

HK**E** THE HONG KONG
INSTITUTION OF ENGINEERS
香港工程師學會

STRUCTURAL DIVISION

2024-2025

ANNUAL REPORT



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COMMITTEE MEMBERS 2024-2025

Ir CHIN Sai-ping

Chairman
Asia Infrastructure Solutions Limited

Ir Prof Ray SU Kai-leung

Deputy Chairman
Department of Civil Engineering,
The University of Hong Kong

Ir Rayson WONG Wai-hung

Hon Treasurer
Housing Department

Ir Prof Paul LAM Heung-fai

Hon Secretary
Department of Architecture and Civil Engineering,
City University of Hong Kong

Ir Kevin TANG

Immediate Past Chairman
Greg Wong & Associates Limited

Ir Dr Simon WONG Ho-fai

Committee Member
Department of
Construction Technology and Engineering,
The Technological and
Higher Education Institute of Hong Kong

Ir Patrick HOU Man-wai

Committee Member
Gammon Construction Limited

Ir Alexis LEE Chi-chuen

Committee Member
Arup

Ir Jacky WONG Woon-ki

Committee Member
AECOM

Ir Jimmy CHAN Tai-chi

Committee Member
Highways Department

Ir Prof DAI Jian-guo

Committee Member
Department of Architecture and Civil Engineering,
City University of Hong Kong

Ir Stanley CHAN Bong-kwok

Committee Member
C M Wong & Associates Limited

Ir KAN Chun-yuk

Committee Member
Architectural Services Department

Ir Dennis YUEN Yat-chung

Committee Member
SYW & Associates Limited

Ir Kylie LAM Nga-yan

Committee Member
Arup

Ir Victor CHAN Wai-tong

Committee Member
Buildings Department

Ir Jesse CHAN Hiu-tung

Committee Member
Asia Infrastructure Solutions Limited

Ir Daniel CHOI Yiu-chung

Committee Member
Buildings Department

Ir Emma XIAO Xing-yue

Committee Member
Asia Infrastructure Solutions

Ir Ben TSE Wai-keung

*Ex-officio Member (Chairman of
the Structural Discipline Advisory Panel &
HKIE ST Spokesperson)*
Ben Tse & Associates Limited

Ir Albert TAM A-ray

*Ex-officio Member (Council Member –
Division)*
Buildings Department

Mr Simon PANG Hin-lam

Ex-officio Member (AMC Representative)
ALS-Meinhardt Joint Venture

Ir Cela YIP Wing-jwan

Ex-officio Member (SSC Representative)
David S K Au & Associates Limited

Ms Carman LAM Ka-man

Ex-officio Member (YMC Representative)
Gammon Construction Limited

Ir Jackie YAU Chun-ye

Co-opted Member
WSP

Ir Rosaline LAU Bo-ki

Co-opted Member
AECOM

Ir LAU Chi-kin

Observer (HKIE ST Spokesperson)
Sun Hung Kai Properties Limited

Ir Ken NG Kin-shing

Observer
Arup

Ir Edward CHAN Sai-cheong

*Observer (HKIE ST Spokesperson &
SDAP Chairman of Examination Board)*

Ir Prof CHAN Siu-lai

Observer
Nida Technology Company Limited

Ir Prof Ben YOUNG

Observer
The Hong Kong Polytechnic University

Ir Jacky CHIONG Kam-yueng

Observer
Arup

Ir LAM King-kong

Observer
Hospital Authority

Ir Kelly HON Ka-kwan

Observer
Urban Renewal Authority

Ir Jacky ZHONG Ying

Observer
China State Construction
Engineering (Hong Kong) Limited

Ir Lewis SZETO Yiu-kwan

Observer
Housing Authority

Ir Andes WONG Yiu-wang

Observer
Fugro (Hong Kong) Limited

CHAIRMAN'S REPORT

SESSION 2024/25



With immense pride and honour, I serve as the 46th Chairman of the HKIE Structural Division for the Session 2024/25. Since taking on this role, I have been deeply inspired by the dedication and progress of the division. Thanks to our Committee Members' unwavering commitment and collaborative efforts, the Division has enjoyed yet another highly productive and successful year. Below, I would like to provide a brief overview of our achievements.

MEMBERSHIP

As of the end of March 2025, the Structural Division has a total membership of 6,009 of which 5 are Hon Fellow Members, 343 are Fellow Members, 4,503 are Corporate Members, 873 are Graduate Members, 76 are Associate Members, 176 are Student Members and 33 are Affiliates.

COMMITTEE MAJOR ACTIVITIES

With the concerted effort of Committee Members, the Structural Division has organized at least 9 major activities in this session including:

- Technical meetings, seminars, and site visits covering a wide range of topics
- Annual Dinner
- Structural Excellence Awards
- Annual Seminar
- Annual Visit

MAJOR EVENTS

Annual Dinner 2024-25 was successfully held on 1st November 2024 at JW Marriott Hotel Hong Kong, with 492 members and guests. The Annual Dinner 2024-25 is privileged to have Ir Professor Jin-Guang TENG, President of The Hong Kong Polytechnic University as the Guest of Honour.

Structural Excellence Award 2025 was conducted in February 2025. Entries are categorized under Project Award and Research & Development Award. This year we were pleased to have 22 project submissions and 6 research paper submissions selected for the assessment. The Judging Panel was chaired by the Chairman of the HKIE Structural Division and composed of the Senior Vice President of the HKIE, directorate representatives from the Architectural Services Department, Buildings Department, Housing Department, and Highways Department of the HKSAR Government. This year we have also invited 4 renowned local and international professors as our reviewers on the research paper submissions. Each submission was assessed based on the submitted documents and presentation by the participants. The award winners will be announced at the Division's Annual General Meeting on 25th April 2025.

CHAIRMAN'S REPORT

SESSION 2024/25

Annual Visit 2025 to Kuala Lumpur, Malaysia took place from 27 to 30 March 2025. During the visit, we had the opportunity to explore several key locations, including **Merdeka 118**, **Sunway Square** (where we attended a forum at their headquarters in Menara Sunway), and **The Institution of Engineers Malaysia (IEM)** (where we participated in a workshop at the IEM Training Academy Sdn Bhd). Moreover, we visited Sunway University and Monash University, engaging in several insightful forums at each university. This visit significantly enhanced our understanding of the latest advancements in design and construction practices in Malaysia. Besides, it allowed us to establish strong relationships and explore potential collaboration opportunities with IEM, **Sunway University**, and **Monash University**.

Annual Seminar 2025, which was conducted back to physical mode this year, was held on 14th March 2025 with the theme “**AI and Robotics in Smart Structural Engineering**”. We were most delighted to have Ir Prof. Thomas HO On-sing, Chairman of the Construction Industry Council as our Guest of Honour, who had delivered a keynote speech at this major annual event. In the Annual Seminar, distinguished overseas and local speakers from academia to prominent practicing professionals shared their insights, experience, and innovative ideas from recent research in structural engineering and applications in construction projects. The Annual Seminar promoted innovation and new technologies to drive forward productivity, efficiency, and enhanced project delivery outcomes in the construction industry. We have all together 280 participants joining the Annual Seminar.

CONTINUOUS PROFESSIONAL DEVELOPMENT

We have organized four technical seminars and two technical visits to support members in their continuous professional development. In this session, all four technical seminars were conducted in face-to-face. Regarding the technical visits, the first was a visit to the MiC Mock-Up in Wan Chai on 23rd December 2024. This visit provided members with valuable insights into the application of Modular Integrated Construction (MiC) and Building Information Modeling (BIM) in office building construction. Topics covered included MiC design, off-site fabrication, transportation and logistics, fitting-out, MEP jointing, façade installation, and waterproofing techniques. The second visit was a 2-day Greater Bay Area tour from 7 to 8 December 2024. The delegation visited several key sites, including the **China State Construction Engineering Zhuhai Base** (中建海龍珠海基地), **Far East Curtain Wall Zhuhai Base** (遠東幕牆珠海基地), **Shenzhen Bay Super Headquarters Tower C Project** (深圳灣超級總部C塔項目), and the **Qianhai Museum Project** (前海博物館項目). Through a series of meetings and discussions, members gained significant insights into steel and concrete MiC construction, as well as the latest advancements in building construction technologies in Shenzhen.

CHAIRMAN'S REPORT

SESSION 2024/25

In addition to our own initiatives, we collaborated with external institutions and organizations to host seminars, workshops, conferences, and technical visits for professional development. Notable examples include the **4th World Conference on Floating Solutions (WCFS 2024)** held from 2 to 3 December 2024, the **IABSE Young Engineers Colloquium East Asia in Hong Kong** from 30 November to 1 December 2024, **Joint SCCT-HKCI International Conference on Concrete Technologies 2024** held on 20th December 2024, and the **12th Mainland, Hong Kong and Taiwan Steel Conference (第十二届海峡两岸及香港钢结构技术交流会)** held from 21 to 22 February 2025. These activities have allowed us to strengthen our connections with external partners and further promote our profession.

SERVING THE COMMUNITY

We have been actively participating in serving the community throughout the year. Members are nominated to various Government committees, task forces, and panels to render our professional advice to the Government in different aspects and at various stages of policy formulation, including the APSEC Discussion Forum of the Buildings Department, various standing technical committees on the drafting/review of local codes of practice of the Buildings Department, etc. Our division's Spokesman also provided prompt and professional responses to the media and public on incidents and matters related to structural safety throughout this year. Furthermore, our Committee Members play an important role as experts in the accreditation of university programmes, training schemes, and the assessment of applications for registration as Registered Professional Engineers under the Engineers Registration Board.

The written examination of the HKIE Structural Examination was held on 20th November 2024 with 343 candidates. The interview part will take place in May - July 2025. Candidates passing the HKIE Structural Examination and professional assessment, and meeting the experience requirements will be eligible to become Corporate Member of the HKIE under the Structural Discipline.

The Structural Division will continue to put in place various activities and events for all parties ranging from practicing engineers, graduated engineers, and university students to secondary school students to enrich the expectations and experiences of our members while facilitating more understanding of the youngsters about the work life of structural engineers to arouse their interest in becoming structural engineers.

CHAIRMAN'S REPORT

SESSION 2024/25

APPRECIATION

The successful years in the past years are all attributed to the collective efforts of our past Chairpersons and Committee Members and, of course, to all members' participation and support. I would like to take this opportunity to thank all Committee Members of this session for their unwavering support and dedication to the Division in making the session 2024-25 another fruitful and successful year.

The Structural Division will continue to promote advancement of the structural engineering and to facilitate the exchange of professional knowledge and experience amongst members. We look forward to receiving your active participation and continuous support to the Division.

Ir CHIN Sai-ping

Chairman of the HKIE Structural Division
Session 2024/25

DISCIPLINE MATTERS

THE HKIE STRUCTURAL EXAMINATION

The HKIE Structural Examination consists of TWO parts: (a) written examination and (b) professional interview. Applicants passing both parts and meeting the experience requirements under the relevant routes to membership will be eligible to become Corporate Member of the HKIE in the Structural Discipline (subject to meeting other requirements in the HKIE Constitution). Passing the written examination is not a pre-requisite for taking the interview or vice versa.

The written examination of the HKIE Structural Examination 2024 was held on 20 November 2024 at the Asia World Expo. It consisted of two sections in the form of multiple-choice questions (one hour) and design questions (six hours). 343 candidates attended the written examination. Examination results will be announced in late April 2025 and the professional interview will be held in May-July 2025.

CHAIRMAN OF EXAMINATION BOARD

- Ir CHAN Sai Cheong Edward

CHIEF EXAMINERS OF DESIGN QUESTIONS

- Ir Prof CHAN Siu Lai
- Ir CHIN Sai Ping
- Ir LI Wai Yip
- Ir TANG Kevin
- Ir YAU Chun Yee
- Ir YAU Hoi Ngan Alan

CHIEF EXAMINERS OF M.C. QUESTIONS

- Ir CHAN Wai Tong Victor
- Ir LAM Nga Yan
- Ir NG Kin Shing
- Ir Dr WONG Hoi Fai

Lastly, I would like to express my heartfelt thanks to the examination Board Chairman, Chief Examiners, Examination Markers and Interviewers and, in particular, the SD Committee, for the dedicated efforts throughout.

Ir Ben TSE Wai-keung

Chairman of the HKIE Structural Discipline
April 2025

DISCIPLINE MATTERS

LIST OF MARKING EXAMINERS

Ir CHAN Bong Kwok
Ir CHAN Yiu Ming
Ir CHEUNG Kwok Wai
Ir Prof CHOY Siu Chung Adam
Ir FUNG Nang Tat Agnon
Ir HO Hoo Yin Danny
Ir HO Ka Kit Kenith
Ir HO Lam
Ir Dr HUI Ming Fong Lilian
Ir KU Kwai Yau
Ir KWAN Po Jen Helen
Ir LAI Ho Cheong
Ir LAM Chun Yin Kevin
Ir LAM Pak Hung Jeremy
Ir LAU Bo Ki
Ir LAU Ching Ling
Ir LEE Shiu Ming
Ir LEUNG Wing Lok
Ir LIU Sik Wing
Ir LO Tak Fai
Ir MOK Sat Sze
Ir NG Pak Cheong
Ir SO Wah Wai
Ir TAM Yun Lam Benson
Ir TSANG Chun Wing
Ir TSANG Sau Chung Paul
Ir WONG Chiu Yeung
Ir WONG Hon Wah
Ir WONG Kwok Chuen Richard
Ir WONG Woon Ki
Ir WONG Yiu Wang Andes
Ir WU Fung Sing
Ir YUEN Chee Hang Alan
Ir YUEN Yat Chung

EVENT HIGHLIGHT TECHNICAL MEETINGS & VISITS 2024-2025

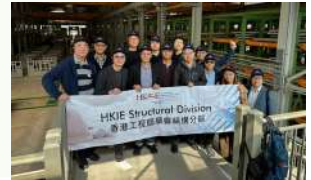
Date	Details	Speaker
27 August 2024	Technical Seminar on Data-driven machine learning frameworks for practical civil engineering problems	Stephen Wu <i>Associate Professor</i> The Institute of Statistical Mathematics, Tokyo



26 November 2024	Technical Seminar on Kai Tak Sports Park's Main Stadium	Daniel Hil <i>Robert Bird Group</i>
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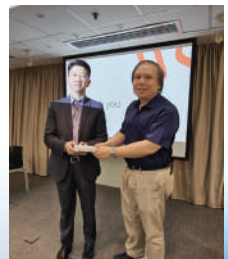
7 December 2024	Technical Visit to Greater Bay Area	
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17 December 2024	Technical Seminar on Commercial Development at 98 How Ming Street	Horis Ho <i>Ove Arup</i>
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25 March 2025	Technical Seminar on Cainiao Smart Gateway	Henry Wong <i>WSP</i>
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EVENT HIGHLIGHT ANNUAL VISIT 2025

Annual Visit 2025 to Kuala Lumpur, Malaysia took place from 27 to 30 March 2025. During the visit, we had the opportunity to explore several key locations, including **Merdeka 118**, **Sunway Square** (where we attended a forum at their headquarters in Menara Sunway), and **The Institution of Engineers Malaysia (IEM)** (where we participated in a workshop at the IEM Training Academy Sdn Bhd). Moreover, we visited **Sunway University** and **Monash University**, engaging in several insightful forums at each university. This visit significantly enhanced our understanding of the latest advancements in design and construction practices in Malaysia. Besides, it allowed us to establish strong relationships and explore potential collaboration opportunities with IEM, Sunway University, and Monash University.



EVENT HIGHLIGHT THE ANNUAL SEMINAR 2025

The Annual Seminar 2025 was successfully held on 14 March 2025 at Theatre Two, Hong Kong Convention & Exhibition Centre. This year our annual seminar was hosted in Physical format. The Seminar with the theme “**AI and Robotics in Smart Structural Engineering**” was overwhelmingly received with around 300 participants in total.

Ir CHIN Sai-ping, Chairman of the HKIE Structural Division (2024/2025), started the Annual Seminar with the Welcoming Speech. Keynote Speech was delivered by Guest of Honor Ir Prof Thomas HO On-sing, Chairman of Construction Industry Council. Prominent local and overseas speakers shared their experiences, insights and ideas of innovation in recent researches in structural engineering and applications in construction projects.

Distinguished speakers included (in order of presentation): Prof BAI Yu, Ir Romeo YIU Fan-hung, Ir Kevin IP, Prof LU Xinzheng, Mr Tony SIU Sai-kwan, Ir Jacky ZHONG Ying, Dr Jason CHEN Lijie, Mr Wisdom CHAN, Prof LUO Xiaowei.

Q&A sessions open to the floor were hosted by Ir Dr Simon WONG Ho-fai, Ir Rayson WONG Wai-hung, Ir Dennis YUEN Yat-chung. The event was successfully concluded following the closing remarks by Ir Prof Ray SU Kai-leung, Chairman of the Organizing Committee of the Annual Seminar 2025.

ORGANIZING COMMITTEE OF ANNUAL SEMINAR 2025

CHAIRMAN

Ir Prof Ray SU Kai-leung

MEMBERS

Ir Prof CHAN Siu-lai
Ir Stanley CHAN Bong-kwok
Ir Jesse CHAN Hiu-tung
Ir Prof DAI Jian-guo
Ir Prof Paul LAM Heung-fai
Ir Kylie LAM Nga-yan
Ir Lewis SZETO Yiu-kwan
Ir Rayson WONG Wai-hung
Ir Jacky WONG Woon-ki



EVENT HIGHLIGHT ANNUAL DINNER 2024-25

The Annual Dinner 2024-25 was successfully held on 1st November 2024 at JW Marriott Hotel Hong Kong, drawing attendance of 492 members and guests. The Annual Dinner 2024-25 is privileged to have Ir Professor Jin-Guang TENG, President of The Hong Kong Polytechnic University as the Guest of Honour.

Other distinguished guests included Ir Dr the Hon LO Wai-kiwok, GBS, MH, JP, Legislative Council Member (Engineering), Ms YU Po Mei, Clarice, JP, Director of Buildings, Buildings Department, Ir KAN Chun-yuk, Assistant Director of Architectural Services Department, Mr Harry HN Ma, Deputy Director of Civil Engineering & Development Department, Dr CHEUNG Wai Man, Raymond, JP, Head of the Geotechnical Engineering Office & Dep Comr of Mines, Civil Engineering and Development Department, Ir Daniel LEUNG, Deputy Director of Development & Construction of Housing Department, Ir Alvin LAI Ho Cheong, Assistant Director/New Buildings of Buildings Department of Housing Department, Ir WAI Chi-sing, GBS, JP, FHKEng, Managing Director of Urban Renewal Authority.

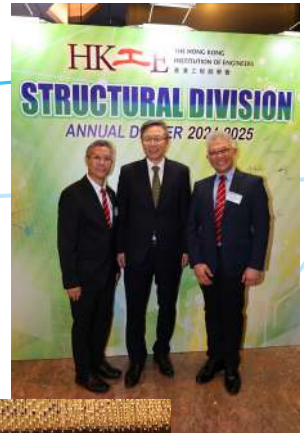
ANNUAL DINNER ORGANIZING COMMITTEE 2024-25

CHAIRMAN

Ir Prof Paul LAM Heung-fai

MEMBERS

Ir Prof Ray SU Kai-leung
Ir Rayson WONG Wai-hung
Ir Ben TSE Wai-keung
Ir Patrick HOU Man-wai
Ir Jacky WONG Woon-ki
Ir Dennis YUEN Yat-chung
Ir Lewis SZETO Yiu-kwan



STRUCTURAL EXCELLENCE AWARD 2025

The Structural Excellence Award comes to over 18 years since 2006. It aims to promote excellence in structural engineering demonstrated through the design and construction of buildings and structures completed in the last two years.

There are two categories of entries, namely Projects and Research & Development (R&D). On 22 February 2025, a project presentation has arranged and Jurors have discussion and making final decision. Project Awards were decided with emphasis on Engineering Approach, Integration, Innovation / Creativity and Unusual Features, Buildability / Constructability / Safety, Energy Efficiency / Sustainability / Serviceability / Economy and Aesthetics. R&D Awards were selected to the importance to Engineering Application, Theoretical background, Innovation / Originality and Future Impact.

Starting from 2021, a YouTube channel has been created. Videos of all Grand Award projects will be posted there in order to raise public awareness of the Structural Excellence Award and increase exposure for all the Grand Award winners.

Videos for Structural Excellence Award 2025 will be posted soon. All members are welcome to subscribe the channel, like and share the videos by scanning below QR code.

YouTube Channel -
“HKIE Structural Excellence Award”



STRUCTURAL EXCELLENCE AWARD 2025

This year, 4 Local projects, 2 Mainland/Overseas project and 1 Research Paper won the Grand Award.

GRAND AWARD

Hong Kong Projects

- **Hopewell Hotel Development (Hopewell Centre II)** (Category: Infrastructures & Footbridges)
- **Kai Tak Stadium, Kai Tak Sport Park, Hong Kong** (Category: Infrastructures & Footbridges)
- **The Henderson** (Category: Non-Residential)
- **Tseung Kwan O Promenade Southern Bridge** (Category: Infrastructures & Footbridges)

Mainland / Overseas Project

- **The Orbit, Shanghai** (Category: Mainland / Overseas Project)
- **Yantai Sun Tower** (Category: Mainland / Overseas Project)

R&D Award

- **Service life modelling of carbonated reinforced concrete with supplementary cementitious materials considering early corrosion propagation.**

MEMBERS OF THE JUDGING PANEL

CHAIRMAN

Ir CHIN Sai-ping

MEMBERS

Ir Alice CHOW
Mr CHAN Wai-tak
Mr KAN Chun-yuk
Ir Daniel LEUNG Hung Wai
Ir Albert TAM A-ray

REVIEWERS

Ir Prof DAI Jian-guo
Prof LEE Chi-king
Prof WANG Yong-chang
Ir Prof Ben YOUNG

ORGANIZING COMMITTEE

CHAIRMAN

Ir Prof Ray SU Kai-leung

MEMBERS

Ir Prof CHAN Siu-lai
Ir Jesse CHAN Hiu-tung
Ir Stanley CHAN Bong-kwok
Ir Prof DAI Jian-guo
Ir Prof Paul LAM Heung-fai
Ir Kylie LAM Nga-yan
Ir Lewis SZETO Yiu-kwan
Ir Rayson WONG Wai-hung
Ir Jacky WONG Woon-ki

STRUCTURAL EXCELLENCE AWARD 2025

**GRAND
AWARD**

Hopewell Hotel Development (Hopewell Centre II)

Winner:

Asia Infrastructure Solutions Limited
Infrastructures and Footbridges (Hong Kong)



Client: Hopewell Holdings Limited
Architect: WMKY Limited
Main Contractor: China Overseas Building Construction Limited

Project Description

Hopewell Hotel Development is a mega five-star hotel project featuring over 1,000 guest rooms along with various amenities like ballrooms and a shopping mall. Committed to aiding the local community, it enhances infrastructure connectivity on Kennedy Road and the Queen's Road East Junction, alleviating traffic congestion and improving pedestrian pathways.

Project Features

Project Features:

1. 50+m vertical slope cut using $\phi 610$ pipe piles and removable anchors.
2. World-first use: 22 nos. of 15.7mm strands as pre-stressed anchors.
3. Construct tunnel, flyover and slip road deck on two-lane Kennedy Road.
4. A column-free ballroom with 50m x 55m clear span, topped with a green park that serves as a public roof.

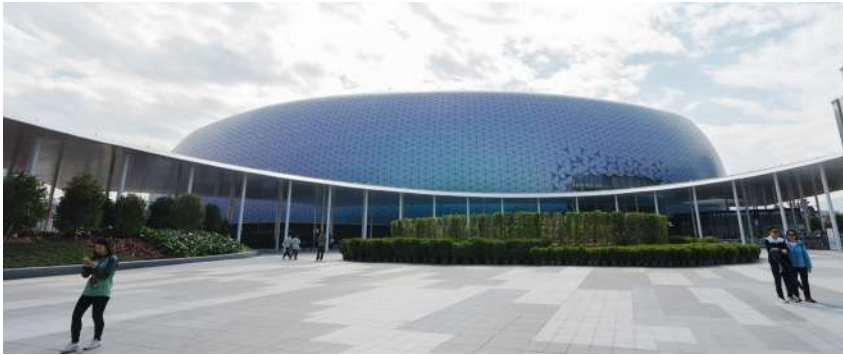
STRUCTURAL EXCELLENCE AWARD 2025

GRAND AWARD

Kai Tak Stadium

Winner:
Arup

Infrastructures and Footbridges (Hong Kong)



© Hip Hing Engineering Co. Ltd.

Client: Kai Tak Sports Park Limited
Architect: Populous Limited / Simon Kwan and Associates Limited
Main Contractor: Hip Hing Engineering Co. Ltd.

Project Description

Kai Tak Sports Park (KTSP), spanning 28ha, stands as a transformative redevelopment of the former Kai Tak Airport site into a premier destination for sports, entertainment and leisure. At the heart of this dynamic complex is the 50,000-seat Kai Tak Stadium. The structural design has considered all-round aspects to realise this iconic landmark and to bring the greatest experience to all spectators and the people of Hong Kong.

Project Features

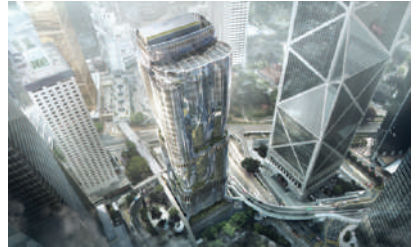
- One of the world's most efficient soundproofing sports facilities with a fully-retractable roof
- 'South Terrace' features a 30m-tall glazed wall, offering spectacular views of Victoria Harbour
- Modular and rationalised design of the roof steelwork, which improves ease of fabrication, transportability and constructability to achieve fast-tracked programme

STRUCTURAL EXCELLENCE AWARD 2025

GRAND AWARD

The Henderson

Winner:
C M Wong & Associates Limited
Non-Residential (Hong Kong)



Client: Henderson Land Development Company Limited
Architect: Ronald Lu & Partners (HK) Limited (Architect Authorized Person) / ZAHA HADID Architects (Design Architect)
Main Contractor: Hip Hing Construction Company Limited

Project Description

The Henderson is a 38-storey commercial development in Central, Hong Kong, inspired by the bauhinia flower. It features a unique double-curvature glass façade, 23mx46m column-free office spaces, and a 5-level basement surrounded by MTR Tunnels. The closet distance from Tsuen Wan Line is only 3m.

Project Features

- Outrigger and belt-truss system with six composite columns and side RC core wall.
- 23m spans with 1m deep steel trusses for MEP integration.
- Innovative construction method with compensation tilt.
- Double-curvature glass facade.
- Innovative Top-down method allowing Core-wall built concurrently with basement excavation.
- Synchronized jacking for preloading.
- Targeted grouting and heated floor slabs to manage tunnel movement.

STRUCTURAL EXCELLENCE AWARD 2025

**GRAND
AWARD**

Tseung Kwan O Promenade Southern Bridge

Winner:

**Civil Engineering and Development Department /
AECOM Asia Company Limited /
China Road and Bridge Corporation**
Infrastructures & Footbridges (Hong Kong)



Client: Civil Engineering and Development Department
Structural Engineer: AECOM Asia Company Limited
Main Contractor: China Road and Bridge Corporation

Project Description

The Tseung Kwan O Promenade Southern Bridge connects the two banks of the Eastern Channel, greatly optimising the pedestrian network, which facilitates commuting and community development. This artistic masterpiece features a 150-metre-long, wave-shaped design, crafted from advanced materials and engineering, and has received widespread praise, swiftly becoming a new landmark.

Project Features

The Tseung Kwan O Promenade Southern Bridge blends innovative engineering technology with aesthetics, showcasing a tied arch, hangers, and a wave-shaped deck design to stability. High-strength structural steel reduces weight, enhancing delicacy. Prefabrication and advanced techniques improve efficiency and safety, marking a significant advancement towards green infrastructure.

STRUCTURAL EXCELLENCE AWARD 2025

GRAND AWARD

The Orbit, Shanghai

Winner:
Arup

Mainland / Overseas



Client: Hongkong Land Limited
Architect: Heatherwick Studio
Main Contractor: China Construction Fifth Engineering Division Corporation Limited

Project Description

The Orbit is a well-known landmark along the West Bund of the Huangpu River. Designed by Heatherwick and engineered by Arup, the project serves as a public space for leisure and recreation and also a hub for cultural and art, hosting a variety of public education programmes, and art exhibitions.

Project Features

The building facade features an intertwined, spiraling ribbon design, creating a dynamic texture. These ribbons form a circular staircase leading to a roof terrace with river views. Inside, the ground floor offers a 2,000m², 10m-high column-free multifunctional space.

STRUCTURAL EXCELLENCE AWARD 2025

GRAND AWARD

Yantai Sun Tower

Winner:
Arup

Mainland / Overseas



Client: Yantai Yeda Industrial Company Limited
Architect: OPEN Architecture
Main Contractor: China Construction Eighth Engineering Division Corporation Limited / Jinan Urban Construction Group Corporation Limited

Project Description

Yantai Sun Tower is the latest art and cultural landmark in the Yantai Economic and Technological Development Zone. Spanning a total floor area of 4,962m², this 50m tall eccentric conical tower houses a semi-outdoor theatre, a digital exhibition space, a library, and a 'phenomena space'.

Project Features

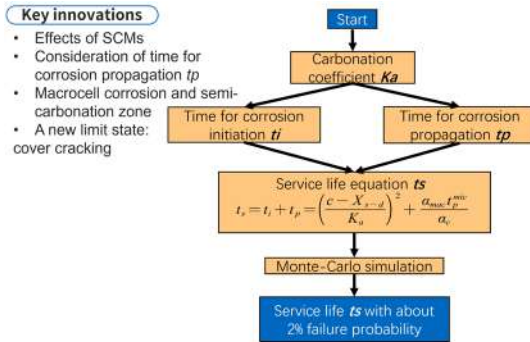
The building's unique shape and exposed concrete surfaces presented structural design challenges. Working closely with OPEN Architecture, Arup proposed innovative engineering solutions including stress-based design, comprehensive seismic analysis, full parametric modeling and design, 3D BIM delivery, and extensive material and construction method studies.

STRUCTURAL EXCELLENCE AWARD 2025

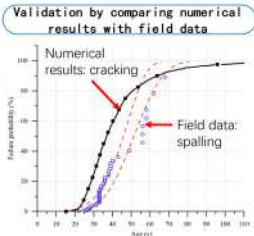
GRAND AWARD

Service life modelling of carbonated reinforced concrete with supplementary cementitious materials considering early corrosion propagation

R&D Award



A total of **334** slab inspections of **91** flat units of Hong Kong residential buildings were inspected.



- ❖ Application
 - Service life extension by 50% with only 1% construction costs increase
- ❖ Key findings
 - For **low W/B ratio concrete**, service life can be extended beyond 50 years by considering corrosion propagation
 - For **high W/B ratio concrete**, PFA / GGBS should be used with caution for scenarios where carbonation is possible, even if corrosion propagation is considered
 - Performance-based service life equations and prescriptive design limits for durability design



Authors: Lijie Chen, Ray Kai Leung Su
Organization: Department of Civil Engineering, the University of Hong Kong

Project Description

SCMs (such as GGBS and PFA) are widely used to reduce concrete's carbon footprint, but they lower carbonation resistance. This project proposes a new service life model of carbonated SCM concretes, considering early corrosion propagation. This model, validated by Hong Kong field data, can improve durability design of concrete.

Project Features

The proposed model CECP-SAM is characterized by considering semi-carbonation zone and macrocell corrosion. Validated by Hong Kong field data, it was applied in real projects. It is the first to provide a performance-based model and practical equations for service life design of carbonated SCM concrete, enhancing sustainability without compromising durability.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

83 King Lam Street

Winner:

**AECOM Asia Company Limited /
New World Development Company Limited**
Non-Residential (Hong Kong)



Client: New World Development Company Limited
Architect: Rocco Design Architects Limited (Tower & AP of the Development) /
COLLECTIVE Studio Limited (Podium)
Main Contractor: Hip Seng Construction Company Limited

Project Description

83 King Lam Street is located in the heart of Cheung Sha Wan's historic industrial district. This new landmark features two 26-storey Grade-A office towers with a unique multi-functional podium exceeding 25,000 square feet. This rare "urban oasis" provides space for the community's workers and residents to relax and unwind.

Project Features

The Project's main features are a podium with cascading parametric steps supported by 3D steel structures and a long-span slim canopy with hanger structures, creating an impressive, lush and spacious main entrance. Other merits include a cost-effective hybrid foundation design, high-performance facade systems, and extensive sustainability features including GGBS cement.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

AIA Urban Campus, 1 Stubbs Road,
Wan Chai, Hong Kong

Winner:
WSP (Asia) Limited
Non-Residential (Hong Kong)



Client: AIA Company Limited
Architect: DLN Architects Limited
Main Contractor: Hip Hing Construction Company Limited

Project Description

The AIA Urban Campus redevelopment at No. 1 Stubbs Road transformed a 50-year-old building into a modern 20-storey Grade A office tower with 4-level lower ground structure for carpark and back of house. Construction began in April 2019 and completed in February 2024, with official opening in May 2024.

Project Features

The project employed innovative approaches for both foundation and superstructure construction. By retaining existing basement walls as temporary support instead of using conventional temporary pile walls, and implementing dual construction work fronts where lower ground structure and above-ground superstructure work were constructed concurrently, the project achieved efficient program acceleration.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

**Building 11 (RC MiC), Hong Kong-Shenzhen
Innovation And Technology Park (HSITP)
at Lok Ma Chau Loop**

Winner:
China State Construction Engineering (Hong Kong) Limited
Residential (Hong Kong)



Client: Hong Kong-Shenzhen Innovation and Technology Park
Architect: Ronald Lu & Partners
Main Contractor: China State Construction Engineering (Hong Kong) Limited

Project Description

The five-story Building 11 is the first of 67 planned structures in HSITP. The upper four-floor structure includes 106 MiC units, comprising 92 single rooms and 7 family rooms. Each MiC unit measures 7.5m × 3.0m × 3.0m to preserve interior finish integrity. Individual MiC units weigh up to 40 tons.

Project Features

An innovative inner tie system was developed, enabling over 95% of internal fittings and E&M works to be completed in the factory. 1,048 sets of inner ties were utilized, saving substantial time and cost. Advanced digital technologies were adopted, including BIM and C-Smart V4.0, to enhance construction efficiency.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

MERIT

Echo House

Winner:
Ben Tse & Associates Limited
Residential (Hong Kong)



Client: Urban Renewal Authority / Chinachem Group
Architect: Ronald Lu & Partners (Hong Kong) Limited
Main Contractor: Gammon Engineering & Construction Company Limited

Project Description

Echo House is an urban renewal redevelopment project which comprises the construction of a 22-storey tower, 6-storey podium and 1-level basement building. It is Hong Kong's first private development project to adopt Modular Integrated Construction (MiC), showcasing MiC's potential for innovative, sustainable and efficient building solutions in urban spaces.

Project Features

Echo House pioneers innovation by adopting a composite wall system, utilizing both the MiC modules and in-situ reinforced concrete frames in sustaining design loads and providing lateral stability. The composite wall system solution optimizes structural efficiency, buildability and sets a new benchmark for advanced construction techniques in the industry.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

KTR 350

Winner:
WSP Hong Kong Limited
Non-Residential (Hong Kong)



Client: Charm Step Development Limited
Architect: MLA Architects (HK) Limited
Main Contractor: Hien Lee Engineering Company Limited

Project Description

The proposed office building is located on a prominent Class 'C' site across from the Ngau Tau Kok MTR station. The site area is approximately 1,780 m², with a total GFA of around 26,716 m². The building stands 121 meters tall at 125.9mPD. It includes 4 basement parking levels, a 4-storey commercial podium, 23 floors of office space, a wellness and historical-themed sky garden on the 17th floor, and a landscaped rooftop accessible to office users.

Project Features

The tower's cylindrical form and elliptical layout convey timeless, iconic architecture while enhancing technical, energy, and material efficiency. This design optimizes natural lighting and reduces wind resistance. Deep excavation for a four-storey basement indeed presents significant challenges, technical advice on maximum excavation depth to ensure the safety of the adjacent building and efficient ELS design for car ramp construction to minimize crashes with struts and permanent structures are adopted.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

New Integrated Airport Control (IAC) Centre

MERIT

Winner:
AECOM Asia Company Limited
Infrastructures and Footbridges (Hong Kong)



- Client:** Airport Authority Hong Kong (HKIA)
Project Management: AECOM Asia Company Limited (Transportation)
Architect: AEDAS Limited
Main Contractor: SFK Construction Holdings Limited

Project Description

To support Hong Kong International Airport's development into a three-runway system, a new Integrated Airport Control Centre (IAC) is built to cope with the expanded operations. At more than 5,760 m², the new IAC is almost four times larger than its predecessor and is one of the world's largest integrated centers for airport operations and management.

Project Features

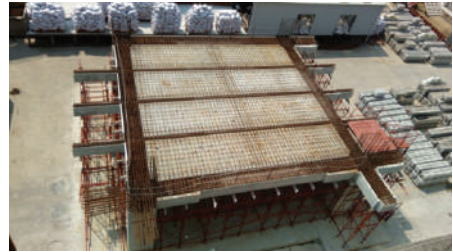
Featuring an iconic column-free semi-circular main hall, the project boasts a 34 m long-span steel roof erected via strand jack lifting to comply with the airport height restriction. The observation deck incorporates an inclined glass wall, with a support system that accommodates the roof truss's 3D movement.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

North District Pak Wo Road Community Health Centrand Social Welfare

Winner:
**Yau Lee Construction Company Limited /
AECOM Asia Company Limited**
Non-Residential (Hong Kong)



Client: Architectural Services Department
Architect: DLN Architects Limited
Main Contractor: Yau Lee Construction Company Limited

Project Description

This project provides a one-stop service for medical and community care in the North District. Constructed during the COVID-19 pandemic, it overcame challenges such as logistics disruptions and labor shortages by adopting flexible workflows, change of design, ensuring timely delivery of much-needed healthcare and social welfare facilities.

Project Features

The project proposes Modular Integrated Construction (MiC) and Design for Manufacture and Assembly (DfMA) principles. Innovations such as precast beams, robotic pile head cutting, and automatic welding were introduced, streamlining workflows, reducing construction time, and minimizing on-site labor demands while ensuring efficiency, safety, and sustainability.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

Po Leung Kuk Siu Hon Sum Primary School
A 24-Classroom Primary School at
Au Pui Wan Street, Fo Tan
(Programme No. 363EP)



Client: Architectural Services Department
Architect: P&T Architects Limited
Main Contractor: Unistress Building Construction Limited

Project Description

The project is located at Au Pui Wan Street, Shatin with 24 teaching classrooms, multi-purpose area, an assembly hall, special rooms and ancillary facilities. The 4 story building is the first public school in Hong Kong designed and constructed using Modular Integrated Construction (MiC). A total of 163 MiC modules are used in the project which occupy over 30% of whole construction floor area.

Project Features

The project adopts an aesthetically pleasing design with fair-faced concrete finishes on both the interior and exterior facade, taking the advantage of better quality control in MiC construction. The advanced MiC connection design significantly eliminated on-site concreting, which reduced labor requirements and construction time. The installation of the MiC modules was completed in only 3 months, generating less noise and dust compared to conventional construction methods which is a major benefit for the surrounding residential neighborhood.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

MERIT

The Arles

Winner:
Arup
Residential (Hong Kong)



Client: Centralcon (Fo Tan) Company Limited
Architect: DLN Architects Limited
Main Contractor: China Overseas Building Construction Limited

Project Description

With a total GFA of 84,306m², The Arles comprises 4 residential towers above a 4-storey podium. As the only new private residential project completed near the Fo Tan Station in the past decade, The Arles injects impetus into the gradual transition of the historic Fo Tan industrial area.

Project Features

The project was an unfinished development with 50 bored piles and 317 socketed steel H-piles installed. To realise a sustainable redevelopment with a new architectural design, Arup worked closely with the Architect on the building layout and massing, reusing 96% and 93% of bored piles and socketed steel H-piles.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

Weaving Love - 3D-Printed Metal Pavilion

MERIT

Winner:

**Hip Hing Engineering Company Limited /
Vibro (H.K.) Limited**
Heritage & Special Structure (Hong Kong)



Client: Immigration Department
Architect: Architectural Services Department (ArchSD)
Main Contractor: Hip Hing Engineering Company Limited

Project Description

"Weaving Love" is Asia's first outdoor pavilion using Wire Arc Additive Manufacturing (WAAM), a milestone in large-scale 3D metal printing. Located at Hong Kong's New Immigration Headquarters in Tseung Kwan O, this pavilion blends advanced manufacturing, innovative design, and collaboration across government, industry, and academia, delivering a stunning, eco-friendly, cost-effective structure.

Project Features

"Weaving Love" Pavilion showcases breakthrough efficiency with WAAM technology, cutting construction time, costs, and waste. As Hong Kong's largest 3D-printed steel structure, it meets code standards, integrating parametric design and advanced engineering to redefine architectural innovation and sustainability.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

CCCC Southern Headquarters Base (Plot B & C)

MERIT

Winner:

Arup

Mainland / Overseas



Client: CCCC Fourth Harbor Engineering Company Limited
Architect: AtkinsRealis
Main Contractor: CCCC Fourth Harbor Engineering Company Limited

Project Description

The CCCC Southern Headquarters Base (Plots B & C), developed by CCCC Fourth Harbor Engineering Co., Ltd, stands as an iconic commercial complex at the southern end of Guangzhou's new central axis and the north bank of the Pearl River. This landmark integrates offices, hotels, and apartments.

Project Features

Designed by AtkinsRealis and engineered by Arup, the project includes a 200m office tower and a 150m hotel and office tower. Both structures feature a signature '0' shape with connected east and west towers. Together with Plot A, the three buildings create a '100' formation along the riverfront.

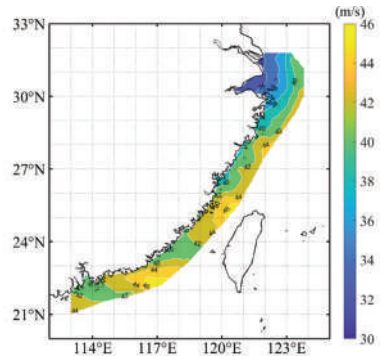
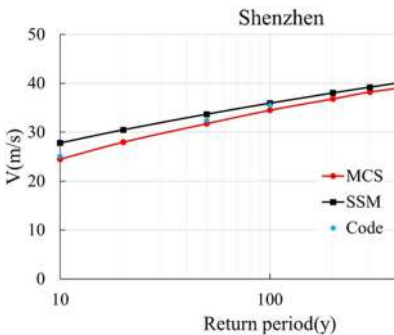
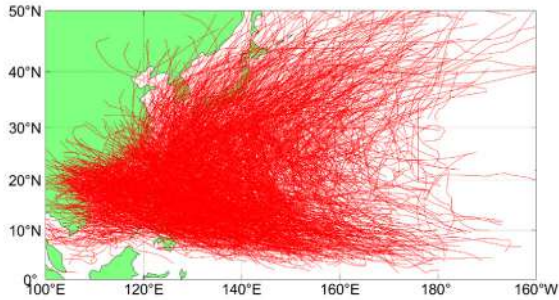
STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

A simplified statistical model for regional offshore typhoon wind risk assessment

MERIT

R&D Award



Authors: Dengguo Wu, Neptune Yu (corresponding author), Andrew Allsop, Joseph Li
Organization: Arup

Project Description

The authors proposed a simplified statistical method (SSM) to estimate typhoon risk using the XIMIS method, based on site wind speeds projected by a wind field model with input from typhoon best track data. Comparing with Monte-Carlo simulation (MCS) results, it demonstrates a high efficiency and reasonable accuracy.

Project Features

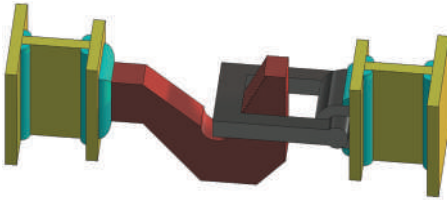
The proposed simplified SSM for typhoon risk assessment significantly increases calculation efficiency, especially on regional level, lowering technical barriers of conducting typhoon risk assessment by engineers. Comparing with the MCS method, it maintains reasonable accuracy and is suitable for preliminary assessment purposes. It has good potential for wide engineering applications.

STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION MERIT

An Innovative Composite Wall Inner Tie System Applied to Reinforced Concrete Modular Integrated Construction

R&D Award



Authors: Xiaokang Zou, Jiang Huang, Wenjie Lu, Jun Shi, Sunny Au, Zhen Zhao, Tian Shi, Daniel Kan and Yang Zhang

Organization: China State Construction Engineering (Hong Kong) Limited

Project Description

The rise of Modular Integrated Construction (MiC) in Hong Kong has introduced challenges, such as securing thin sidewalls during concrete pouring without damaging factory-completed interiors. This paper presents an innovative inner tie system that stabilizes precast module sidewalls without penetration, enabling factory-based interior fitting-out and reducing on-site workload.

Project Features

The innovative inner tie system eliminates penetrating tie bolts, enables factory-based interior finishing and reduces module sidewall thickness. This breakthrough enabled over 95% of internal construction to be completed in the factory. 1,048 sets of inner ties were utilized in Building 11 of Hong Kong-Shenzhen Innovation And Technology Park.

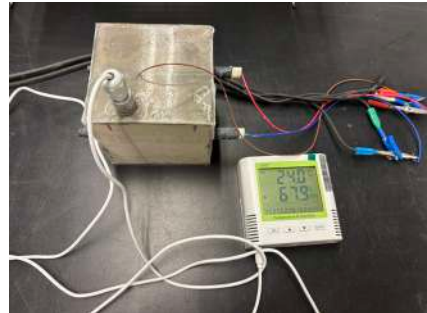
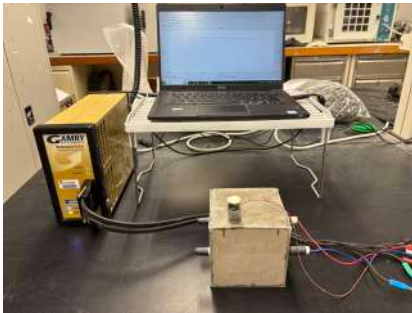
STRUCTURAL EXCELLENCE AWARD 2025

COMMENDATION

Assessment of corrosion probability of steel in mortars using machine learning

MERIT

R&D Award



A

Confusion matrix

		Passive	Moderate Corrosion	Severe Corrosion	
Predicted Classification	Passive	20 18.69%	2 1.87%	6 5.61%	28 71.43%
	Moderate Corrosion	5 4.67%	20 18.69%	5 4.67%	30 66.67%
	Severe Corrosion	2 1.87%	5 4.67%	42 39.25%	49 85.71%
		27 74.07%	27 74.07%	53 79.25%	107 76.63%
		Passive	Moderate Corrosion	Severe Corrosion	Actual Classification

B

Confusion matrix

		Passive	Moderate Corrosion	Severe Corrosion	
Predicted Classification	Passive	20 18.69%	3 2.80%	5 4.67%	28 71.43%
	Moderate Corrosion	6 5.61%	18 16.82%	6 5.61%	30 60.00%
	Severe Corrosion	3 2.80%	4 3.74%	42 39.25%	49 85.71%
		29 68.97%	25 72.00%	53 79.25%	107 74.76%
		Passive	Moderate Corrosion	Severe Corrosion	Actual Classification

Authors: Haodong Ji, Yuhui Lyu, Zushi Tian, Hailong Ye
Organization: Department of Civil Engineering, The University of Hong Kong

Project Description

This project develops a machine learning-based model to assess the multi-level corrosion status of steel in mortars. By integrating factors such as relative humidity, electrical resistivity, and corrosion potential, the study developed an intelligent corrosion assessment method. Our method overcame the limitations of traditional single factor-based deterministic approaches in corrosion assessments of concrete structures.

Project Features

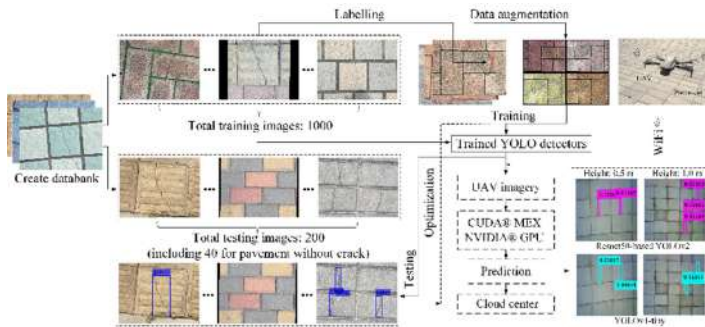
This project introduces a multifactorial approach to corrosion status prediction using machine learning, integrating three easily obtained factors. The key innovation is the development of corrosion probability maps, offering a more accurate and adaptable tool for assessing corrosion and guiding engineers in determining steel corrosion status in concrete structures.

STRUCTURAL EXCELLENCE AWARD 2025

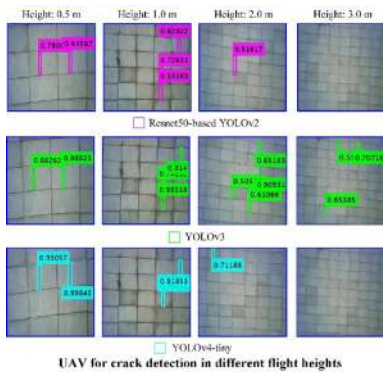
COMMENDATION MERIT

Real-time detection of cracks in tiled sidewalks using YOLO-based method applied to unmanned aerial vehicle (UAV) images

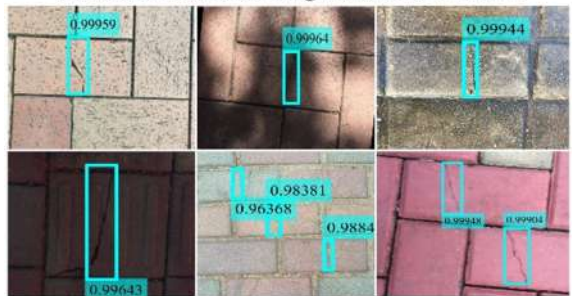
R&D Award



YOLO-UAV scheme for crack detection of tiled sidewalks



Crack detection considering environmental factors



Authors: Qiwen Qiu, Denvid Lau
Organization: Department of Architecture and Civil Engineering,
City University of Hong Kong, Hong Kong, China

Project Description

In this research, You Only Look Once (YOLO) based method applied to unmanned aerial vehicle (UAV) images is proposed to achieve real-time crack detection in tiled sidewalks. The YOLO-UAV-based prototype is cost-effective and can reduce the burden on technicians in decision making process of the health for traffic road.

Project Features

YOLO offers excellent accuracy, fast speed and remarkable ability in detecting fine cracks. Besides, they demonstrate good adaptability to environmental changes. YOLO-UAV flights at 1-2 m height are effective to scan area of 1.32-2.25 m² for tiled sidewalks.

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

**Art Museum of The Chinese University of Hong Kong -
Lo Kwee Seong Pavilion**

Winner:

AECOM Asia Company Limited
Non-Residential (Hong Kong)



Client: The Chinese University of Hong Kong
Architect: Rocco Design Architects Associates Limited
Main Contractor: Bordon Construction Company Limited

Project Description

The new extension, Art Museum of The Chinese University of Hong Kong - Lo Kwee Seong Pavilion will be a landmark, fostering diverse art and cultural appreciation. This project adopts a smart structural engineering approach, transforming the building with iconic V-shaped columns and features of constructability, safety, creativity, innovation and sustainability, enriching the University's cultural landscape.

Project Features

The Pavilion showcases creative structural engineering with long cantilever wall beams and iconic V-shaped columns, creating spacious, column-free and efficient gallery space. The existing retaining wall is smartly re-engineered and integrated throughout construction for enhanced constructability, safety and sustainability. ESG initiatives are also demonstrated through energy-efficient adoption and green features.

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

Dedicated Rehousing Estate at Hung Shui Kiu –
Phase 1A

Winner:

**SYW & Associates Limited / Hong Kong Housing Society /
Yau Lee Construction Company Limited**

Residential (Hong Kong)



Client: Hong Kong Housing Society
Architect: Ronald Lu & Partners (Hong Kong) Limited
Main Contractor: Yau Lee Construction Company Limited

Project Description

In tandem with Government's development clearance exercises or redevelopment projects in urban areas, the Hong Kong Housing Society is building a 25-storey Subsidized Sale Flats project at Hung Shui Kiu, using the concrete Modular Integrated Construction (MiC) method, providing 300 one-to-three bedroom units of about 368 to 622 square feet.

Project Features

This project features concrete MiC system with 80% of typical floor adopted precast construction innovated by incorporated Balcony Type MiC Module for better visual appearance to the end-users. In addition to the concrete module, off-site fabrication of finishes and MEP components are maximized and planned via BIM modules.

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

Immigration Headquarters in Area 67, Tseung Kwan O

Winner:

Hip Hing Engineering Company Limited
Non-Residential (Hong Kong)



Client: Architectural Services Department
Structural Engineer: Wong Pak Lam & Associates Consulting Engineers & Architects Limited
Architect: P&T Architects Limited
Main Contractor: Hip Hing Engineering Company Limited

Project Description

The Immigration Headquarters feature two 18-storey towers: Administrative Tower and Enforcement Tower. The total construction area is approximately 107,420m². In addition to consolidating the existing administrative functions, the new facilities incorporate specialized functions to cater the operational needs. The Headquarters represent a strategic initiative to modernize the department's infrastructure and to optimize its service delivery for both internal operations and public services.

Project Features

- The lifting of the 36m-span Sky Link-bridge at 8/F is achieved by using four individual hydraulic jacks, which provide excellent flexibility and accuracy.
- For the building of the 27m-span link area at a height of 68m aboveground, it is the first time in Hong Kong building projects to adopt Truss Box System R800 for the temporary works for the construction of this elevated long-span structures, involving the use of advanced lifting techniques.

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

Redevelopment of Kowloon Tsai
Swimming Pool Complex (Programme No. 280RS)

Winner:

P&T Engineers Limited
Non-Residential (Hong Kong)



Client: Architectural Services Department
Architect: P&T Architects Limited
Main Contractor: China State Construction Engineering (Hong Kong) Limited

Project Description

The project comprises the demolition of the existing swimming pool complex and redevelopment of a new 2 storey of reinforced concrete complex with steel roof trusses providing the following:

- One 50m x 25m indoor heated main pool with 10 swimming lanes
- One 25m x 25m outdoor training pool with 10 swimming lanes

Project Features

The project possesses the following features;

- Approx. 30% of material saving in using S690 compared to S355
- First completed building project in public works for the pilot applications of high strength steel
- The main truss was installed on site in 5 sections with all bolt and nut connections avoiding on-site welding

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

The University of Hong Kong Jockey Club Student Village IV

1224-Place Student Residences at Police School Road, Wong Chuk Hang, Hong Kong



Winner:

AECOM Consulting Services Limited
Residential (Hong Kong)



- Client:** The University of Hong Kong
Architect: AD+RG Architecture Design and Research Group Limited
Main Contractor: Paul Y. Construction Company Limited

Project Description

The project features a 3-storey podium with two 17-storey student residential towers by adopting Modular Integrated Construction (MiC). It is built on 4,361m² steep slope previously covered by natural vegetation near the Police School Road. It provides 1,224 hostel places, common spaces and facilities for university students and management staffs.

Project Features

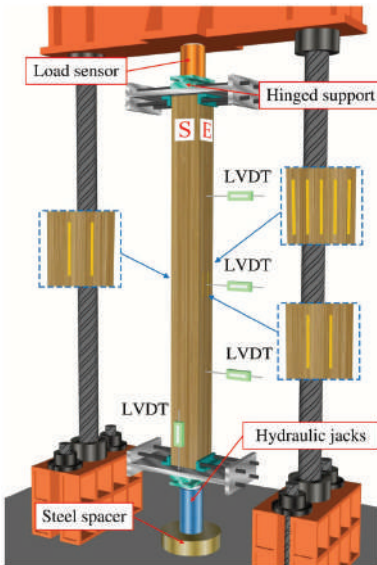
The development involves removal of 18m high slope and construction of extensive retaining structure. It includes 952 MiC modules with six repetitive types, integrating MEP fixings, finishes, and fittings. The project emphasizes a higher degree of off-site factory production with finishes, and promotes cost-effectiveness via symmetric layout and high-quality control.

STRUCTURAL EXCELLENCE AWARD 2025

FINALIST

A Preliminary Study on Bamboo-Timber Composite Columns under Axial Compression

R&D Award



Author: Yu Deng, Weidong Xia , Siqi Yang, Miao Ni, Gaxu Huo, Hexin Zhang, Simon HF Wong, Piti Sukontasukkul, Chayanon Hansapinyo , Yuxin Zhang, Khampaseuth Thepvongsa, Mario Seixas and João de Almeida Melo Filho

Organization: Technological and Higher Education Institute of Hong Kong (THEi)

Project Description

This study investigates bamboo-timber composite columns with engineered bamboo outer layers and a wood core. While such columns differ from hollow sections, they offer similar advantages. Despite extensive research on bamboo/timber structures, studies on their composite performance remain limited. Beyond experiments, the research develops an analytical model to predict axial compression capacity, providing theoretical and practical foundations to advance sustainable construction. The paper focuses on experimental validation of load-bearing capacity, establishing a basis for future applications.

Project Features

This study experimentally compares timber (T-C), laminated bamboo (B-C), and bamboo-timber composite (C-C) columns under axial compression. B-C and C-C showed superior ductility and three-stage failure (elastic, elastoplastic, softening). A modified Euler-buckling model with yield layers predicted critical loads within 6.2–14.2% of experimental data, validating its accuracy for practical applications.

BEST STUDENT AWARDS 2024

This award is sponsored by structural engineering firms in Hong Kong for commendation of universities undergraduates who have demonstrated excellent overall academic results and high level of competence in structural engineering.

SPONSOR	UNIVERSITY	AWARDEE
C M Wong & Associates Limited	The University of Hong Kong	Mr LAU Tak San
Shui On Construction Co. Limited	Hong Kong University of Science and Technology	Mr Alfred LAU Sung Yip
Tysan Foundation Limited	The Hong Kong Polytechnic University	Ms TANG Cheuk Yin
Sunnic Engineering Limited	City University of Hong Kong	Mr LIN Kuok Kio
Vibro (H.K.) Limited	The Technological and Higher Education Institute of Hong Kong	Mr LEUNG Ting Hei

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SESSION NAME OF CHAIRMAN

1 st	79/80	Ir TSUI Tack-kong	24 th	02/03	Ir Johnny FAN Siu-kay
2 nd	80/81	Ir Prof Fred NG Sai-ho	25 th	03/04	Ir Helen KWAN Po-jen
3 rd	81/82	Ir Dr Raymond HO Chung-tai	26 th	04/05	Ir Joseph MAK Yiu-wing
4 th	82/83	Ir Andrew NGAI Bick-yau	27 th	05/06	Ir Prof CHOY Kin-kuen
5 th	83/84	Ir David George HOLMES	28 th	06/07	Ir CHENG Yan-kee
6 th	84/85	Ir Brian POON Hon-yin	29 th	07/08	Ir KWAN Kin-kei
7 th	85/86	Ir David CHAN Wing-keung	30 th	08/09	Ir CHAN Siu-tack
8 th	86/87	Ir Barry John STUBBINGS	31 st	09/10	Ir LAU Chi-kin
9 th	87/88	Ir Dr LAW Kwok-sang	32 nd	10/11	Ir Dr KOON Chi-ming
10 th	88/89	Ir Patrick YIM Chun-nam	33 rd	11/12	Ir Dr Eddie LAM Siu-shu
11 th	89/90	Ir Dr Joseph CHOW Ming-kuen	34 th	12/13	Ir Gabriel YU Lin-keung
12 th	90/91	Ir Bruce Malcolm FOX	35 th	13/14	Ir Prof CHAN Siu-lai
13 th	91/92	Ir TSE Pak-kin	36 th	14/15	Ir Martin TSOI Wai-tong
14 th	92/93	Ir Ricky SO Yau-chi	37 th	15/16	Ir Ken NG Kin-shing
15 th	93/94	Ir Hugh WU Sai-him	38 th	16/17	Ir LEUNG Kwok-tung
16 th	94/95	Ir Ignatius LAU Yik-sum	39 th	17/18	Ir Edward CHAN Sai-cheong
17 th	95/96	Ir WONG Chi-ming	40 th	18/19	Ir TSE Kam-leung
18 th	96/97	Ir CHEUNG Kwok-ming	41 st	19/20	Ir Prof Ben YOUNG
19 th	97/98	Ir Prof KO Jan-ming	42 nd	20/21	Ir LAM King-kong
20 th	98/99	Ir Prof James LAU Chi-wang	43 rd	21/22	Ir Ben TSE Wai-keung
21 st	99/00	Ir Kenneth Lau Kwong-hon	44 th	22/23	Ir Albert TAM A-ray
22 nd	00/01	Ir Prof Reuben CHU Pui-kwan	45 th	23/24	Ir Kevin TANG
23 rd	01/02	Ir Prof Paul PANG Tat-choi	46 th	24/25	Ir CHIN Sai-ping



