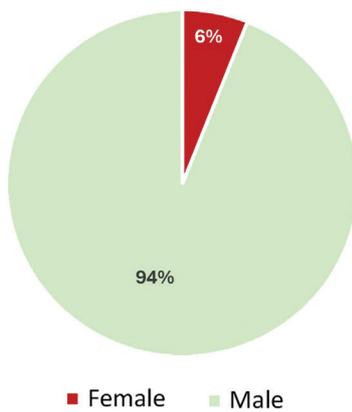
Disciplinary Field



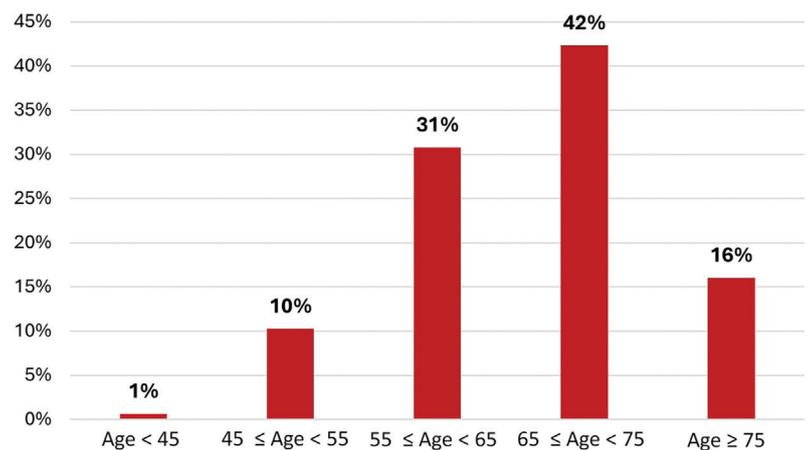
Sector



Gender Distribution



Age Profile



New Fellows



Adjunct Professor Aziz Amirali Merchant

Executive Vice-President, Technology & New Product Development / Engineering, Seatrium Limited;
Adjunct Professor, College of Design & Engineering, National University of Singapore (NUS)

Professor Aziz Merchant oversees engineering, technology, and new product development for offshore renewables, new energy, carbon capture solutions, and green oil and gas. He manages engineering and technology centres in Singapore and around the world, ensuring that design and engineering operations run efficiently and effectively to achieve business segment objectives. He possesses over 25 years of extensive design and engineering experience in offshore oil and gas development projects as well as offshore and marine vessel designs and holds over 100 international scientific patents granted or filed under his name. He is celebrated in the industry for his relentless pursuit of innovation. Professor Merchant received the Singapore Maritime Port

Authority Outstanding Maritime R&D and Technology Award in 2008 and 2015, and the Institute of Engineers, Singapore's Prestigious Engineering Achievement Award in 2009, 2013, 2016, and 2018. Additionally, he was honoured with the ASEAN Outstanding Engineering Achievement Awards in 2009 and 2018. Professor Merchant earned a Bachelor of Engineering (First Class) in Naval Architecture and Ocean Engineering from the University of Glasgow and a Master of Science (MSc) in Naval Architecture from University College London. He also completed the General Management Program (GMP) at Harvard Business School.



Professor Ong Yew Soon

President's Chair in Computer Science, College of Computing & Data Science, Nanyang Technological University (NTU), Singapore; Chief Artificial Intelligence Scientist, Singapore's Agency for Science, Technology and Research (A*STAR)

Professor Ong Yew Soon, President's Chair of Computer Science at NTU and Chief Artificial Intelligence (AI) Scientist at A*STAR, has contributed to the shaping of Singapore's AI strategy, leading the General AI study under the National Research Foundation of Singapore. He previously chaired NTU's School of Computer Science and Engineering, directed the Singtel-NTU AI Lab, and was programme principal investigator of the Rolls-Royce Corporate Lab. A fellow of IEEE, he chairs the IEEE Computational Intelligence Society Fellow Evaluation Committee and co-chaired the 2024 IEEE AI Conference. He received the Public Administration Medal (Silver), five IEEE outstanding paper awards, and is a Thomson Reuters Highly Cited Researcher, marking him among the World's Most Influential Scientific Minds. He has held advisory roles with BP PLC, the Singapore Department of Statistics, and Hong Kong Polytechnic University, among others.



Professor Qiu Cheng Wei

Provost's Chair Professor, Department of Electrical & Computer Engineering; Director, Optical Science & Engineering Center, National University of Singapore (NUS)

Professor Qiu Cheng Wei is Provost's Chair Professor at NUS; Foreign Fellow of the Chinese Optical Society (COS); Fellow of the American Physical Society (APS), Optica, the International Society for Photonics and Optics (SPIE), the Electromagnetics Academy, and the ASEAN Academy of Engineering and Technology (AAET). He is well known for his research on structured light and topological heat transfer. He has published over 600 peer-reviewed journal papers and won numerous prestigious awards such as the President's Science Award 2023 in Singapore, the MIT TR35@Singapore Award 2012, the Young Scientist Award from the Singapore National Academy of Science (SNAS), the World Scientific Medal from the Institute of Physics in 2021, and the Achievement in Asia Award (Robert T. Poe Prize) in 2023. He has been a Highly Cited Researcher by Clarivate since 2019. He is the founding editor-in-chief of *eLight*.

In Memory

The Academy honours the memory of the following Fellows who have passed on.

Er Tan Ee Ping (4 May 1939 - 18 March 2021)

Mr Lee Ek Tieng (21 September 1933 - 6 April 2025)

► Awards & Honours

Our heartiest congratulations to the following fellows who received the honours and awards mentioned below:

Er. Chan Ewe Jin

- Awarded the Distinguished Alumni Award 2024 by the College of Design and Engineering, National University of Singapore.

Professor Chen Benmei

- Awarded the Gold Medal with Congratulations by the Jury at the 15th International Invention Fair in Kuwait in 2025, for his invention titled "Unmanned Systems and AI Empowered High Performance Urban Environment Digitization and Management".

Professor Chen Xiaodong

- Awarded the 9th NRF Investigatorship (Class of 2024) by the National Research Foundation for his project titled "Soft Interconnects in Stretchable Electronic Devices: Overcoming the Achilles' Heel for Extensive Deployment".

- Elected a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) for his pioneering contributions and leadership in the development of wearable sensors for human healthcare.
- Elected a Member of the German National Academy of Sciences Leopoldina for his outstanding achievements in engineering sciences.

Professor Chen Zhi Ning

- Awarded the EurAAP Antenna Award at the 19th European Conference on Antennas and Propagation (EuCAP) for his significant contributions to antenna technology advancements, particularly in the areas of small, broadband antennas, and metantennas.

Er. Chong Kee Sen

- Awarded the SkillsFuture Fellowship Award 2024 for demonstrating skills mastery, advocating lifelong learning and devotion to mentoring and developing others.

Er. Chua Chong Kheng

- Awarded the EEE Outstanding Alumni Award (OAA) 2024 from the School of Electrical and Electronic Engineering (EEE), Nanyang Technological University. The award is given to EEE alumni who have made exceptional contributions to society and have brought distinction to the School of Electrical and Electronic Engineering, and the University through their leadership and achievements.
- Awarded the Distinguished Professional Engineer Award 2024 by the Professional Engineers Board (PEB) for his outstanding achievements in engineering and dedicated service to the profession and community in Singapore.

Professor Robert Deng Huijie

- Elected Fellow of Asia-Pacific Artificial Intelligence Association (AAIA) 2025.

Professor Er Meng Hwa

- Awarded the Service to Education Award 2025 by the Ministry of Education in recognition of roles in and contributions to the Board of Governors of NUS High School.

Professor Ge Shuzhi Sam

- Appointed president of the Asian Control Association from 2024 to 2026.
- Awarded the Asian Control Association (ACA) Fellow Award 2024 in recognition of his outstanding contributions to control science and engineering and to their development in the Asia-Oceania region.

Professor Goh Thong Ngee

- Presented the Distinguished Professor Award by the Industrial Engineering and Operations Management (IEOM) Society International in recognition and appreciation of his distinguished contributions to higher education, particularly in advancing industrial engineering and research.

Professor Ho Teck Hua

- Recognized as a 2024 INFORMS Fellows for his significant contributions to the fields of behavioural science, marketing, and operations management, and his service to operations research, management science, and artificial intelligence.

- Awarded the prestigious 2024 President's Science and Technology Medal (PSTM), the nation's top honour in science and technology, for his profound impact on Singapore's science and technology landscape.

Er. Lau Joo Ming

- Awarded Letter of Commendation by the Institution of Structural Engineers (ISE) in 2024 for the completion of twenty-five years of professional membership in ISE.

Professor Lee Der-Hong

- Conferred the Zhejiang Province International Science and Technology Cooperation Award, China, 2024 for his exemplary leadership and contributions to advancing interdisciplinary research and fostering global academic exchange.
- Selected as Foreign Senior Scholar of the National Natural Science Foundation of China (NSFC) 2024 in recognition of his outstanding contributions to international collaboration and scientific innovation in intelligent transportation and logistics systems.
- Awarded the 2024 Haining City Friendship Award, Zhejiang Province, China, for his significant contributions to the educational and scientific development of Haining City through International Collaborative Education.

Professor Lee Tong Heng

- Awarded the Asian Control Association (ACA) Fellow Award 2024 in recognition of his outstanding contributions to control science and engineering and to their development in the Asia-Oceania region.

Professor Lian Yong

- Awarded the 2024 IEEE Circuits and Systems Society's Meritorious Service Award for long-term outstanding services to the IEEE Circuits and Systems Society as the Vice President for Region 10, Vice President for Publications, and President of the society.

Professor Lim Chwee Teck

- Elected a Fellow of the Royal Society, UK in recognition of his exceptional contributions to science, research and innovation.

Professor Ong Yew Soon

- Conferred the title of IEEE Computational Intelligence Society Distinguished Lecturer from 2024-2026.
- Given the 2025 IEEE Transactions on Evolutionary Computation Outstanding Paper Award for the paper titled "Indicator-Based Evolutionary Algorithm for Solving Constrained Multiobjective Optimization Problems".

- Bestowed the 2023 Global MOOC and Online Education Alliance Award, co-hosted by Global MOOC and the Online Education Alliance (GMA) and UNESCO IITE, for Pioneering Technology-Enhanced STEM Teaching and Learning.

Professor Qiu Cheng Wei

- Named a Provost's Chair Professor by the National University of Singapore in 2024.
- Selected as the IEEE Photonics Society Distinguished Lecturer in 2024.
- Elected a Foreign Member of the Chinese Optical Society in 2024.

Professor Tony Quek

- Awarded the IIT Bombay International Award 2024 by the Indian Institute of Technology Bombay for excellence in research in engineering.
- Elected as a Fellow of the 2024 Wireless World Research Forum (WWRF) to advance mobile and wireless research and innovation and promote the mobile and wireless community worldwide.
- Named in Stanford University's "Top 2% of Scientists Worldwide 2024", for his outstanding contributions to networking and telecommunications.

Dr Sun Sumei

- Awarded the IEEE Communications Society Donald W. McLellan Meritorious Service Award for her sustained services and outstanding contributions to the IEEE Communications Society and the IEEE Communications Society members.
- Awarded the IEEE ComSoc Asia Pacific Women in Communications Engineering Committee (WICE) Outstanding Achievement Award for her contributions to wireless research, technology translation, and the wireless community.

Professor Teoh Swee Hin

- Received the Outstanding Publication Award 2024 for the book "Engineering Materials for Biomedical Applications", which is published by World Scientific, Singapore, and has sold more than 1,000 copies globally.
- Awarded the Distinguished Yuelu Professorship (equivalent of ChangJiang Professorship), by the College of Materials Science and Engineering, Hunan University in 2023.

Professor Wang Chien Ming

- Appointed to the Editorial Board of the *Journal of Marine Science and Engineering* from 2024 to 2026.

- Appointed a Member of International Advisory Committee of The Research Institute for Land and Space (RILS) from 2024 to 2027.

- Appointed to the Editorial Board of a new journal, *OCEAN*, published by Tsinghua University Press (China) in 2024.

- Elected to the Executive Board of the International Society of Mechanical Systems Dynamics (ISMSD).

Professor Wang Rong

- Elected as the 2024 Global Distinguished Educator Program (GDE) Fellow at Zhejiang University, China.

Professor Xu Zhichuan, Jason

- Awarded the 2024 TÜBA Academy Prize in Basic and Engineering Sciences by the Turkish Academy of Sciences in recognition of his pioneering contributions to the field of renewable energy and electrocatalysis.
- Elected as an Honorary Member by the Turkish Academy of Sciences in 2024.
- Ranked a highly cited researcher by Clarivate Analytics for 7 years, from 2018 to 2024.

Professor Yeo Kiat Seng

- Named in Stanford University's "Top 2% Scientists Worldwide 2024" for outstanding contributions to the field of engineering and IC design.
- Elected a Fellow of the ASEAN Academy of Engineering and Technology in 2024.
- Recognized as a Top Scholar by ScholarGPS in 2024 for his strong publication record, the impact of his work, and the notable quality of his scholarly contributions, which have placed him in the top 0.5% of all scholars worldwide.

NTU Blockchain Symposium 2024: Exploring the Future of Decentralized Technologies



On September 20–21, 2024, the NTU Blockchain Symposium 2024 brought together a vibrant community of over 700 participants from academia, industry, and the global blockchain ecosystem for two days of engaging discussions and knowledge exchange at Nanyang Technological University (NTU).

Jointly hosted by the NTU Centre in Computational Technologies for Finance (NTU-CCTF) and co-organized by the Academy of Engineering, Singapore (SAEng), the symposium served as a vital platform for exploring the transformative impact of blockchain technology across sectors such as finance, supply chain, data security, and digital identity.

Participants were treated to a series of keynote presentations and dynamic panel discussions featuring internationally renowned academics, thought leaders, and pioneering practitioners. Topics

ranged from decentralized finance (DeFi) and smart contracts to regulatory frameworks and the ethical challenges of blockchain adoption. A strong emphasis was placed on real-world applications and interdisciplinary innovation.

The event underscored blockchain's evolving role in shaping the digital economy, highlighting both its opportunities and complexities. Delegates praised the symposium as a landmark gathering, offering not only thought leadership but also a collaborative environment for shaping the future of blockchain innovation in Singapore and beyond.

As the global conversation on Web3 and decentralized technologies continues to evolve, SAEng remains committed to supporting such initiatives that bridge engineering innovation with societal advancement.



SAEng Launches Inaugural TechTalk Series Symposium on Urban Sustainability

On September 27, 2024, the Academy of Engineering, Singapore (SAEng) launched its inaugural TechTalk Series Symposium, titled “Urban Solutions for Sustainable Cities”, in collaboration with Nanyang Technological University’s (NTU) School of Civil and Environmental Engineering (CEE) and the Nanyang Environment and Water Research Institute (NEWRI).

Held at the NTU campus, the symposium convened over 200 participants from academia, industry, research institutions, and government to explore forward-looking, interdisciplinary approaches to sustainable urban development.

The event featured four distinguished SAEng Fellows and expert speakers, each offering insights into key technological and engineering challenges facing modern cities:

- Professor Chan Siew Hwa, Co-Director of the Energy Research Institute at NTU, discussed the transformative role of hydrogen energy in enhancing energy security and decarbonizing high-emission sectors.

- Professor Chu Jian, Chair of the School of CEE at NTU, presented innovative engineering responses to land scarcity and rising sea levels, critical issues for land-constrained and climate-vulnerable nations like Singapore.
- Professor Adrian Law, Executive Director of the Coastal Protection and Flood Resilience Institute at the National University of Singapore (NUS), showcased how artificial intelligence is optimizing waste and water systems for greater urban efficiency.



- Dr Gurdev Singh, Chief Engineering and Technology Officer at PUB, outlined Singapore's comprehensive strategy for securing its water future, including next-generation desalination, water recycling, and smart water management.

The symposium culminated in a thought-provoking panel discussion moderated by Professor Ng Wun Jern, Fellow of SAEng and Emeritus Professor of NTU, joined by the speakers and Professor Wang Rong of NEWRI. The panel underscored the urgency of integrated, cross-

sector collaboration to enhance urban resilience and climate preparedness.

Participants lauded the event for its rich content, multi-disciplinary dialogue, and collaborative energy, marking a promising beginning for the SAEng TechTalk Series. The success of this inaugural symposium sets the stage for future conversations at the intersection of engineering, sustainability, and innovation.



Pioneering Global Dialogue: Inaugural China–Singapore Symposium on AI Frontiers and Governance

On October 28, 2024, the Academy of Engineering, Singapore (SAEng), in collaboration with the Chinese Academy of Engineering (CAE), co-organized the inaugural China–Singapore Symposium on AI Frontiers and Governance in Shanghai. The event marked a significant step toward strengthening bilateral cooperation in the fast-evolving field of artificial intelligence (AI).

Led by SAEng President Professor Ho Teck Hua, who delivered his opening address via video, the Singapore delegation joined leading Chinese academicians, researchers, and policymakers for a day of dynamic technical presentations and strategic discussions. SAEng Secretary Professor Wang Rong formally introduced the Academy

and its mission to the Chinese delegation, setting the tone for a rich exchange of ideas.

The symposium explored the intersection of AI innovation and governance, with keynote speeches and expert talks covering important domains such as smart cities, intelligent manufacturing, and network intelligence. It also highlighted the unique contributions of SAEng Fellows, whose research represents Singapore's cutting-edge work in AI:

- Professor Wen Yonggang introduced the concept of the dual paradigm of sustainability by AI and AI for sustainability, illustrating the bidirectional relationship between environmental goals and advanced technologies.
- Professor Tony Quek shared the latest developments from the AI-RAN Alliance, emphasizing the role of AI in next-generation wireless networks.
- Dr Yan Shuicheng delved into the mathematical underpinnings of high-performance AI models, bridging theoretical depth and practical application.

In a second technical session, additional SAEng Fellows took the spotlight:

- Professor Li Erping presented on AI-enabled computational electromagnetics, showcasing how AI is transforming electromagnetic simulations and design.





- Professor Guo Yongxin explored smart healthcare technologies and RF chip innovations, offering a glimpse into the future of AI-driven medical and communication solutions.

This inaugural gathering fostered valuable international dialogue and set the foundation for sustained collaboration between the two academies. Looking ahead, the second China–Singapore Symposium will be held in Singapore on 28–30 September 2025, hosted by Nanyang Technological University (NTU). With the theme “AI and

Sustainability”, the upcoming event will feature 12 distinguished speakers—six from each academy—and culminate in a Young Scientist Forum to spotlight emerging talent.

More details on the 2025 symposium will be announced on the SAEng website in due course. This continuing partnership reflects SAEng’s commitment to advancing global discourse on AI innovation, governance, and sustainable development.



Singapore-China Bilateral Summit on Sustainability Frontiers: Advancing Scientific Collaboration for a Sustainable Future

On 6 January 2025, the Singapore-China Bilateral Summit on Sustainability Frontiers was successfully held at Nanyang Technological University (NTU), serving as a high-level platform to foster deeper scientific and technological collaboration in sustainable development between Singapore and China.

This landmark event was jointly organized by the Singapore National Academy of Science (SNAS), the Academy of Engineering, Singapore (SAEng), and NTU, with strong support from the Chinese Academy of Sciences (CAS), the National University of Singapore (NUS), and the Agency for Science, Technology and Research (A*STAR).

The summit brought together leading researchers and policymakers from both countries, aiming to explore cutting-edge solutions and



collaborative opportunities across emerging areas in sustainability science and engineering. Through a series of expert talks, the event provided a multidimensional platform for dialogue, with a strong focus on the translation of theoretical advances into practical impact.

Distinguished Contributions by SAEng Fellows

Several SAEng Fellows played pivotal roles in shaping the summit’s intellectual discourse:

- Professor Wen Yonggang (NTU) delivered an insightful talk on “AI and Digital Infrastructure for a Sustainable Future: A Tale of Twin Transition,” addressing how digital innovation can be leveraged to accelerate sustainability efforts.



- Professor Liu Bin (NUS) presented on “Photobiocatalysis for Solar to Chemical Conversion,” highlighting advanced energy solutions at the intersection of biotechnology and materials science.
- Professor Wang Xin (City University of Hong Kong) shared his work on “Electrocatalysis Based on Heterogeneous Molecular Catalysts,” showcasing innovations in clean energy conversion.
- Professor Wang Rong (NTU) contributed her expertise through a presentation titled “Novel Membrane Development for Water Reuse and Desalination,” focusing on breakthrough technologies for water sustainability.
- Professor Chen Xiaodong (NTU) served as session chair, facilitating discussions and cross-border exchange of ideas during key segments of the programme.

Summit Highlights

The full-day programme featured 11 presentations, covering topics such as solid-state lithium batteries, bio-inspired materials, phase engineering of nanomaterials, and quantum-informed energy systems. The sessions were chaired by prominent scientists from both countries, reinforcing the spirit of collaborative leadership.

By providing a platform for sustained academic exchange and fostering high-impact partnerships, the summit aligns closely with national priorities under the Research, Innovation and Enterprise (RIE) 2025 agenda and China’s green development goals.



Looking Ahead

The Academy of Engineering, Singapore is proud to support initiatives that promote regional collaboration and scientific excellence. We will continue to work with national and international partners to enable transformative research in sustainability and engineering.

Members interested in future engagements or follow-up activities from the summit are encouraged to contact the SAEng Secretariat.

14th Annual General Meeting: Strengthening Foundations, Shaping the Future

The Academy of Engineering, Singapore (SAEng) convened its 14th Annual General Meeting (AGM) on June 19, 2024, at the Institution of Engineers, Singapore, bringing together members to reflect on recent accomplishments, review financial matters, and chart the course for future growth.

The meeting opened with the Secretary’s Report, delivered by then-Secretary Professor Guo Yongxin, who highlighted the Academy’s continued momentum, including a robust and growing membership base and the outstanding contributions of SAEng Fellows to the engineering community.

Following this, then-Treasurer Professor Liu Bin presented the financial report, outlining the Academy’s fiscal health and stressing the importance of strategic fundraising to sustain its expanding initiatives. One such initiative, the NRF Foundation Research Capabilities (FRC) Studies, was spotlighted for its potential to elevate the Academy’s research impact.

In his address, President Professor Ho Teck Hua underscored the significance of such programmes in supporting the Academy’s application for Institution of a Public Character (IPC) status. Achieving IPC status would open the door to substantial endowments and philanthropic support, further empowering SAEng to pursue its mission and deepen its societal impact.

The AGM also served as a collaborative platform for ideation, with members actively proposing new initiatives to engage the broader community. Suggestions included launching flagship engineering forums, expanding joint programmes with the Institution of Engineers, Singapore (IES), and strengthening outreach to high school educators, with the aim of inspiring the next generation of engineers and enhancing public appreciation of engineering’s role in society.

The meeting concluded with the nomination and election of a new Executive Committee. The slate of nominees—recognized for their diverse expertise and commitment to the Academy’s mission—was unanimously supported by members, ushering in a new chapter of leadership for SAEng.

The 14th AGM concluded with a sense of optimism and commitment to driving growth. With a focus on securing funding, fostering engineering education outreach, and strengthening collaboration, SAEng is poised to make significant contributions to the engineering landscape of Singapore.

The AGM reaffirmed the Academy’s dedication to excellence, innovation, and national relevance, setting the stage for an exciting and impactful year ahead.

New Executive Committee of the 14th AGM



Professor Ho Teck Hua
President



Professor Wang Rong
Secretary



Professor Phoon Kok Kwang
Treasurer



Er Chan Ewe Jin
Ex-Officio-President IES



Mr Dalson Chung
Immediate Past President IES



Professor Cheong Hee Kiat
Ordinary Member



Er Chong Kee Sen
Ordinary Member



Professor Chou Siaw Kiang
Ordinary Member



Professor Er Meng Hwa
Ordinary Member



Professor Hang Chang Chieh
Ordinary Member



Professor Lee Der-Horng
Ordinary Member



Dr Lee Shiang Long
Ordinary Member



Professor Lim Kiang Wee
Ordinary Member



Professor Liu Bin
Ordinary Member



Professor Andrew Nee
Ordinary Member



Mr Seah Moon Ming
Ordinary Member

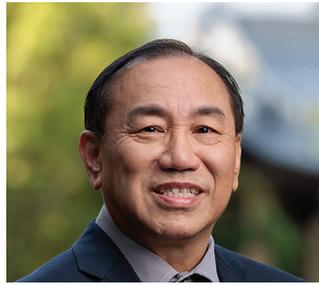


Professor Yeoh Lean Weng
Ordinary Member

Progress Update on NRF Foundational Research Capabilities (FRC) Studies



Professor Phoon Kok Kwang
Principal Investigator



Professor Chua Chee Kai
Principal Investigator

The Academy of Engineering, Singapore (SAEng) is pleased to share an update on the progress of the Foundational Research Capabilities (FRC) Studies funded by the National Research Foundation (NRF).

Awarded to the Academy in September 2024, the FRC project commenced on October 1, 2024, with a total funding allocation of \$374,400, inclusive of a 4% grant administrative fee. The initiative is led by two SAEng Fellows designated as Principal Investigators—Professor Phoon Kok Kwang and Professor Chua Chee Kai—and aims to explore promising frontier areas with the potential to shape Singapore’s future scientific and technological capabilities.

Project Structure and Rapid Studies (Stage 1)

The project is structured in two stages, beginning with three rapid studies, each lasting three months. These studies, completed by December 31, 2024, were conducted by researchers from the National University of Singapore (NUS), Nanyang Technological University (NTU), and the Singapore University of Technology and Design (SUTD), focusing on the following emerging domains:

- Digital Identity and Consensus Mechanisms (NUS)
- Remote Sensing, Image Processing, and Satellite Imagery (NTU)
- Bio-Inspired Cybersecurity (SUTD)

These short-duration, high-intensity studies were designed to assess scientific and technological viability, and to identify strategic directions for deeper investigation.

Next Phase: Full Study Selection and Stakeholder Engagement

The Academy is currently awaiting the review outcome from the NRF and project evaluators, with the hope that one of the rapid studies will be selected for further development into a comprehensive nine-month full study.

This extended phase will include:

- Extensive engagement with the RIE (Research, Innovation and Enterprise) community through workshops and consultations
- A rigorous review by an international expert panel
- Dissemination of findings to key stakeholders and advisory groups

These activities are integral to ensuring the relevance, rigour, and long-term impact of the research.

Timeline and Expected Completion

The full study, if approved, is scheduled to commence in mid-2025, with the overall project targeted for completion by March 2026.

The Academy looks forward to the next milestone in this important endeavour and remains committed to supporting foundational research that informs policy, advances national capabilities, and strengthens Singapore’s position in the global innovation ecosystem.

For future updates and engagement opportunities, members are encouraged to stay connected through the Academy’s official communication channels.

Making a Donation

The Academy of Engineering, Singapore is a not-for-profit entity registered in Singapore, funded by contributions from individuals and private organisations. Your donations will enable the academy to develop and sustain projects to attract aspiring engineers, encourage innovation, and provide support to advance and promote excellence in engineering, and also improve the public awareness and understanding of engineering in Singapore.

To make a contribution to the academy, please contact secretariat@saeng.sg

Our Donors

The Academy has received a total of \$221,670 from organisations and individual donors thus far. We would like to express our sincere gratitude to all the generous individuals and organisations that have supported the academy over the years. Here is our 2011-2025 Honour Roll of Donors:

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The Tan Chin Tuan
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