YOUNG ACADEMY OF SCIENCES SUMMIT

青年科學家峰會

PROGRAMME BOOKLET

2024-2025

SUB-CONFERENCE V

科學領航 啟迪未來

SCIENCE, THE PORTAL TO NEW ENLIGHTENMENTS

Organiser:

THE HONG KONG YOUNG
ACADEMY OF SCIENCES
香 港 青 年 科 學 院

Co-organiser:

大灣區共同家園投資有限公司
Greater Bay Area Homeland Investments Limited

大灣區共同家園青年公益基金
Greater Bay Area Homeland Youth Community Foundation

WAYS
World Association
of Young Scientists

Funding organisation:

π 創 新 科 技 署
Innovation and Technology Commission

government
funded programme

Local academic partner

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City University of Hong Kong

香港都會大學
科技學院
Hong Kong Metropolitan University
School of Science and Technology

PEAK
Member of VTC Group
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University 香港 Hong Kong

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The Chinese University of Hong Kong

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY

香 港 大 學
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Supporting organisation

ASTRI
Hong Kong Applied Science an
Technology Research Institute
香港應用科技研究院

Cyberport 數碼港 20

香港科技園
HKSTP

香港青年工業家協會
HONG KONG YOUNG INDUSTRIALISTS COUNCIL

香港資優教育學苑
The Hong Kong Academy for Gifted Education

(Listed in alphabetical order)

CONTENT

YOUNG ACADEMY OF SCIENCES SUMMIT
青年科學家峰會

ABOUT YASS

- Showcases the excellent research work of the young scientists in Hong Kong.

- Provides a unique platform for local young academics and scientists to gather and engage in a cross-disciplinary, cross-cultural and cross-institutional cooperation in Hong Kong.

- Demonstrates Hong Kong's unique position as a strong and energetic research base, well prepared for any knowledge transfer collaborations.

ABOUT THE ORGANISER

The Hong Kong Young Academy of Sciences

The Hong Kong Young Academy of Sciences (YASHK) was established in 2018 and is a chapter of The Hong Kong Academy of Sciences (ASHK). YASHK offers a strong platform for young scientists to make meaningful contribution to the Hong Kong community and build up a better research and education environment for science and technology. Currently, YASHK has 61 young scientists as its Members.

🌐 https://yashk.org.hk

ABOUT CO-ORGANISERS

Greater Bay Area Homeland Investments Limited

The Greater Bay Area Homeland Investments Limited was jointly established by international large-scale industrial institutions, financial institutions and new economic enterprises. Greater Bay Area Homeland Development Fund is set up under the Company to grasp the historical opportunities of the development of Guangdong-Hong Kong-Macao Greater Bay Area, and the construction of an International Innovation and Technology Hub, focusing on technological innovation, industrial upgrading, quality of life, smart city and all other related industries. The Company and the Fund cover venture capital, private equity investment, listed company investment, M&A investment and so on to offer financial support for outstanding entrepreneurs and enterprises, connecting industrial and financial resources, achieving long-term returns for shareholders and investors, and contributing positively to economic and social development.

⊕ http://www.gbahomeland.com/

Greater Bay Area Homeland Youth Community Foundation

Founded in September 2019, the Greater Bay Area Homeland Youth Community Foundation (the "Foundation") is a charitable organisation that was established to leverage the enormous growth opportunities made possible by the Greater Bay Area concept. Guided by its mission of "For Our Youth For Our Future", the Foundation is a joint effort by young leaders from all walks of life to support Hong Kong youths in their studies, careers and entrepreneurship. Taking education and training as its focus, the Foundation hopes the work will enable young people to gain a better understanding of the region's business environment and culture that is conducive to their personal and professional growth.

⊕ https://www.gbayouth.org.hk/

World Association of Young Scientists

World Association of Young Scientists (WAYS) is an international, academic, and non-profit social organization that is voluntarily formed by worldwide, regional, and national-wide youth technology organizations, universities, and professional research institutions. WAYS aims to build a platform for worldwide young scientists to exchange and learn from each other, consolidate the consensus of "technology for social good," and strive to promote sustainable development through scientific and technological innovation. It contributes the wisdom and strength of young scientists to achieve the United Nations Sustainable Development Goals and promote the construction of a community with a shared future for mankind.

🌐 https://www.wyss.org.cn/

ABOUT THE FUNDING ORGANISATION

π 創 新 科 技 署
Innovation and Technology Commission

Innovation and Technology Commission

To promote the development of innovation and technology, an Innovation and Technology Commission (ITC) was set up on 1st July 2000, with the mission to spearhead Hong Kong's drive to become a world-class, knowledge-based economy. The Commission formulates and implements policies and measures to promote innovation and technology; supports applied research, technology transfer and application; promotes technological entrepreneurship; facilitates the provision of technology infrastructure and development of human resources; and promotes internationally accepted standards and conformity assessment services to underpin technological development and international trade. The Commission works closely with its partners in the Government, industry, business, tertiary education institutions and industrial support organisations.

YASS
ACTIVITY OVERVIEW

02

1st YASS SUMMIT

December 2023

Sub-Conference I
March 2024

Sub-Conference II
May 2024

Sub-Conference III
September 2024

2nd YASS SUMMIT

December 2024

Sub-Conference IV
March 2025

Sub-Conference V
June 2025

Sub-Conference VI
September 2025

MEMBERS OF THE PROGRAMME COMMITTEE

03

The Programme Committee provides general oversight and advice to the YASS 2023-2025.

Prof. Anderson SHUM
City University of Hong Kong

Prof. Stephanie MA
The University of Hong Kong

Prof. Minhua SHAO
The Hong Kong University of Science and Technology

Prof. Kathy Oi Lan LUI
The Chinese University of Hong Kong

Prof. Zijian ZHENG
The Hong Kong Polytechnic University

Prof. Johnny HO
City University of Hong Kong

Prof. Zhifeng HUANG
The Chinese University of Hong Kong

Prof. Timothy BONEBRAKE
The University of Hong Kong

Prof. Yang CHAI
The Hong Kong Polytechnic University

Prof. Fuk Yee KWONG
The Chinese University of Hong Kong

Prof. Shih-Chi CHEN
The Chinese University of Hong Kong

Prof. Giulio CHIRIBELLA
The University of Hong Kong

Prof. Kai LIU
The Hong Kong University of Science and Technology

Prof. Dangyuan LEI
City University of Hong Kong

Prof. Ken LEUNG
Hong Kong Baptist University

Prof. Zuankai WANG
The Hong Kong Polytechnic University

Prof. Amos TAI
The Chinese University of Hong Kong

Prof. Joelle WANG
Hong Kong Baptist University

YASS (2024-2025) SUB-CONFERENCE V PROGRAMME RUNDOWN

04

05 JUNE 2025 (THURSDAY)

Time: 10:00 – 18:00

Venue: Chamber 1B, InnoCentre

Theme: AI for Science and Engineering

09:15 - 10:00	**Registration**
10:00 - 10:15	**OPENING CEREMONY**

Welcome Message

Giulio CHIRIBELLA

Member, The Hong Kong Young Academy of Sciences
Professor, Director of QICI Quantum Information and
Computation Initiative, School of Computing and Data Science,
The University of Hong Kong

10:15 - 12:10

SESSION 1
AI in Fundamental Science

Speakers

Topic | Advancing Quantum Science in the Era of AI

Yuxuan DU

Assistant Professor, College of Computing and Data Science &
School of Physical and Mathematical Sciences,
Nanyang Technological University

Topic | When AI meets physics

Junwei LIU

Associate Professor, Department of Physics,
The Hong Kong University of Science and Technology

**Topic | Exploring Trustworthy Foundation Models:
Benchmarking, Finetuning, and Reasoning**

Bo HAN

Assistant Professor, Department of Computer Science,
Hong Kong Baptist University

Panel Discussion

Moderator

Giulio CHIRIBELLA

Member, The Hong Kong Young Academy of Sciences
Professor, Director of QICI Quantum Information and Computation
Initiative, School of Computing and Data Science,
The University of Hong Kong

Panelists

Yuxuan DU
Junwei LIU
Bo HAN

12:10 - 13:45

LUNCH
(by invitation)

13:45 - 15:40

SESSION 2
Challenges and Risks in Trustworthy AI

Speakers

Topic | The Right to Be Unlearned: Detecting and Mitigating Training Data Misuse

Xingliang YUAN
Associate Professor,
School of Computing and Information Systems,
University of Melbourne

Topic | Towards Trustworthy Vision AI: Bridging Explanation, Security, Privacy, and Forensics

Shiqi WANG
Associate Professor, Department of Computer Science,
City University of Hong Kong

Topic | Toward Interpretable Deep Learning for Molecular and Materials Science

Wanyu LIN
Assistant Professor, Department of Data Science and Artificial Intelligence and Department of Computing,
The Hong Kong Polytechnic University

Panel Discussion

Moderator

Cong WANG
Founding Member, The Hong Kong Young Academy of Sciences;
Head and Professor, Department of Computer Science,
City University of Hong Kong

Panelists

Xingliang YUAN
Shiqi WANG
Wanyu LIN

15:40 - 16:00 **Coffee break**

16:00 - 17:55

SESSION 3
AI in Construction

Speakers

Topic | Leading and Promoting Innovation for Construction Industry – AI

Colin FONG

Section Head of Building Technology Research Institute
Registered architect

Topic | Intelligent Scientific Computing: from Data-driven Modeling to Discovery

Hao SUN

Associate Professor with Tenure,
Gaoling School of Artificial Intelligence,
Renmin University of China

Topic | AI-driven Fire Engineering Design in Supertall Buildings

Cheuk Lun CHOW

Associate Professor,
Department of Architecture and Civil Engineering,
City University of Hong Kong

Panel Discussion

Moderator

Denvid LAU

Founding Member and Co-chair of Outreach Committee,
The Hong Kong Young Academy of Sciences;
Professor, Department of Architecture and Civil Engineering,
City University of Hong Kong;
Associate Director, CityUHK Academy of Innovation

Panelists

Colin FONG
Hao SUN
Cheuk Lun CHOW
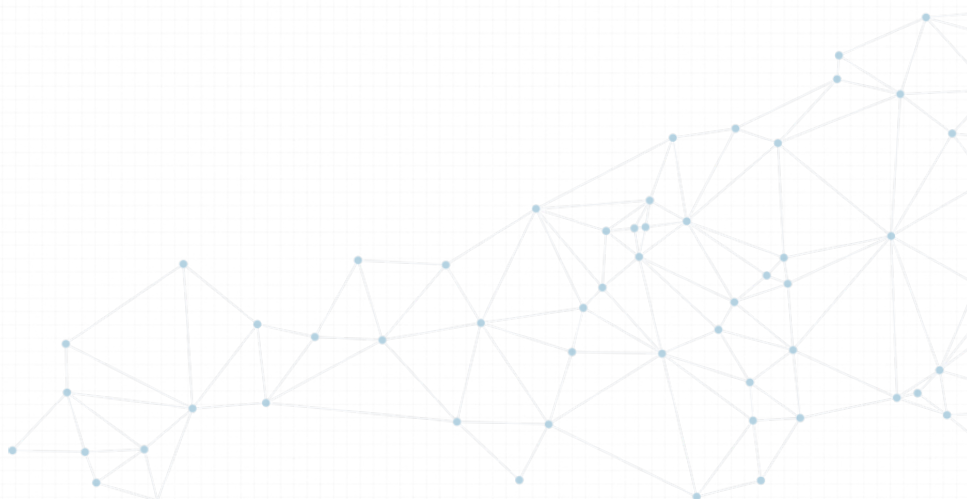
17:55-18:00   CONCLUDING REMARKS

Anderson SHUM

President, The Hong Kong Young Academy of Sciences;
Vice-President (Research) and Chair Professor of Chemical
and Biomedical Engineering, City University of Hong Kong

18:00   END OF SUB-CONFERENCE V

SPEAKER PROFILE

Giulio CHIRIBELLA

Member, The Hong Kong Young Academy of Sciences

Professor, Director of QICI Quantum Information and Computation Initiative,
School of Computing and Data Science, The University of Hong Kong

Prof. Giulio Chiribella is a leading scholar in the field of quantum information theory. He has made pioneering contributions to quantum networks, quantum causality, and the foundations of quantum mechanics. His research provides the foundation for a new generation of quantum technologies that can overcome the limits of conventional information processing protocols, achieving higher security, higher precision, and higher computational power.

Prof. Chiribella obtained his PhD in 2007 from the University of Pavia, Italy. His doctoral research was awarded the prestigious "Hermann Weyl Prize" in recognition of his pioneering work on the application of group theoretical methods in Quantum Information Theory (2010). Later, he received a 1000 Talents Plan of China Young Investigator Award (2012), a CIFAR-Azrieli Global Scholar Award (2016), a Croucher Senior Research Fellowship (2018), and an RGC Senior Research Fellowship (2020). Before his current appointment, he served as Associate Professor at Tsinghua University and as Professor at the University of Oxford.

His best known contributions are the information-theoretic axiomatization of quantum theory, the method of quantum combs, and the quantum SWITCH. The information-theoretic axiomatization of quantum theory, with Mauro D'Ariano and Paolo Perinotti, succeeded in reconstructing the rules of quantum theory from simple principles of information processing. This achievement, which provides a solution to a long-standing open problem dating back to Birkhoff and Von Neumann, is at the basis of the book "Quantum Theory from First Principles," published by Cambridge University Press in 2017. The method of quantum combs is widely adopted for studying networks of quantum devices, testing their behavior, and analyzing their performances. It provides the foundation for the study of quantum causal networks, and for the development of new quantum algorithms for the discovery of cause-effect relations at the quantum scale. The invention of the quantum SWITCH pioneered a new research field on the study of processes where the order of events is indefinite. The quantum SWITCH stimulated new experiments in quantum photonics, and new applications in quantum communication, computation, metrology, and thermodynamics.

At HKU, Prof. Chiribella established QICI, the Quantum Information and Computation Initiative of the Department of Computer Science, with the aim of promoting the development of quantum information, and to contribute to the growth of Hong Kong into an international hub for quantum technologies.

Yuxuan DU

Assistant Professor, College of Computing and Data Science & School of Physical and Mathematical Sciences, Nanyang Technological University

Yuxuan Du is an Assistant Professor at Nanyang Technological University (NTU), jointly appointed to the College of Computing and Data Science and the School of Physical and Mathematical Sciences. He received his Ph.D. in Computer Science from the University of Sydney in 2021. His research focuses on quantum learning theory, fundamental algorithms for quantum machine learning, and AI for quantum science. His work has been published in top-tier journals and conferences across physics and computer science, including Nature Communications, Physical Review Letters, Physical Review X Quantum, npj Quantum Information, Trans Information Theory, and Trans Pattern Analysis and Machine Intelligence. His research has been featured by major media outlets such as MIT Technology Review and Xinhua News Agency. He has served as an Area Chair for NeurIPS and ICLR.
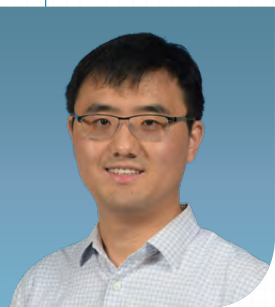
Junwei LIU

Associate Professor, Department of Physics, The Hong Kong University of Science and Technology

Prof. Junwei Liu is an associate professor in department of physics of The Hong Kong University of Science and Technology (HKUST).

Prof. Liu has a broad interest in condensed matter physics and quantum physics, varying from the traditional phenomena like ferroelectricity to the exotic topological phases like quantum spin Hall insulators. His major contributions include (1) theoretical prediction of SnTe-type topological crystalline insulator, WTe2-type and TaIrTe4-type quantum spin Hall insulator; (2) discovery of the first monolayer ferroelectricity in SnTe thin films; (3) proposal of self-learning Monte Carlo methods that can be thousands of times faster than conventional methods without loss of any accuracy; (4) design and realization of the first all-optical deep neural networks; (5) proposal of crystal-symmetry-paired spin-valley locking in spin-splitting antiferromagnet (also called altermagnet); (6) realization of the first electrical readout and 180 ° switching of the Néel order in spin-splitting antiferromagnetic materials; and (7) discovery of the first two-dimensional altermagnet.

Bo HAN

Assistant Professor, Department of Computer Science, Hong Kong Baptist University

Bo Han is an Assistant Professor in Machine Learning at Hong Kong Baptist University, and a BAIHO Visiting Scientist at RIKEN AIP. He was a Visiting Research Scholar at MBZUAI MLD, a Visiting Faculty Researcher at Microsoft Research and Alibaba DAMO Academy, and a Postdoc Fellow at RIKEN AIP. He received his Ph.D. degree in Computer Science from University of Technology Sydney. He has served as Senior Area Chair of NeurIPS, and Area Chairs of NeurIPS, ICML and ICLR. He has also served as Associate Editors of IEEE TPAMI, MLJ and JAIR, and Editorial Board Members of JMLR and MLJ. He received Outstanding Paper Award at NeurIPS, Most Influential Paper at NeurIPS, and Outstanding Student Paper Award at NeurIPS Workshop. He received the RGC Early CAREER Scheme, IEEE AI's 10 to Watch Award, IJCAI Early Career Spotlight, RIKEN BAIHO Award, Dean's Award for Outstanding Achievement, and Microsoft Research StarTrack Scholars Program.

Xingliang YUAN

Associate Professor, School of Computing and Information Systems, University of Melbourne
Australian Research Council Future Fellow

Dr Xingliang Yuan is an Associate Professor in the School of Computing and Information Systems, the University of Melbourne. Before that, he was a faculty member at Monash University from 2017 to 2024. Xingliang has a keen interest in designing systems to address real-world privacy and security challenges. His research has been supported by Australian Research Council, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australian Department of Home Affairs, Australian Department of Health and Aged Care, and the Oceania Cyber Security Centre. His work has been published in major venues of computer security and systems, such as ACM CCS, IEEE S&P, USENIX Security, NDSS, TDSC, and TIFS. He is a sole recipient of the Dean's Award for Excellence in Research by an Early Career Researcher (2020), the Faculty Teaching Excellence Award (2021) at Monash, and the Excellence in Engagement award at UniMelb (2024). He is a co-recipient of the best paper award in the European Symposium on Research in Computer Security 2021. He is on the editorial board of IEEE Transactions on Dependable and Secure Computing and IEEE Transactions on Service Computing. He is a general chair of RAID' 25, track co-chair of ICDCS' 24, and a program co-chair of Lamps@CCS' 24, SecTL@AsiaCCS' 23, and NSS' 22.

Shiqi WANG

Associate Professor, Department of Computer Science, City University of Hong Kong

Shiqi Wang is an Associate Professor with the Department of Computer Science, City University of Hong Kong. His research interests include multimedia, artificial intelligence (AI), image/video analysis, and AI for science. He has authored or coauthored more than 300 refereed journal articles/conference papers, including about 150 IEEE Transactions papers.

He received the Best Paper Award from IEEE VCIP 2019, ICME 2019, IEEE Multimedia 2018, and PCM 2017. His co-authored article received the Best Student Paper Award in the IEEE ICIP 2018. He was a recipient of the 2021 IEEE Multimedia Rising Star Award in ICME 2021. According to Google Scholar, his paper has been cited more than 17,000 times with the h-index of 63. He serves as an Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology, IEEE Transactions on Image Processing, IEEE Transactions on Multimedia and IEEE Transactions on Cybernetics.

Wanyu LIN

Assistant Professor, Department of Data Science and Artificial Intelligence and Department of Computing, The Hong Kong Polytechnic University

Wanyu Lin is an Assistant Professor in the Department of Data Science and Artificial Intelligence and the Department of Computing at The Hong Kong Polytechnic University. She is serving as an Associate Editor for IEEE Transactions on Neural Networks and Learning Systems (TNNLS) and in Editorial Board of Memetic Computing. She is a member of ACM, IEEE. Wanyu's research focuses on developing trustworthy deep-learning techniques to accelerate scientific simulations and the design of molecular and materials science. By combining cutting-edge AI methodologies with scientific rigor, her work addresses critical challenges in creating reliable, interpretable, and efficient AI systems that advance the discovery of novel molecules and materials. This innovative approach not only enhances the precision and efficiency of materials design but also bridges the gap between AI and real-world scientific applications. She is the recipient of 2022 CVPR Best Paper Finalist and 2025 PolyU Young Innovative Researcher Award.

Cong WANG

Founding Member, The Hong Kong Young Academy of Sciences

Head and Professor, Department of Computer Science, City University of Hong Kong

Fellow of the IEEE

WANG Cong is a Professor and the Head in the Department of Computer Science, College of Computing, City University of Hong Kong. He earned his bachelor's and master's degrees both from Wuhan University, China, and his Ph.D. from the Illinois Institute of Technology, USA. His research work spans across data security and privacy, AI systems and security, and blockchain and decentralized applications. He has made prolific contributions to these fields, witnessed by 30,000+ citations on Google Scholar and multiple best paper awards, including the 2020 IEEE INFOCOM Test of Time Paper Award. Prof. Wang holds the title of IEEE Fellow, HK RGC Research Fellow, and is a Founding Member of the Young Academy of Sciences of Hong Kong. At CityU of Hong Kong, Prof. Wang has received the Outstanding Research Award (2019), the Outstanding Supervisor Award (2017), and two President's Awards (2016, 2019). He currently serves as the Editor-in-Chief for the IEEE Transactions on Dependable and Secure Computing, a leading security journal within the IEEE Computer Society. Additionally, he is a senior scientist at The Laboratory for AI-Powered Financial Technologies Limited (AIFT) and has been appointed by the Hong Kong Monetary Authority as a member of the Central Bank Digital Currency (CBDC) Expert Group.

Colin FONG

Section Head of Building Technology Research Institute

Registered architect

Colin Fong was appointed the Section Head of The Building Technology Research Institute (BTRi) in December 2024 for spearheading innovation in the construction industry through driving applied R&D, advancing standards and providing accreditation, certification and testing services.

FONG graduated with a Master degree in Architecture from the University of Hong Kong and had over 20 years of experience in architectural design and project management, successfully delivering major healthcare, transport infrastructure and institutional building projects. He is a Registered Architect and member of Hong Kong Institute of Architects.

Before his appointment at BTRi, Fong was Assistant Secretary (Project Capability and Strategy) in Development Bureau responsible for formulating strategies to strengthen project governance and cost management, enhance project delivery capability and promote construction innovation such as Modular Integrated Construction (MiC); with aim to uplifting the performance of capital works projects as well as the construction industry.

Hao SUN

Associate Professor with Tenure, Gaoling School of Artificial Intelligence, Renmin University of China

AI100 Innovators: Young Pioneers in AI of China, 2025

Intelligent Computing Innovator of China, 2022

Forbes "30 Under 30": Science, 2018

Dr. Hao Sun is currently an Associate Professor with Tenure in the Gaoling School of Artificial Intelligence at Renmin University of China (RUC). He received his Ph.D. in Engineering Mechanics from Columbia University in 2014 and did his Postdoc training at MIT during 2014-2017. He was a Tenure-Track Assistant Professor at the University of Pittsburgh (2017-2018) and Northeastern University (2018-2021) before joining RUC.

His current research interests lie in intelligent scientific computing and its interdisciplinary applications. He has published 80 peer-reviewed articles in top-tiered journals (e.g., Nature Machine Intelligence, Nature Communications) and top computer science conferences (e.g., ICLR, NeurIPS, KDD, IJCAI, AAAI). His work has been widely cited (>6,200 Google Scholar citations, h-index = 39) and reported in various international major media over 50 times. He has been a PI or a major Co-PI for dozens of research projects, sponsored by National Natural Science Foundation of China, U.S. National Science Foundation, Beijing Natural Science Foundation, etc.

In recognition of his outstanding contributions, he has received multiple honours and awards including Forbes "30 Under 30": Science (2018), MIT Technology Review Intelligent Computing Innovator Award of China (2022), and AI100 Innovators: Young Pioneers in AI of China (2025).

Cheuk Lun CHOW

Associate Professor, Department of Architecture and Civil Engineering, City University of Hong Kong

Prof. Cheuk Lun Chow is currently an Associate Professor at City University of Hong Kong. She holds a PhD in Architecture from the University of Cambridge, where her research focused on the fire hazards of glass buildings and double-skin façades. Prior to that, she earned both her Bachelor's and Master's degrees in Building Services Engineering from the Hong Kong Polytechnic University. Prof. Chow has published more than 100 refereed journal and conference articles in the field of fire engineering. She also successfully attracted more than HK$15M research fund as Principal Investigator/ Project Coordinator from HKSAR government in her career life.

Her primary research interests lie in the application of Computational Fluid Dynamics (CFD) to simulate fires, with emphasis on natural ventilation, façade fires, smoke toxicity, and fire safety in green and sustainable buildings. Her work offers essential insights into the dynamic behavior of fire and smoke in modern architecture and high-rise buildings.

Her expertise provides a strong foundation for advancing new methods in fire risk assessment. This presentation builds upon her work by exploring how AI technologies can further enhance fire safety in supertall buildings.

Denvid LAU

Founding Member and Co-chair, Outreach Committee, The Hong Kong Young Academy of Science

Professor, Department of Architecture and Civil Engineering, City University of Hong Kong

Associate Director, CityUHK Academy of Innovation

Ir. Prof. Denvid Lau obtained his Bachelor of Engineering in Civil Engineering with first class honors and Master of Philosophy from the University of Hong Kong (HKU) in 2004 and 2006 respectively, and got his second Master degree from the Department of Civil and Environmental Engineering (CEE) at Massachusetts Institute of Technology (MIT) in 2009. He then received his Ph.D. in the field of structures and materials from MIT in 2012. Prior to joining City University of Hong Kong (CityUHK) as an assistant professor in August 2012, he worked as a postdoctoral associate at MIT. He has become a full professor with tenure at CityUHK since 2023. During his sabbatical leave from January to July 2020, he was a visiting professor at MIT.

Ir. Prof. Lau got various awards and scholarships during his undergraduate and graduate studies including the Croucher Foundation Scholarship (2006-2009) and the Marvin E. Goody Award (2007). He was named as one of the Harvey Fellows in 2011. His research interests encompass nano and multifunctional materials used for construction, sustainable materials, green concrete, machine leaning assisted multiscale modeling and nondestructive evaluations. To date, Ir. Prof. Lau has attracted over HK$17 million fund in total for research and teaching development. He is currently the editorial board member of several international journals. He has published more than 200 referred journal and conference articles and has delivered more than 40 invited talks, which include plenary and keynote speeches in international conferences. In 2008, he was nominated and selected as a Founding Member of the Young Academy of Sciences of Hong Kong (YASHK), and received one of The President's Awards from the CityUHK, in recognition of his remarkable academic achievement. In addition, Ir. Prof. Lau has received the Certificate of Merit for the Hong Kong Institution of Engineers (HKIE) Young Engineer Award 2018 in appreciation of his effort and dedication to the engineering profession, and the Commendation Merit Award - R&D Award of Structural Excellence Award 2018 and 2025, which is presented by the HKIE (Structural Division). Recently, he has been granted the 2020 Outstanding Supervisor Award from CityUHK in view of his excellent research supervision towards Ph.D. students.

Anderson SHUM

President, The Hong Kong Young Academy of Sciences

Vice-President (Research) & Chair Professor of Chemical and Biomedical Engineering,

City University of Hong Kong

Ir Prof. Anderson Ho Cheung SHUM received his Ph.D. and S.M. degrees in Applied Physics from Harvard University and B.S.E. degree (summa cum laude) in Chemical Engineering from Princeton University. He is currently Vice-President (Research) of City University of Hong Kong (CityUHK). He also serves as the Chair Professor of Chemical and Biomedical Engineering in the Department of Chemistry and Department of Biomedical Engineering of CityUHK. Previously, he served as Associate Vice-President (Research and Innovation) (2021-2024), Full Professor (Tenured) (2019-2024), Associate Head (2020-2021) in the Department of Mechanical Engineering, and Assistant Dean (2018-2020) in the Faculty of Engineering at University of Hong Kong (HKU). His research interests include aqueous two-phase systems, emulsions, biomicrofluidics, biomedical engineering, and soft matter.

Prof. Shum is highly recognized for his pioneering contributions, receiving international scientific honors including but not limited to: The 15th Guanghua Engineering Science and Technology Prize by Chinese Academy of Engineering (CAE, 2024), Awardee of RGC Senior Research Fellow Scheme (SRFS, 2024), Gold Medal and International Special Award in 8th International Invention Innovation Competition in Canada (iCAN, 2023), Gold Medal in 48th International Exhibition of Inventions (Geneva, Switzerland, 2023), the inaugural Hong Kong Engineering Science and Technology (HKEST) Award by the Hong Kong Academy of Engineering (HKAE, 2023), NSFC Excellent Young Scientist Fund (2019), IEEE Nanomed New Innovator (2018), HKU Outstanding Young Researcher Award (2016-17), HKU Research Output Prize (2017), and Early Career Award by the Research Grants Council of Hong Kong (2012). First in Hong Kong, Prof. Shum has been selected as Global Young Academy Member (since 2021).

He was also selected as Young Fellow of Hong Kong Academy of Engineering (2024); Fellows of the International Association of Advanced Materials (FIAAM, 2023), Hong Kong Institution of Engineers (FHKIE, 2023), Royal Society of Chemistry (FRSC, 2017); Awardee of Croucher Senior Research Fellowship (2020); and as President (since 2021) and Founding Member (since 2018) of Hong Kong Young Academy of Sciences. He currently serves as Editor-at-large for Droplet by Wiley; Editorial Board Members for Scientific Reports (Springer Nature), and Colloids and Interfaces by MDPI AG; as well as Editorial Advisory Board Member for Lab-on-a-Chip (RSC) and Associate Editor for Biomicrofluidics (American Institute of Physics).

ACKNOWLEDGEMENTS

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Innovation and Technology Commission

政府資助計劃
Government-
funded programme

(Listed in alphabetical order)

YOUNG ACADEMY OF SCIENCES SUMMIT
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THE HONG KONG YOUNG ACADEMY OF SCIENCES
香 港 青 年 科 學 院

The Hong Kong Young Academy of Sciences

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