



Department of  
Architecture and Civil Engineering

香港城市大學  
City University of Hong Kong

DEPARTMENT OF

**ARCHITECTURE**

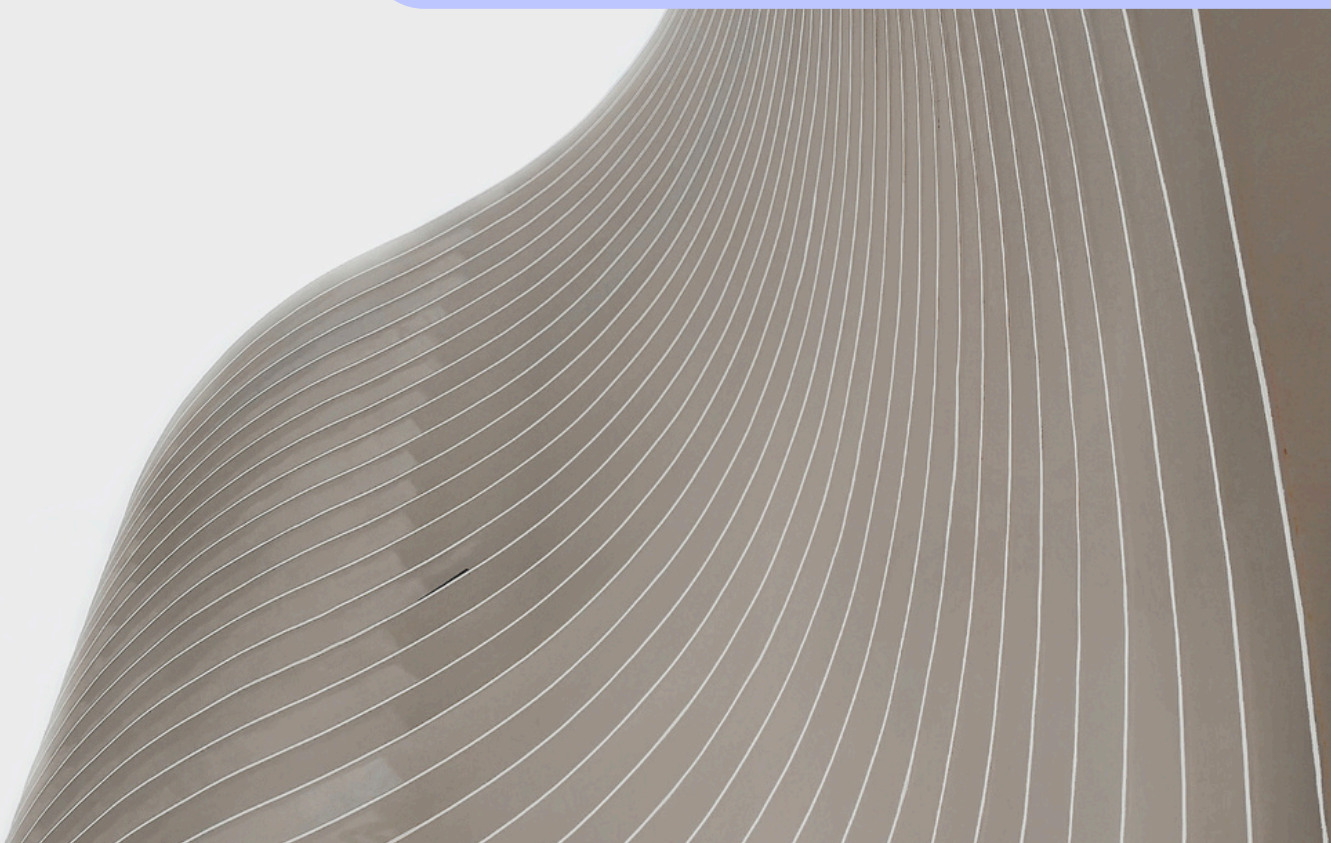
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**CIVIL**

**ENGINEERING**

**Annual Brochure  
2024**

**RESEARCH EXCELLENCE IN  
ARCHITECTURE AND CIVIL ENGINEERING**



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# HEAD'S MESSAGE

**Where we nurture future leaders through innovative education and research in our built environment**



**Prof. Jianguo DAI**

*Head of the Department of Architecture and Civil Engineering  
Chair Professor of Structural Engineering*

Welcome to the Department of Architecture and Civil Engineering (ACE) at the City University of Hong Kong (CityUHK)!

The Department of ACE was founded in 1984 and has since developed a wide range of construction-related undergraduate programs accredited by professional bodies, including Bachelor of Engineering in Architectural Engineering (i.e., Building Services Engineering), Bachelor of Engineering in Civil Engineering, and Bachelor of Science in Architecture and Surveying. We also offer four master's programs: Master of Architecture (2 years), Master of Urban Design and Regional Planning (2 years), Master of Science in Civil and Architectural Engineering (1 year), and Master of Science in Construction Management (1 year).

Our motto at ACE is "Meeting the World's Challenges: Build Tomorrow, Create the Future." This embodies our vision and mission to become a global leader and nurture future leaders in architecture and civil engineering. Our goal is to provide students with contemporary and interdisciplinary knowledge, skills, and values necessary to address the complex challenges of our built environment. As a result, our graduates are highly sought after in the construction industry.

Our faculty members are actively involved in cutting-edge research that tackles vital issues such as sustainability, resilience, smart cities, and advanced construction materials and technologies and train PhD students within the following four major disciplines:

1. Advanced civil engineering materials and mechanics
2. Architecture and building environment
3. Disaster and climate-resilient urban development
4. Intelligent construction and management

In 2024, we celebrated the 30th anniversary of CityUHK, marking a significant milestone for ACE as well. This year, 25 faculty members from ACE have been recognized among the World's Top 2% Most-Cited Scientists. Additionally, our staff actively engage in community outreach and industry initiatives, organizing international conferences, symposia, and industry forums. Additionally, our students have earned numerous awards and distinctions in various competitions.

This annual brochure provides a succinct overview of ACE's profiles and accomplishments in 2024. I want to take this opportunity to express my heartfelt gratitude to our dedicated staff and the invaluable support we have received from government agencies, the university, as well as our academic and industry partners. ACE remains unwavering in its commitment to excellence in education, research, and professional practice within the fields of architecture and civil engineering. I hope you enjoy reading the brochure, and I warmly invite you to further explore our department through our website and various media platforms.

# OVERVIEW OF THE DEPARTMENT OF ACE

## DEPARTMENT HISTORY

### 1984-1988

- The department was established, with Professor Brian E Lee as the first Head in 1984.
- The first cohorts of students were admitted for various diploma and degree programs.

### 1989-1990

- Professor Alan P. Jeary was appointed Head in 1990. The College of Higher Vocational Studies was established, taking responsibility for the department's Higher Diploma courses.

### 1991-1992

- The Postgraduate Diploma in Construction Management was upgraded to an MSc. New Honours degree programs in Building, Quantity Surveying, and Building Surveying were introduced, along with MEng in Building Engineering programs.

### 1995-1999

- There were several program name changes and new program introductions, including a part-time BEng (Hons) in Building Services Engineering. Professor Andrew Y T Leung was appointed Head in 1999.

### 2005-2010

- Professor Sritawat Kitipornchai was appointed Head in 2005. New programs like EngD, MSc in Building Engineering, and joint programs with the School of Law were introduced. The department was renamed to the Department of Civil and Architectural Engineering and Professor K M Liew was appointed Head in 2011.

### 2012-2016

- Management of architectural studies programs was transferred to the department. The BSc (Hons) in Architectural Studies was accredited by HKIA/ARB. New 4-year UGC-funded and self-financing degree programs were introduced, including in Surveying and Architectural Studies.

### 2014

- The BEng in Building Services Engineering was renamed to BEng in Architectural Engineering. The BEng in Construction Engineering/Management and BEng in Civil/Structural Engineering were consolidated into a single BEng in Civil Engineering program with 3 streams.

### 2017-2023

- Professor Richard K K Yuen was appointed Head in 2018. The accreditation of the BSc (Hons) in Architectural Studies was revalidated. Professor Thomas S T Ng was appointed Head in 2021. Several new program streams and name changes were introduced, and accreditations were obtained for programs like the Master of Urban Design and Regional Planning and the BSc in Surveying.

### 2024

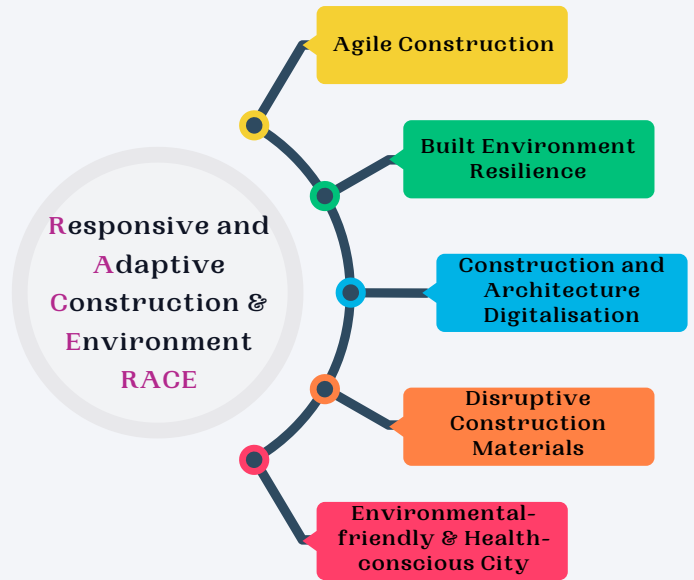
- Master of Architecture (MArch) program was introduced.



# RESEARCH DIRECTION

ACE has a “**RACE**” Research Strategy, with a perspective to address the Responsive and Adaptive Construction and Environment in its research projects.

We are focused on the below 4 major **research areas**:



## ADVANCED CIVIL ENGINEERING MATERIALS & MECHANICS

- 3D construction printing
- Geopolymer cement and concrete
- Smart structures
- Fiber-reinforced polymer and cementation composites
- Molecular dynamics simulations
- Smart materials
- Structural model updating
- Sustainable pavement structures and materials
- Carbon capture and waste recycling
- Functional constructional materials

## ARCHITECTURE & BUILDING ENVIRONMENT

- Green building design and technology
- Advanced ventilation
- Intelligent building
- Sustainable biorefinery and circular bioeconomy
- Performance-driven architecture and urban design

## DISASTER & CLIMATE-RESILIENT URBAN

- Wind Engineering
- Fire safety and engineering
- Digital twins of geo-structures
- Rainfall mechanisms
- Slope stability

## INTELLIGENT CONSTRUCTION & MANAGEMENT

- Big data for construction project management
- Sustainable built environment
- Smart city
- Land and housing policy
- Construction robotics
- Building information modelling and digital twin
- Virtual design and construction
- AI-generated content
- Construction robots and human-robot interaction

# World Rankings by Subject 2024

## ShanghaiRanking Global Ranking of Academic Subjects (GRAS)

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- In 2024, CityUHK was ranked the **31st** in Civil Engineering according to the ShanghaiRanking Global Ranking of Academic Subjects.

## Times Higher Education (THE) World University Rankings

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- In 2024, CityUHK was ranked the **52nd** in Civil Engineering.

## U.S. News and World Report Global University Rankings

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- In 2024, CityUHK was ranked the **78th** Best Universities for Civil Engineering.

## QS World University Rankings

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- As reflected in the QS World University Rankings by Subject, ACE is recognized as one of the leading departments in the Architecture and Civil Engineering field. In 2024, CityUHK was ranked the world's **top 100th** in Architecture & Built Environment, as well as in Civil & Structural Engineering.

# AWARDS & ACHIEVEMENTS

## AWARDS

### ACE scholars ranked among world's top 2 % most-cited scientists

According to the latest rankings published by Stanford University in 2024, 25 of ACE faculty members had been recognized among the World's Top 2% Most-cited Scientists. In particular, Prof. Kim Meow LIEW, Chair Professor of ACE, was ranked 8th globally in his area of expertise. The recognition reflects our scholars' academic excellence and pioneering research.

### Carl Zeiss Humboldt Research Award 2024

Prof. Kim Meow LIEW was awarded the prestigious Carl Zeiss Humboldt Research Award 2024.

This award recognized Prof. LIEW's ground-breaking research achievements in computational mechanics, sustainable materials, and pioneering green engineering solutions. His visionary research had significantly advanced the field and inspired greater diversity in the STEM fields.

The Alexander von Humboldt Foundation, based in Germany, presents one Carl Zeiss Humboldt Research Award funded by the Carl-Zeiss-Stiftung per year to an internationally renowned academic from abroad. The award honours researchers whose fundamental discoveries, new theories or insights have had a lasting effect on their discipline beyond their immediate research area, who contribute to promoting diversity aspects within their discipline through their personality and their work, and who can be expected to continue producing outstanding research in the future.



### 2024 National Award for Technological Inventions



Prof. Jianguo DAI and his team were awarded the 2024 National Technology Invention Award (Second Prize) for their work on low-calcium superstable materials for fine-grained solid wastes. They developed a groundbreaking method for activating bulk solid waste at room temperature and created technologies for ultra-stable solidification of waste and heavy metals. Their innovations had been applied across China and Belt and Road countries, marking a significant advancement in the safe use of solid waste. This achievement highlighted Hong Kong's contribution to environmental protection and sustainable development.

### HKIE Grand Award - Structural Excellence Award 2024

Ir Prof Heung Fai LAM received the prestigious Grand Award - Structural Excellence Award. His publication, "Practical model updating of the Ting Kau Bridge through the MCMC-based Bayesian algorithm utilizing measured modal parameters," in Engineering Structures, had been recognized for its outstanding contribution. The award was presented by Mr. Sai Hung LAM, GBS, JP, Secretary for Transport and Logistics, during the HKIE Structural Division Annual Dinner.



# AWARDS

## High Commendation Research Team of the Year - 2024 RICS Hong Kong Awards



Dr. Calvin KEUNG, Prof. Sai On CHEUNG, and Prof. Jung In KIM had received high commendation in the Research Team of the Year category at the 2024 RICS Hong Kong Awards. This honor recognized their ground-breaking research in developing open BIM educational methodologies aimed at enhancing digital learning for students. Their work not only set a new benchmark for BIM education in Hong Kong but also positioned it within the context of international practices. By equipping future surveyors and engineers with essential skills, they were driving digital transformation and sustainability in the construction industry.

## HKIS QS Division - 2024 QS Awards of Excellence



In November 2024, Professor Sai On CHEUNG received the 2024 QS Awards of Excellence by the Quantity Surveying Division of the Hong Kong Institute of Surveyors.

This biannual award was presented to honour quantity surveyor for his/her significant and valuable contribution to the development and promotion of the quantity surveying profession in and extending beyond Hong Kong. Prof. Cheung was recognized for his innovations in quantity surveying education and pioneering construction dispute research.

## CEE Young Alumni Award 2024

Prof. Giin Yu Amy TAN had been honored with the prestigious CEE Young Alumni Award 2024 from the School of Civil and Environmental Engineering (CEE) at Nanyang Technological University, Singapore. This esteemed award recognized Prof. Tan's exceptional contributions to environmental microbiology and her groundbreaking work at the intersection of microbiology and engineering. Her innovative research addressed critical global challenges, including carbon reduction, waste pollution, energy scarcity, human health and safety, and the renewal of built environments.



Prof. TAN's dedication to fostering collaboration across disciplines, cultures, and borders had elevated efforts to tackle complex environmental issues and created pathways for transformative solutions. Her achievements are a shining example of how science and engineering can drive sustainable progress.

## Excellent Editorial Board Member Award 2023

Prof. Jianfeng Jeff WANG received the prestigious Excellent Editorial Board Member Award. Recognized for his outstanding contributions as an Associate Editor of the Journal of Rock Mechanics and Geotechnical Engineering, 2023, Prof. Wang's dedication and expertise had set a new standard in the field.





# RESEARCH FUNDING SUPPORT



## FUNDED RESEARCH PROJECTS

### RGC Strategic Topics Grant (STG)



The STG is set up by the University Grants Committee (UGC) to support collaborative research in specific areas which can help Hong Kong overcome imminent challenges and capture emerging opportunities.

In 2024, as the Project Coordinator, Prof. Kim Meow LIEW successfully received funding support for his project, “Tomorrow is Now: Eco-friendly Autonomous Construction through Sustainable 3D Concrete Printing”. The overall objective of this proposed project was to furnish the construction sector in Hong Kong with a complete system of automated, robust, and cost-effective 3DCP technology that uses sustainable building materials and produces minimal waste. The project secured a funding amount of **HKD 33.3M** and was the only one project which received the funding in the area of “Innovative and Environmental-friendly Construction Technologies and Materials”.

### RGC Research Impact Fund (RIF)

The RIF aims to encourage local academics to consider and articulate the potential of research to deliver benefits to the wider community, to encourage more impactful and translational research projects, and to encourage a greater volume of collaborative research beyond academia.

Prof. Qiusheng LI, as the Project Coordinator, successfully received funding support from the Research Grants Council (RGC) Research Impact Fund (RIF) for his project, "Enhancing energy harvesting and typhoon resilience of offshore wind turbines in the Guangdong-Hong Kong-Macau Greater Bay Area under climate change" (R1006-23). The project secured a record-breaking funding of **HKD 9.6M**.



### Green Tech Fund (GTF)



The GTF was established in 2020 to provide better and more focused funding support to research and development projects which can help Hong Kong decarbonize and enhance environmental protection. Prof. Jianguo DAI's project, titled “A low-carbon manufacturing technology to turn municipal solid waste incineration (MSWI) ash into artificial aggregates”, successfully received a funding amount of **HKD 5.39M**. The project was one of the three projects approved, out of 125 applications received in this round of applications.



## FUNDED RESEARCH PROJECTS

### RGC General Research Fund (GRF)

The GRF aims to supplement universities' own research support to researchers who have achieved or have the potential to achieve excellence. Our faculty members have been awarded prestigious grants from the 2024/2025 General Research Fund (GRF) and Early Career Scheme (ECS) by the RGC. The funded projects were approved on 1 July 2024 and the list is as follows:

#### General Research Fund (GRF)

Principle Investigator	Project Title	Amount
Prof. Chi Keung Alvin LAI	"An Investigation of the Use of Antimicrobial Blue Light for the Effective Surface Disinfection of Multidrug-resistant Organisms in a Hospital Environment"	HKD 1.13M
Prof. Mei-yung LEUNG	"Improving Quality of Life of Older People in the Community through an Age-friendly Facilities Management (Urban Park) Model"	HKD 0.94M
Prof. Qiusheng LI	"Projection of design wind speeds in the southeastern coastal regions of China under climate change using a physics-driven tropical cyclone model"	HKD 1.13M
Prof. Kim Meow LIEW	"Investigation of Fire Performance of Recycled Carbon Fiber-Reinforced Alkali-Activated Cement Composites"	HKD 1.13M
Prof. Jeff Jianfeng WANG	"Development of an X-ray microtomography method for full-field discrete particle tracking in sand specimens"	HKD 1.13M
Prof. Yu WANG	"Physics-informed and Interpretable Machine Learning of Reclamation-induced Consolidation of Soil using Sparse Site Investigation and Field Monitoring Data"	HKD 1.13M

#### Early Career Scheme (ECS)

Principle Investigator	Project Name	Amount
Prof. Dengwu JIAO	"Active Control of Steel Fiber Orientation in Three-Dimensional Concrete Printing"	HKD 0.51M
Prof. Guoyang LU	"Cross-scale Structure-Activity Relationship (SAR) Investigation of Interactive Behavior Between Warm-mix Polyurethane-modified Asphalt and Reclaimed Asphalt Pavement (RAP) towards a Durable and Low-carbon Paving Material"	HKD 0.63M
Prof. Ping LU	"Incorporating eyewall replacement in the physics-based tropical cyclone rainfall risk assessment under a changing climate"	HKD 0.65M
Prof. Xing Janssen ZHENG	"Understanding the influence of façade rough elements on ventilation and heat removal in urban canyons"	HKD 0.43M

## Environmental Conservation Fund (ECF)

The ECF is established in 1994 with a view to providing long-term and sustained funding support for educational, research and other projects and activities in relation to environmental protection and nature conservation in Hong Kong. Three research projects led by ACE scholars secured funding support from the ECF in recognizing their exceptional work in environmental research, technology demonstration.

Principle Investigator	Project Title	Amount
Prof. Dengwu JIAO	“Eco-friendly High-performance Concrete with Multiple Performance Requirements by Utilizing Recycled Powder and Recycled Aggregate from C&D Waste”	HKD 0.50M
Prof. C.W. LIM	“Development of Sustainable Green Structural Concrete via Effective Utilization of Waste Glass and Basalt Fiber”	HKD 0.50M
Prof. Giin Yu Amy TAN	“Development of a Micro-aerated Anaerobic Digestion (MAAD) Process to Enhance Biogas Production and Sulfide Suppression from Saline Sludge”	HKD 0.70M

Additionally, ACE scholars received funding support from Mainland-based organizations and government bodies including the below:

Funding Source	Principle Investigator	Project Title	Amount
NSFC Young Scientist Fund	Prof. Dengwu JIAO	“Actively Controlling the Microstructure of Interfacial Transition Zone in Steel Fiber Reinforced Mortar Based on Magneto-Rheological Response”	HKD 0.33M
	Prof. Xianfei YIN	“Research On Data-Driven Intelligent Diagnosis of Underground Sewer Pipelines Defects and Spatio-Temporal Cascading Mechanism”	HKD 0.33M
Shenzhen Basic Research General Programme	Prof. Dengwu JIAO	“3D打印混凝土流变性能主动调控机制研究”	HKD 0.33M



**FUNDED RESEARCH PROJECTS**

# CONSULTANCY PROJECTS



## CONSULTANCY PROJECTS

In 2024, ACE scholars continued to act as consultants in a number of building and construction projects, offering professional advice that proves the department's pioneer position in the architecture and civil engineering industries. Our scholars have actively been involved in consultancy projects in the below organizations.

### **Private Sector**

AECOM Asia Company Limited

ARUP Hong Kong Limited

Atkins China Limited

Binnies Hong Kong Limited

中交江河湖海（上海）科技有限公司

Kai Tak Sports Park Limited

MTR Corporation Limited

Nano and Advanced Materials Institute Ltd. (NAMI)

The Hong Kong Construction Association, Limited

Zhen Hua Engineering Company Limited

### **Public Sector**

Civil Engineering and Development Department

Hong Kong Police Force

Labour Department

# TEACHING & LEARNING

## ACE RESEARCH LABS



## BUILT-INFORMATICS AND SMART CITIES CLUSTER (BISCC)



BISCC is the first-rate Building Information Modelling (BIM) facility established by ACE. BISCC has provided pivotal support to faculty members and students in research and education. BISCC offers a diverse range of smart facilities and emerging technologies that are exceptional in the region, making it different from other BIM laboratories or centres in Hong Kong.

## HEAVY STRUCTURES TESTING LABORATORY



The Heavy Structures Testing Laboratory is equipped for civil and structural testing, with emphasis on building construction and surveying processes. It has traditional concrete testing capabilities, as well as advanced material and large-scale structural testing facilities. The lab utilizes electronic microscopes, infrared spectrometers, and image processing for microstructural analysis of concrete. It also has three 100-ton capacity testing frames for studying structural members and designs.



## HVAC AND FIRE SERVICES LABORATORY



The HVAC Laboratory is to equip students with the fundamental concepts and experimental knowledge essential for the design and application of centralized air conditioning systems widely employed in the construction industry. Through hands-on experimentation and practical demonstrations, our students gain invaluable insight into the intricacies of these critical building systems, preparing them to become the next generation of HVAC professionals.



The experimental data collected in our Fire Safety Laboratory has fueled the creation of powerful fire models capable of predicting the spread of fire and toxic smoke in various scenarios. This game-changing breakthrough has revolutionized fire safety assessments, providing cost-effective solutions for the entire fire engineering community.



## SOIL MECHANICS AND GEOLOGY LABORATORY

The Soil Mechanics and Geology Laboratory is at the forefront of advancements in the field of geomechanics and civil engineering.

Within these state-of-the-art laboratories, we employ the latest technologies, from advanced micro-CT imaging to sophisticated computational modeling, to delve deep into the intricate behaviors of soil. By unraveling the complex interactions between soil particles, we are revolutionizing design methodologies and paving the way towards a more sustainable future.



## AERODYNAMIC LABORATORY

The Wind Tunnel Laboratory holds immense significance in our daily lives, as it provides invaluable insights into the dynamics of airflow. As an Atmospheric Boundary Layer Wind Tunnel, this state-of-the-art facility has the potential to greatly influence architectural design, urban planning, and strategies for mitigating air pollution.

Looking towards the future, our focus remains steadfastly on harnessing the capabilities of the wind tunnel to tackle pressing challenges in our urban environments. Through meticulous research and experimentation, we aim to utilize this versatile tool to explore innovative solutions that promote urban ventilation, create cooler neighborhoods, and ultimately enhance the overall livability of our city.

In the realm of hydraulic engineering and environmental management, the water channels play a crucial role in controlling water flow, reducing the risk of disasters, and promoting sustainable water use. Whether for large-scale irrigation or urban drainage systems, these channels maintain reliable water supplies, ensuring the well-being of our communities.



**ACE RESEARCH LABS**



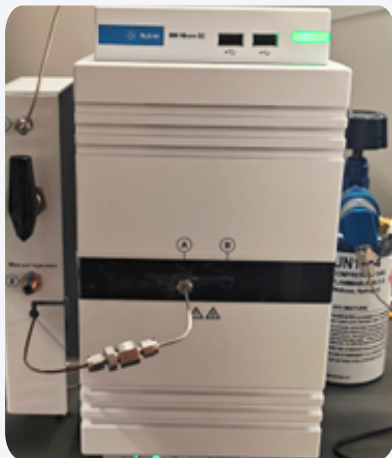
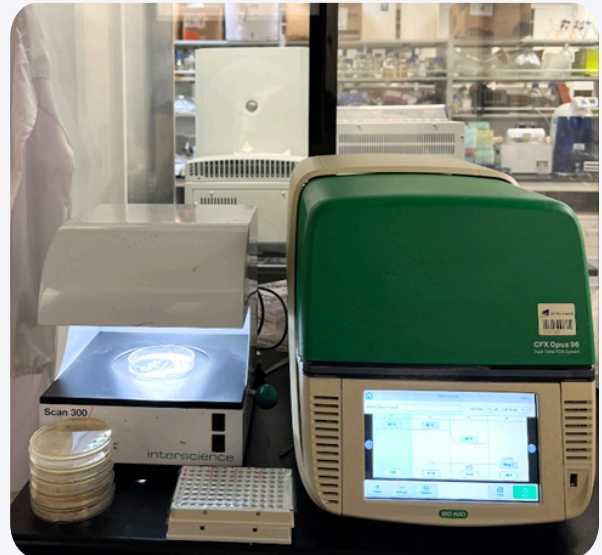


# ACE RESEARCH LABS



## INDOOR AIR QUALITY LABORATORY

The Indoor Air Quality lab focuses on developing a variety of innovative solutions to enhance public health through advanced disinfection technologies. With the increasing concerns surrounding infectious diseases and the challenges presented by emerging pathogens, our lab is dedicated to creating highly effective novel disinfection methods for both environmental surface and air disinfection purposes.



## URBAN-ENVIRONMENTAL RESEARCH LABORATORY

The Urban-Environmental Research Laboratory engages in environmental engineering research, with an emphasis on interfacing environmental microbiome research with applications in bioprocesses and built environment.

It is equipped with facilities to conduct biomolecular, microbiology, bioinformatics, and water/solids/gas analyses. Through understanding the complex behaviour of microbes and pathogens as they interact with anthropogenic activities and urban landscape, we are creating solutions to address zero-carbon transition, pollution, human health and safety, and urban-environmental digitalization.

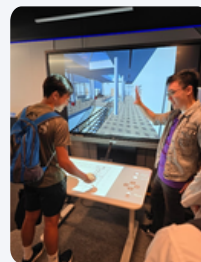
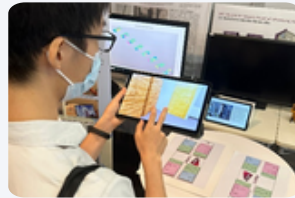


# OUTREACH ACTIVITIES

Throughout the year of 2024, the ACE Department had organized a number of outreach activities, continuing to strengthen our bonding with students, academics, professionals, and the wider community.

## Information Day

The CityUHK Information Day was held on 5 October 2024. Secondary school students and parents visited the ACE exhibition booth and had the opportunity to explore the design and construction with AI through our seminars and lab visits.



## JUPAS Consultation Day

On 18 May 2024, CityUHK held its JUPAS Consultation Day with the aim to enable JUPAS applicants obtain the latest updates on admission requirements. Students visited the ACE Department and got the chance to dive deep into the transformative future of AI-powered innovation in architecture and civil engineering.



They chatted one-on-one with our amazing programme and course leaders, soaking in all the insights, and had hands-on experiences with the latest technology.

## Visit from University of Chinese Academy of Sciences (UCAS)

On 24 April 2024, Prof. Chen WU and his group from School of Sciences for the Human Habitat in UCAS visited CityUHK and conducted the exchange.



## Visit from Jinan University

On 19 June 2024, a delegation from the Jinan University visited the ACE Department

and conducted an exchange discussion.







## OUTREACH ACTIVITIES

### Summer STEM Activities

In the summer of 2024, Dr. Calvin KEUNG delivered a series of activities and workshops for secondary school students as part of the “Bright Future Engineering Talent Hub” initiative organized by the College of Engineering.



### *BIM Lab Tours (4-5 July 2024)*

A total 20 students joined the BIM Lab Tours conducted by Dr. Keung, who introduced the BIM Lab, Built-informatics and Smart Cities Cluster, and demonstrated some research outcomes to students.

### *Featured Project Exhibition (3-5 July 2024)*

This project was titled 'Stacking Blocks into a Building'. By using an AR app and a 3D-printed model, this innovative project demonstrated the latest technology in the construction industry, Modular Integrated Construction (MiC).



### *STEM Workshop (4 July 2024)*

In the workshop, Dr. Keung introduced BIM and how this technology has been adopted in architecture and civil engineering.

### *Summer Research Internship (29 July - 16 August 2024)*

Dr. Keung supervised five secondary school students in conducting simple research by using advanced BIM software and VR technology. The students presented their findings at the end of the internship.



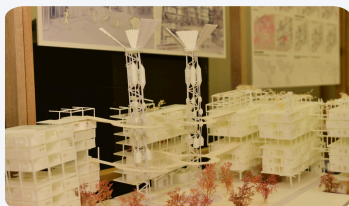
# STUDENT ACHIEVEMENTS

## Architecture Year-end Show 2024

The 2024 Architecture Year-end Show on 11 - 19 June demonstrated the Department's commitment to nurturing the next generation of architects and designers, who would undoubtedly shape the future of the built environment. The resounding success of this event is a testament to the department's dedication to excellence and its ability to produce top-tier talent.

We were honoured to have an esteemed line-up of guests and sponsors join us for the opening ceremony on 14 June:

- Prof. Tong FENG, Associate Dean of the College of Engineering
- Ar Benny CHAN, President, and Ar Sunnie LAU, BEdA Chair of the HKIA
- Ar Dennis HO, Director – East Asia Design Lead, Ove Arup & Partners
- Ar Bruce LAW and Ar Daniel CHAN, Executive Directors of DLN Architects
- Ar CHENG Kin Hang, Associate Director, Ronald Lu & Partners
- Ar Matt CHAN, Senior Architect, and Ar Michelle HO, Architect, The Oval Partnership



11 JUNE
19 JUNE

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Department of Architecture  
and Civil Engineering  
City University of Hong Kong

12:00-20:00

**CityU  
Architecture  
Year-End Show 2024**

Venue  
M0011 9/F  
Run Run Shaw  
Creative Media Centre,  
18 Tai Hang Avenue,  
Kowloon Tong

U.S.S

10 CityU Avenue  
© 2024 CityU



## STUDENT ACHIEVEMENTS

The HKIS Research Committee had announced the results of The HKIS Outstanding Dissertation Awards 2023 in February 2024 and ACE students were selected as the winners. The awards aim to promote research among future surveyors and acknowledge the students' remarkable efforts. The winners were chosen based on the merits of their research and its practicality in the surveying profession.

### **Outstanding Final Year Dissertation Awards**

LEUNG Man Ho - Top Award (Quantity Surveying)

Project title: "A Study of the Status of New Engineering Contract when compared with Traditional Contract"

LEUNG Pak Yin - Merit Award (General Practice)

Project title: "Measures taken by Hong Kong Government to Control Brownfield Site in Area under Northern Metropolis Plan"

KWAN Marco Ip Hung - Finalist (Building Surveying)

Project title: "Evaluation of Barrier-Free Access Provisions of Publicly Accessible Buildings in Hong Kong"

YICK Ka Ki - Finalist (General Practice)

Project title: "Policy Loophole of the Small House Policy in Hong Kong"

CHENG Wing Hei - Finalist (Property and Facility Management)

Project title: "A study about low-cost sensor on accuracy and response of common aerosols, compare the measuring performance of different designs and performance in cooking particles"

KONG Ho Wing - Finalist (Property and Facility Management)

Project title: "Development of the Visual Real-time Sensor-BIM (VRtS-BIM) Program for Elderly Health in Living Environment"

WONG Ben - Finalist (Quantity Surveying) Project title: "An Exploratory Investigation on the Implementation of 3D Laser Scanning Technology for BIM-enabled Interim Valuations"

### **Dissertation/Thesis Awards for Postgraduate Students**

LIN Sen - Finalist (PhD)

Project title: "A Study of Intention to Settle in Construction Dispute Negotiation"



## STUDENT ACHIEVEMENTS

### IBPD Exhibition cum Competition 2024



ACE final-year students showcased their groundbreaking designs and multidisciplinary brilliance at the IPBD Exhibition cum Competition on 24 February 2024. Our students were honored to have an esteemed judging panel, including industry titans - Ir CS WAI, Ar Anna SY KWONG, Ir Dr Alex CHAN, and Sr TT CHEUNG, who played a pivotal role in the event's incredible success. Their expertise, feedback, and inspiration fueled our students' drive to surpass their limits and achieve greatness in their fields.

### Best Oral Presentation Award

Mr. Rui TANG, our PhD student, won the Best Oral Presentation Award at the 9th International Conference on Building Materials and Construction in Tokyo! His captivating topic, "Evaluating the deicing performance of copper sulfide nanoparticle-infused transparent photothermal coatings on glazing: an integrative experimental and simulation study," was delivered with passion and expertise.



ICBMC 2024 serves as a vibrant platform to foster research and development in Building Materials and Construction. This annual conference provides an incredible opportunity for experts to exchange views and experiences in this dynamic field and its related areas.

### Institution of Building Services Engineers Hong Kong Region Annual Dinner



### CIBSE Hong Kong Region Student Award 2023-2024

Mr. Yau Yu LEE was chosen as one of the shining stars and winners of the CIBSE Hong Kong Region Student Award 2023-2024 in the field of Building Services Engineering. Mr. Lee's dedication to excellence and passion for Building Services Engineering had truly propelled him to new heights.

### Rebirth of Notre-Dame

Our students, supervised by Prof. Hao ZHENG, crafted stunning roof models showcased at the 'Rebirth of Notre-Dame' exhibition held at the Library Lobby. The exhibition was a collaboration between Alliance Francaise and CityUHK. Our French guests, including the Consulate General, were deeply impressed by our students' talent and looking forward to future exchange activities between our schools. The university management was proud of our students' remarkable contributions.



## HKIE Environmental Division Prize for the Best Final-Year Environmental Project of 2023-2024

Our student Mr. Ho In CHAN was awarded the HKIE Environmental Division Prize for the Best Final-Year Environmental Project of 2023-2024.

He and his supervisor Prof. Jane LU (also attended the award presentation ceremony) were recognized by the esteemed judging panel at HKIE for the outstanding project entitled "The Impact of Urban Greening on Thermal Comfort in Urban Area".



## CIC BIM Competition 2024

ACE students, led by Dr. Calvin KEUNG, won the CIC BIM Competition 2024.

1st Runner-up:

CHEN Lu, GU Yuzhou, LIU Di, WANG Zhilin, XU Ruohen, ZHANG Jiahui

2nd Runner-up:

CHOW Chun Kit, NG Man Lung, WONG Tat, WONG Wing Huen

Merit:

ARUL Philomena, CHAN Cheuk Yan, CHEN Tak Yin, DAO Suet Tsun, LAI Wing Yiu, LUK Lai Yiu

## HKIE Outstanding Paper Award for Young Engineers/Researchers 2024

Mr. Lawrence HO, our Ph.D. student, was awarded the prestigious HKIE Outstanding Paper Award for Young Engineers/Researchers 2024 as a co-author.

The award recognized his research on stormwater management in response to climate change challenges in Hong Kong. His team's innovative paper and collaboration with Drainage Services Department (DSD) introduces a AI model that enhances trash and live object detection for automated drainage systems, addressing the limitations of existing rigid rule-based and specialized AI approaches.



By leveraging Vision Language Models (VLMs) in a resource-efficient manner, Ho's solution demonstrated significant improvements in safety, efficiency, and scalability.

## RICS Hong Kong Student Awards 2023/2024

Three students received the RICS Hong Kong Student Awards on 4 December 2024. The award recognized their excellent academic performance in their respective disciplines.

ARUL Philomena, Bachelor of Science in Surveying  
LIANG Chen, Master of Urban Design and Regional Planning  
LIU Yujun, Master of Construction Management



**STUDENT ACHIEVEMENTS**

**guni**  
HAMBURG

## STUDENT ACHIEVEMENTS

### The 7th Guangdong-Hong Kong-Macao Greater Bay Area · ASEAN International Colleges and Universities Construction Competition

ACE's student team, led by Prof. Xing Janssen ZHENG, stood out among many competitors with their work, Floating Feather Pavilion, winning the Second Prize and the Wind Art Award at the 7th Guangdong-Hong Kong-Macao Greater Bay Area - ASEAN International Colleges and Universities Construction Competition.

Student Team:

WANG, Bingqi, MArch student  
SHEN, Huihao, MArch student  
MAO, Zefei, MArch student  
LIU, Ziyi, MArch student  
ZHU, Haoyi, MArch student  
LIANG, Weiheng, Ph.D. student  
LI, Lemei, Ph.D. student



The Guangdong-Hong Kong-Macao Greater Bay Area - ASEAN International Colleges and Universities Construction Competition is the largest physical construction competition in the Greater Bay Area. Marking the 10th anniversary of the Belt and Road Initiative in 2023, the competition attracted over 70 universities, 200 teams, and more than 2,000 participants from ASEAN countries such as Malaysia, Thailand, Indonesia, Laos, and Vietnam, as well as the Greater Bay Area.

This year's theme, Shadow Following the Wind, challenged participants to imagine a wind-activated art installation built in the water of Haixinsha, Guangzhou, using raw bamboo as the primary material. The design requirements included: 1) Interactivity: Engage with the wind, showcasing the art of the wind through wind-driven design; 2) Feasibility: Minimize reliance on machinery, simplify construction, and ensure dimensions do not exceed 4x6 meters and 6 meters in height; 3) Sustainability: Ensure durability and minimal maintenance; 4) Material: Use raw bamboo as the main structure, supplemented by other easily sourced materials.

The design of the Floating Feather Pavilion is inspired by the lightness and fluidity of bird feathers. The delicacy and elegance of the feathers perfectly symbolize the harmony between humans and nature. Utilizing the natural beauty and flexibility of bamboo, the design creates a bamboo structure that appears to float like a feather on the lake.



## SCHOLARSHIPS

### LPM Contractors Scholarship 2023

Mr. Omarfarukh SHAKHIN, a talented Year 4 student of BEng in Civil Engineering (Structural Engineering), was awarded the LPM Contractors Scholarship 2023 by the Geotechnical Division of the Hong Kong Institution of Engineers (HKIE). This well-deserved recognition celebrated his exceptional academic performance, unwavering motivation, and passion in the geotechnical engineering.

### China State Construction Engineering (Hong Kong) Limited - 2024 China Construction Scholarship

Our students received the "2024 China Construction Scholarship" from China State Construction Engineering (Hong Kong) Limited. These final-year students demonstrated exceptional talent and dedication.

Architectural Engineering:

- CHENG Kwong Fung
- IQBAL Ishtila Sharara
- TENG Zhaohan

Civil Engineering:

- LIN Kuok Kio
- NIU Yanan
- SHAKHIN Omarfarukh
- TSE Chak Ming
- UNG Tsz Yin

Through initiatives like the "Hong Kong '200' Talent Development Program," CSC is committed to nurturing the next generation of innovators and leaders. These scholarship recipients are poised to make a lasting impact on Hong Kong's built environment, pushing the boundaries of design, engineering, and construction.



## HKIS QSD Scholarships for Degree Students

Our Surveying student Ms. Kaisi ZENG received the Award of MJ Consultants Limited Scholarship 2023-2024, awarded by the Hong Kong Institute of Surveyors (HKIS) Quantity Surveying Division (QSD) on 28 June 2024. This scholarship highlights students' academic excellence, dedication to the field, and the potential to contribute to the industry.



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## ASMPT Scholarship

Mr. Chin Man NG from Bachelor of Science in Architectural Studies was awarded the ASMPT Scholarship on 2 April 2024. The scholarship recognized his project based on the Kwu Tung North Development in Hong Kong, leveraging AI to design a culturally resonant kindergarten, blending tradition with innovation. The architecture reflects local heritage through traditional elements and sustainable features like green roofs, rainwater harvesting, and energy-efficient technologies, fostering environmental responsibility.

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## Hip Hing Construction Scholarship

Mr. Chun Kwan LAM from Bachelor of Engineering in Civil Engineering, was awarded the Hip Hing Construction Scholarship 2023/2024 in recognizing both his outstanding academic achievement and involvement in extracurricular activities. The scholarship aims to support local students enrolled in civil engineering programs at local universities. It also provides internship opportunities for local students to gain firsthand experience in the construction industry and the company's development, preparing them for future career paths in the industry.

The scholarship offered the opportunity for Mr. Lam to participate in an 8-week summer internship program organized by the company, allowing him to collaborate with people from different disciplines and to witness the construction process of large buildings firsthand.



**SCHOLARSHIPS**



# PARTNERSHIPS

## ALUMNI NEWS

### ACE Alumni received HKIS - Young QS Awards



On 1 November 2024, the Quantity Surveying (QS) Division of the Hong Kong Institute of Surveyors (HKIS) honored three alumni from ACE's Surveying programme with the Young QS Awards. The recipients were Sr. Alvis Ka Wai WONG, a graduate of 2010; Sr. Jim Kwun Wai CHARK, a graduate of 2011; and Sr. Eric Wing Ho LEE, a graduate of 2013. The award recognized young QS professionals who exhibit vision, innovation, leadership, motivation, proactive professional development, and contributions to the HKIS and QS profession.

CityUHK ACE had nurtured exceptional professionals in the building and construction industries in the past years. Let's see what they say about ACE:

“ I graduated with a major in Building Engineering (Building Services Engineering) from CityUHK, where I found the program both rigorous and rewarding. The ACE department equipped me with both theoretical and practical skills, along with essential industry knowledge, which were crucial in launching my career. My favorite classes, particularly in multi-disciplinary design projects (similar to the current IBPD), inspired me to collaborate with different disciplines, allowing me to gain valuable experience in the design process. This comprehensive education not only enhanced my technical abilities but also prepared me to tackle real-world challenges in the field. I highly recommend that current and prospective students embrace all learning opportunities.

**Ir. Patrick Huang**

Senior Manager, Building Services,  
Swire Properties

CityUHK ACE Graduate (Major in Building Services Engineering)

“

I have chosen CityUHK Architectural Studies in view of the international platform and high-technology based course structure. The programme has set a very clear goal for the graduates with both design and technical ability to suit the needs in the professions in Architecture. The course of both Associate Degree and Bachelor Design in Architectural studies gave a solid foundation to graduates in a wide spectrum of skills in building design, sustainability design, innovation technologies, statutory regulation in Hong Kong and all consolidation skills with other building professions. The graduates are educated and equipped for the young power in architectural field. CityUHK ACE has a platform to provide a wide spectrum of knowledge in building industry, architectural design, BIM adoption, building technology etc., which are comprehensive and informative.

”

**Ar. Anika Poon**

Project Director  
LWK & Partners (HK) Limited  
CityUHK ACE Graduate (Major in Architectural Studies)



“

My name is Billy Wong, and I am proud to be among the first graduates of the structural engineering program at CityUHK's ACE Department. Starting as a graduate engineer and eventually becoming a Registered Structural Engineer (RSE) was a journey filled with challenges and triumphs. I could not have done it without many guardian angels along the way. Most importantly, CityUHK's nurturing environment, equipped with a "can-do" mindset, helped me overcome doubts and persist in finding solutions. Today, I stand confident in my skills, thanks to the unwavering support and guidance I received at CityUHK.

As Winston Churchill once said, "Success is not final, failure is not fatal: It is the courage to continue that counts." This resonates with the "can-do" mindset that has been vital to my journey.

”

**Ir. Billy Wong**

Structural Engineer, Squad Unit / C  
Buildings Department  
CityUHK ACE Graduate  
(Major in Structural Engineering)

**ALUMNI NEWS**





## GLOBAL ENGAGEMENT

### Shenzhen Longhua District Central Hospital

In April 2024, ACE signed a Memorandum of Understanding (MoU) with Shenzhen Longhua District Central Hospital to foster the development of student and scholar exchange programmes, and to explore the opportunities for introducing collaborative academic and training schemes.

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### Tsinghua University

On 31 July 2024, ACE signed a Memorandum of Understanding (MoU) with the School of Architecture, Tsinghua University, for the purpose of discussions and explorations around research on sustainable, resilient, and healthy architecture and cities between the two institutions. The two institutions would organize online bilateral research forum for their researchers and explore the possibility of staff and student mobility activities.

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### Nanyang Technological University

In May 2024, ACE and Nanyang Technological University, Singapore, joined forces to revolutionize the future of civil engineering education and research. Representing their respective departments, this collaboration would facilitate the exchange of knowledge, foster innovative solutions, and shape tomorrow's civil engineering landscape.



# SCHOLARLY EVENTS



## SYMPOSIUMS

### ELEVATING ACADEMIC EXCELLENCE ACE's Transformative Scholarly Events in 2023-24

ACE is thrilled to unveil an exceptional lineup of scholarly events in 2023-24 that captivated and inspired audiences across disciplines. This series of conferences, symposium, and lectures brought together renowned experts, pioneering researchers, and influential thought leaders to tackle the most pressing issues of our time.

#### ACE and HKGBC co-organized industrial symposium titled “Revolutionizing urban development with AI and digitalization” on 17 May 2024

Gracing the event were the Guests of Honor Mr Yi Fei, Deputy Minister and Senior Inspector, Department of Educational, Scientific and Technological Affairs, Liaison Office of the Central People’s Government in the HKSAR and Ir Ricky Lau Chun-kit, JP, Permanent Secretary for Development (Works) of the HKSAR government. Also in attendance was Professor Li Wenjung, Vice-President (Talent and International Strategy) of CityUHK; Ir Professor Thomas Ng Shiu-tong, Head of ACE at CityUHK; Ir Professor Eric Ma Siu-cheung, Chairman of the ACE Departmental Advisory Committee and Ir Pan Shu-jie, Chairman & Director of the Sustainable Development Committee of the HKGBC.

The symposium received keen interest from the construction sector and attracted close to 200 participants. Centred on how cutting-edge technologies can be harnessed to address climate change and ensure the resilience of urban development, the event saw government, academic and industry experts shared their insights on the use of AI and digitalization to drive a paradigm shift in the construction and urban development industries. A wide range of topics were presented, including AI and digitalization in construction, carbon neutrality, sustainable mobility infrastructure, urban system design, digital twin-enabled solutions, and typhoon risk assessment.



# SYMPOSIUMS

## Shanghai-Hong Kong Urban Cooperation Expert Symposium



**SHANGHAI-HONG KONG URBAN COOPERATION EXPERT SYMPOSIUM**

滬港城市合作專家座談會

This collaborative event is organized by the Department of Architecture and Civil Engineering at City University of Hong Kong, the Hong Kong Academy of Chinese Studies, and the Shanghai Academy of Social Sciences, aims to enhance urban collaboration and sustainable development between Shanghai and Hong Kong. This event will focus on leveraging advanced technologies and innovative strategies to address urban challenges such as climate change, low-carbon transitions, and social aging. Participants will discuss and explore ways to integrate resources for sustainable urban development and promote strategic cooperation in technological innovation and ecological advancements. This platform will facilitate in-depth learning and exchange, fostering closer ties within a broader international framework.

**Date:** July 26, 2024 (Friday)  
**Time:** 2:00 PM to 5:40 PM  
**Location:** Young Kin Man Academic Building, P4-704

2024年7月26日 (星期五)  
 2:00 pm - 5:40 pm  
 香港城市大學樓宇 P4-704 朱翼勤芳課室

**Organizers**

CityU Department of Architecture and Civil Engineering  
 SV 香港城市大學 上海研究院  
 CSOEEK 香港中國學術研究會  
 Chinese University of Hong Kong



On 26 July 2024, experts from Shanghai and Hong Kong held a symposium on urban cooperation at the City University of Hong Kong. The event was jointly organized by the Department of Architecture and Civil Engineering at CityUHK, the Hong Kong China Academic Research Institute, and the Shanghai Academy of Social Sciences.

The symposium aimed to strengthen collaboration between the two cities in areas like urban construction, environmental protection, and social welfare, in order to address challenges like climate change and population aging. Experts from fields such as urban planning, architecture, law, and environmental studies engaged in in-depth discussions and provided insights to guide the strategic partnership.



## The 5th International Conference on 3D Construction Printing (5-IC3DcP)

The 5th International Conference on 3D Construction Printing (5-IC3DcP), hosted by the department, was successfully held at the Charles K. Kao Auditorium, Hong Kong Science Park from 25 to 27 November 2024.



The main objective of the 5-IC3DcP was to provide a platform for international and local academic and industry partners to exchange their innovative ideas and knowledges in all aspects under 3D Construction Printing, which included established technologies, modelling, simulation, materials, recycled materials, geopolymers, fiber reinforcement and composite materials, testing and standards, applications, Building Information Modelling (BIM), design, optimization, structural and intelligent monitoring, robotics and automation.



## DISTINGUISHED GUEST LECTURES

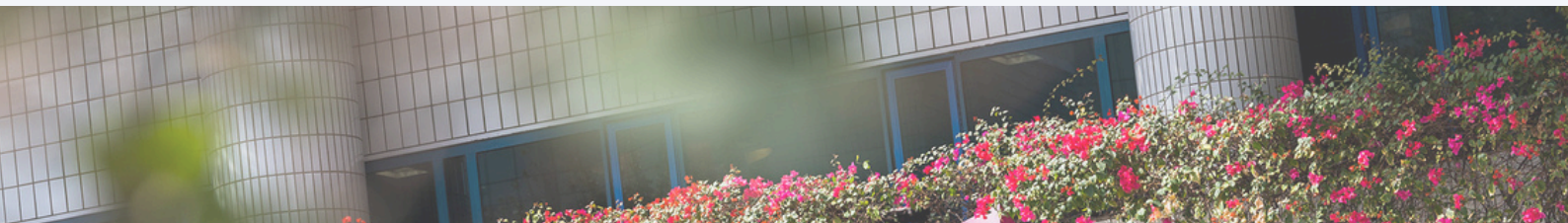
Throughout the year of 2024, the ACE Department had the honor to host a number of distinguished guest lectures delivered by renowned scholars and professionals for our students and staff.

Below is a list of guest lectures held in the year.



Date	Topic	Guest Lecturer
12 April 2024	Graphitic nanoamendment of cementitious composites: truly low concentrations and novel particle morphologies	Professor Fabio MATTA (University of South Carolina)
22 October 2024	Cognition-Based Safety and Artificial Intelligence for Construction Safety	Professor Dongping FANG (Tsinghua University)
30 October 2024	Andrew Lee King Fun & Associates Architects Ltd (ALKF+) Guest Lecture Intelligence-empowered high-performance human habitats	Professor Shuai LU (Tsinghua University)
26 November 2024	Novel Techniques for Nondestructive Evaluation of Buildings and Civil Engineering structures	Professor Michael HUNG, (Oakland University)
6 December 2024	Aino and Alvar Aalto – Groundbreakers of Modern Architecture and Design	Tommi LINDH (CEO of Alvar Aalto Foundation)
11 December 2024	Recycled aggregate concrete: new opportunities	Dr. Carlos THOMAS (University of Cantabria)
16 December 2024	AI-based Digital Twinning the Built Environment	Professor Ioannis BRILAKIS (University of Cambridge)
16 December 2024	Development of Hybrid DEM-Based Numerical Models for Solid-Fluid Two-Phase Flows	Professor Charley WU (University of Surrey)

# ACADEMIC STAFF PROFILE



## ADVANCED CIVIL ENGINEERING MATERIALS & MECHANICS

### Prof. Jianguo DAI



Head of Department of Architecture and Civil Engineering  
Chair Professor of Structural Engineering

**Area of Expertise:**

Fiber-reinforced polymer (FRP) composites for construction; High-performance fiber-reinforced cementitious composites; Multiple functional coating; Geopolymer cement and concrete; Durability and life cycle maintenance of marine concrete structures



### Prof. Kim Meow LIEW



Yeung Kin Man Chair Professor of Sustainable Engineering;  
Chair Professor of Civil Engineering;  
Director of the Centre for Nature-Inspired Engineering

**Area of Expertise:**

Sustainable engineering; 3D construction printing; Multifunctional materials; Concrete research; Multiscale modeling



### Prof. Xiaoqiao HE



Professor

**Area of Expertise:**

Structural engineering; Smart structures; Computational mechanics, Multistable structures; Nanomechanics of carbon nanotubes



### Prof. Denvid LAU



Professor;  
Associate Director, CityUHK Academy of Innovation (CAI)

**Area of Expertise:**

Behavior and design of concrete structures; Durability of materials; Fiber-reinforced polymer (FRP) composites in structural rehabilitation; Interfacial fracture mechanics; Molecular dynamics simulations; Tree defect detection and repair



## ADVANCED CIVIL ENGINEERING MATERIALS & MECHANICS

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### Prof. Chee Wah LIM



Professor

**Area of Expertise:**

Vibration; Theory of plates and shells; Nonlinear dynamics; Structural dynamics; Smart materials; Nonlocal theory in nanomechanics; Symplectic elasticity



### Prof. Heung Fai LAM



Associate Professor

**Area of Expertise:**

Structural dynamics; Vibration measurement; Modal identification; Structural model updating; Structural damage detection; Crack detection; Structural health monitoring; Vibration control; Artificial neural networks design; Web-based information management system



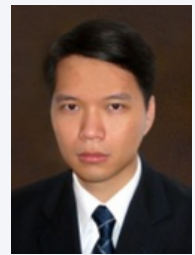
### Prof. Yiu Yin Raymond LEE



Associate Professor

**Area of Expertise:**

Environmental noise; Interior acoustic; Random vibration; Nonlinear structural dynamics; Finite element method; Measurement techniques in noise and structural vibration; Smart and composite structures; Active noise and structural vibration control



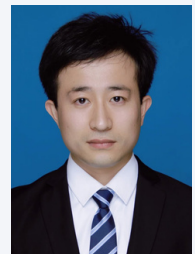
### Prof. Dengwu JIAO



Assistant Professor

**Area of Expertise:**

Concrete rheology control; Low-carbon and sustainable concrete design; 3D concrete printing



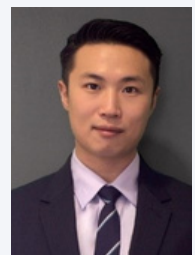
### Prof. Guoyang LU



Assistant Professor

**Area of Expertise:**

Intelligent transportation infrastructures; Sustainable pavement structures and materials; Intelligent and nondestructive evaluation of transportation infrastructures; Multiscale and multiphysics simulations of pavement materials



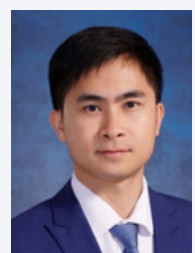
### Prof. Xiangping XIAN



Assistant Professor

**Area of Expertise:**

Carbon, capture, utilization, and storage (CCUS); Waste management and recycling; Engineering application of durable materials; Carbonation curing of cement-based materials; Automation construction





## ARCHITECTURE & BUILDING ENVIRONMENT

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### Prof. John Z LIN



Chair Professor

**Area of Expertise:**

Advanced room air distribution (ventilation) and associated thermal comfort; Indoor air quality (IAQ) and energy efficiency; Outdoor thermal comfort and tolerance



### Prof. Jin Yeu TSOU



Raymond Hu Professor of Architecture;  
Professor

**Area of Expertise:**

Green building design and technology; Low-carbon and carbon neutrality development and strategies; Sustainable building design and urban planning; Building performance design and simulation; Urban data analytics and energy model; AI and intelligent systems; Urban housing



### Prof. Gongsheng HUANG



Associate Head (ACE) & Professor

**Area of Expertise:**

Intelligent building and building integration technology; Building energy efficiency through advanced control; Model based predictive control for HVAC application; Data fusion, uncertainty/reliability analysis, and fault detection and diagnosis; Wireless sensor network



### Prof. Weizhen Jane LU



Professor

**Area of Expertise:**

Numerical computation; Building and Environmental engineering; Built environment assessment; HVAC system; Soft Computing  
Wind effect on high-rise buildings



### Prof. Chi Keung Alvin LAI



Associate Head (ACE) & Professor;  
Professor, Affiliate, School of Energy and Environment;  
Associate Director, Talent and Education Development Office

**Area of Expertise:**

Aerosol dynamics; Environmental health; Computational fluid dynamics for air quality modelling; Engineering control for indoor air pollutants; Bioaerosols control



# ARCHITECTURE & BUILDING ENVIRONMENT

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## Prof. Lok Shun Apple CHAN



Associate Professor

**Area of Expertise:**

Meteorological data development for building energy simulation; Energy-efficient building design through legislative control



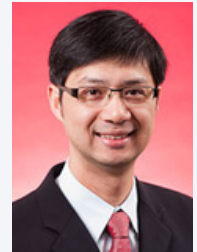
## Prof. Kwong Fai Square FONG



Associate Professor

**Area of Expertise:**

Sustainable trigeneration and polygeneration; Renewable cooling and heating; Zero carbon building design; Big data analysis for energy management; Evolutionary computation for system optimization



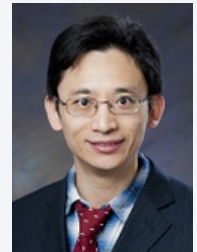
## Prof. Yi LU



Associate Professor

**Area of Expertise:**

Spatial analysis; Greenspace; Environment-behavior study; Built environment and health; Urban big data



## Prof. Yongjun SUN



Associate Professor

**Area of Expertise:**

Urban decarbonization and high-density city renewable energy use; Coordinated demand response control for smart grid; Data center immersion cooling; Data mining for building energy management; Complex HVAC system design and control



## Prof. Gianna TALAMINI



Associate Professor

**Area of Expertise:**

Environment-Behavior Studies; Urban rivers, Spatial Justice; Pedestrianisation; Symbiotic urbanism; Typomorphology



## Prof. Yu HU



Assistant Professor

**Area of Expertise:**

Urban agglomeration theories in economic geography; Workspace-related research, planning, and design; Technology- and behavior-informed design: housing, landscape, public building, infrastructure



# ARCHITECTURE & BUILDING ENVIRONMENT

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## Prof. Paulina Maria NEISCH



Assistant Professor

**Area of Expertise:**

South-eastern Asian architecture and urban design; User's experience & design; culture & design; Human-friendly design; Design education development and methodology; Socially responsible design; Space production; Technology in design



## Prof. Giin Yu Amy TAN



Assistant Professor

**Area of Expertise:**

Bioinformatics, quantum information theory, GenAI applications to environmental engineering and microbiome; Built environment microbiome and ecogenomics; Sustainable biorefinery and circular bioeconomy ; Bioenergetics, (quantum) thermodynamics of biological waste treatment



## Prof. Hao ZHENG



Assistant Professor

**Area of Expertise:**

Machine learning; AI-Generated content (AIGC); Data-driven design; Big data analysis



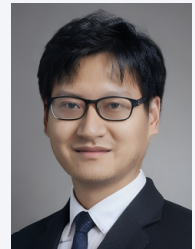
## Prof. Xing Janssen ZHENG



Assistant Professor

**Area of Expertise:**

Performance-driven architecture and urban design; Urban wind and thermal environment; Low carbon and sustainable building technology



## Prof. Se Young Iris HWANG



Professor of Practice

**Area of Expertise:**

Architecture; Project Management



## Ms. Wai Man Virginia FUNG



Instructor I

**Area of Expertise:**

Perception theory in Architectural design; Urban morphology; Phenomenology



## DISASTER & CLIMATE -RESILIENT URBAN

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### Prof. Qiusheng Johnathan LI



Chair Professor of Civil Engineering;

**Area of Expertise:**

Wind engineering; Structural dynamics; Structural health monitoring; Structural control; Structural stability; Earthquake engineering; Computational fluid and solid mechanics; Reliability and risk assessment



### Prof. Kwok Kit Richard YUEN



Chair Professor

**Area of Expertise:**

Fire safety and engineering; Pyrolysis and combustion; Applications of computational fluid dynamics (CFD); Nanocomposite flame-retardant materials; Neural network modelling applications in fire engineering; Building energy conservation; Lighting and ventilation; HVAC systems and indoor air quality



### Prof. Wai Ming Eric LEE



Professor

**Area of Expertise:**

Fire engineering approach; Building evacuation modelling; Human behaviour in evacuation; Pedestrian movement; Fire risk assessment



### Prof. Jianfeng Jeff WANG



Professor

**Area of Expertise:**

Micromechanics of granular media; Discrete element modelling (DEM); Slope stability; Nanomechanics and nanomaterials; Multiscale modelling and simulation of geomaterials; Computational geomechanics



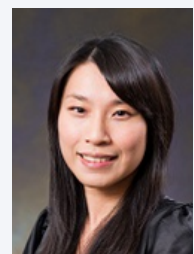
### Prof. Cheuk Lun Nadia CHOW



Associate Professor

**Area of Expertise:**

Computational fluid dynamics in simulating fires; Natural ventilation; Facade fires; Smoke toxicity; Fire safety in green and sustainable buildings



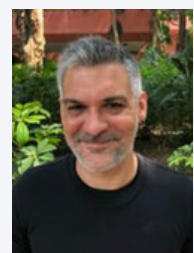
### Prof. Kostas SENETAKIS



Associate Professor

**Area of Expertise:**

Experimental micromechanics; Soil dynamics; Earthquake engineering; Engineering geology; Geotechnical engineering



## DISASTER & CLIMATE -RESILIENT URBAN

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### Prof. Timothy Bo Yuan CHEN



Assistant Professor

**Area of Expertise:**

Pyrolysis and combustion of bio-inspired flame-retarded polymer composites; Computational materials science



### Prof. Ping LU



Assistant Professor

**Area of Expertise:**

Rainfall mechanisms; Inland flooding; Eyewall replacement; Internal dynamical constraints of storm intensity of landfalling tropical cyclones; Rapid intensification



## INTELLIGENT CONSTRUCTION & MANAGEMENT

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### Prof. Shiu Tong Thomas NG



Chair Professor of Smart and Sustainable Construction; Associate Vice-President (Campus Development, Facilities and Sustainability); Chief of Campus Development, Facilities and Sustainability

**Area of Expertise:**

Big data for construction project management; Sustainable built environment; Smart city; Infrastructure asset management; Community resilience; Construction informatics



### Prof. Mei-yung LEUNG



Associate Professor

**Area of Expertise:**

Facilities management; Stress management; Value management; Environmental gerontology



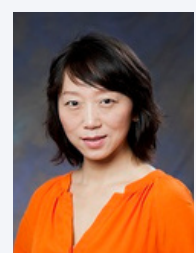
### Prof. Xin LI



Associate Professor

**Area of Expertise:**

Land and housing policy; Brownfields; Land use regulation; Policy evaluation



# INTELLIGENT CONSTRUCTION & MANAGEMENT

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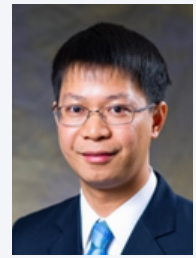
## Prof. Xiaowei LUO



Associate Professor

### Area of Expertise:

Construction safety management; Mixed reality and virtual Reality; Construction robotics and human robot collaboration; Construction digitalization; Building information modelling and digital twin; Green and intelligent building; Intelligent and automated jobsites



## Prof. Long CHEN



Assistant Professor

### Area of Expertise:

Building information modelling (BIM); Digital twins (DTs) and digital twinning approaches; Computer vision and semantic simultaneous localization and mapping (SLAM); Knowledge modelling and management; Graph modelling; Large language model (LLM), and Multi-agent system (MAS); and those approaches/techniques to be applied to building fire safety inspections, sustainability retrofits, and urban resilience under extreme weathers.



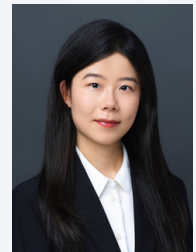
## Prof. Mingzhu WANG



Assistant Professor

### Area of Expertise:

Construction robots and human-robot interaction/collaboration; Computer vision and machine learning; Intelligent infrastructure inspection and management; Construction safety monitoring and management; Building information modelling and digital twin; Adaptive and explainable AI



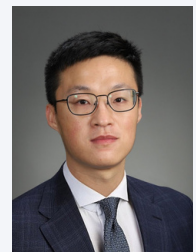
## Prof. Xianfei YIN



Assistant Professor

### Area of Expertise:

Improvement of civil infrastructure maintenance management; Smart infrastructure construction; Advanced data analytics; BIM; Simulation modelling; Decision support system; Decision support system; Smart city development, and information integration / visualization for buildings and construction processes, drawing upon knowledge in the domains of artificial intelligence



## INTELLIGENT CONSTRUCTION & MANAGEMENT

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### Dr. Kam Lan Daisy YEUNG



Senior Teaching Fellow

**Area of Expertise:**

Construction cost monitoring and control; Project management; Construction contract; Building economic



### Dr. Chung Wai Calvin KEUNG



Teaching Fellow

**Area of Expertise:**

BIM; OpenBIM; 5D BIM; Modular integrated construction; VR applications; Smart city design and planning



## EMERITUS / VISITING PROFESSOR

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### Prof. Yee Tak Andrew LEUNG



Emeritus Professor

**Area of Expertise:**

Wind and earthquake engineering; fatigue; fracture and corrosion; noise and vibration reduction; environmental acoustics; structure vibration; monitoring and control; dynamic stress; jet fan; tunneling



### Prof. Sai On CHEUNG



Visiting Professor

**Area of Expertise:**

Construction dispute management and resolution; trust and organizational culture in supply chain management



## ADJUNCT PROFESSOR

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### Prof. John Chiu Fong CHENG



Adjunct Professor

**Area of Expertise:**

Architectural Design; Urban Design; Smart Cities



### Prof. Tin-cheung CHEUNG, SBS



Adjunct Professor

**Area of Expertise:**

Property management; Facility management; Building surveying



### Prof. Matthew Richard COOP



Adjunct Professor

**Area of Expertise:**

Behavior of soils and weak rocks; Micro-mechanics of sand particles and their relationship to macroscopic behavior



### Prof. Wing Huen FOK



Adjunct Professor

**Area of Expertise:**

Project cost and schedule overruns; Highway viaducts; Project and design management; Engineering graduate training; Alternative dispute resolution



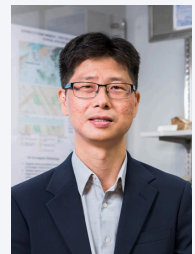
### Prof. Yu WANG



Adjunct Professor

**Area of Expertise:**

Digital twins; Machine learning; Sampling and analytics of geo-data; Digital twins of geo-structures; Geotechnical risk and Reliability; Geotechnical earthquake engineering; Lifeline systems; Soil structure interaction; Soil and rock property characterization using laboratory and field tests





# CONNECT WITH US

This brochure contains information known as of December 2024. Please visit our website and social media platforms for more updates of the Department. We also welcome your comments and articles.

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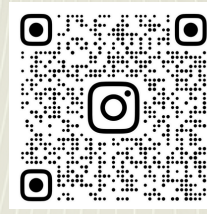
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