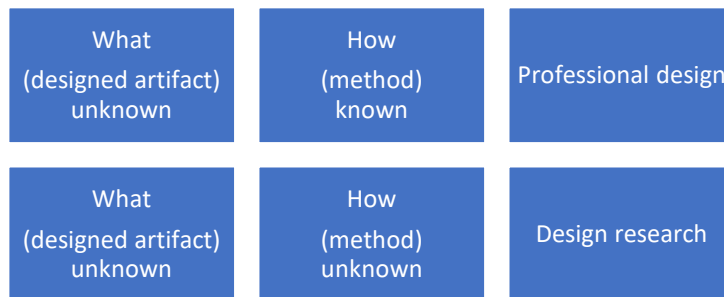


## Why architectural pedagogy and design-research methodology may not work for landscape architecture

FoA has embarked on the next phase of reviewing our landscape architecture programme. It is turning into an exciting conversation. The aim is to find a sustainable and compelling vision for Landscape @ HKU. One option is to make DLA a Department. Another would be to make it a strong independent programme alongside other programmes within a new School of Architecture, Landscape and Design, as per our recent initial consultations on the naming and structure of FoA and its units. Either way, the goal is to strengthen Landscape, extend its reach and depth, and put DLA more firmly on the global map of top landscape programmes. All options are open and the presumption is that landscape as a subject will continue to become more and more important as a focus for initial education, professional education, specialist postgrad education and the underlying research that gives foundation and specialisation to the professional field of landscape architecture.

And that's why the current conversation is so exciting. There's a lot to discuss and some meaty intellectual debate to have. This DRup summarises one of them. I invite colleagues to contribute think pieces on other lines of debate for future DRups and/or consultation think-piece papers to help us work through the issues.

I'll start obliquely with the final lecture of FoA's new Research Methods 101 course for undergrads across all FoA's programmes. Kristof Crolla delivered what for me was the clearest and simplest exposition of architectural *design research* I have heard. The following diagram is my interpretation of one of his PPT slides:



In professional architecture, it is generally the final product (the *what*) that is unknown, and tried and tested methods of design and construction are used to produce it. Imagine signing off on a professional architectural project where the form *and* the method are both unknown. But in design research, both the method and the product can be ‘unhinged’ from what is already known. That’s it. As an example, Kristof’s experimentation with curvilinear bamboo structures that are suitable for real construction through the use of finely specified construction codes, involved lengthy experimentation between the two unknowns of form and method.

What’s the connection to landscape? At the architectural scale of a garden, or perhaps the urban design scale of a small designed park, Kristof’s diagram seems to work. Design research and design-based studio learning can, in principle, progress by prototyping, experiment, trial and error and iteration. Viable designs are likely to emerge more quickly this way than from an equivalent scientific search of solution space. That’s the power of design thinking.

But scale up from the garden and from the possibility of 1:1 prototyping, and the problem changes fundamentally. Let’s take the example of *cultural landscapes*, an idea featured in a recent DRup, and add to it the idea of *palimpsest mapping*<sup>1</sup>. Archaeologists map layers of history using the network as a formalism: the top node represents the discovered artifact in question and the links map connections to other artifacts, to historical context, to artifact and cultural evolutionary paths, and so on. There is a clear connection between the idea of palimpsest mapping and the idea of cultural landscapes, where landscape elements are linked into culturally and historically meaningful units ([see a recent discussion in DRup](#)). Naturally occurring cultural landscapes might also be represented by a network formalism, both to give internal definition and to give cohesion to otherwise subjective judgement, and to denote links to other cultural landscape units.

Landscape architecture interventions at this scale, and making use of such information, clearly cannot be subject to prototyping and experimentation in the way that is possible with architectural design research. For one thing, a cultural landscape palimpsest map is essentially descriptive, at least in the way I have

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<sup>1</sup> Inspired by a dinner with our DLA colleague Cecilia Chu, and Richard Engelhardt, former senior UNESCO heritage expert and currently a visiting professor in DLA.

summarised it above. But having created such maps, might they be subject in some way to experimentation and prototyping in search of landscape interventions to improve, enhance, and protect, or to create something entirely new while conserving the historical and natural context? Well, yes. But not in the same way, perhaps. The nearest established methodology for doing this is referred to as Geodesign, and was developed formally by Carl Steinitz at Harvard GSD in the 1960s and then rolled out for mass practice by Steintz's student Jack Dangermond, founder of GIS global technology leader ESRI and recent recipient of an honorary doctorate from HKU. Designing with nature (an idea associated with American architect Frank Lloyd Wright and Scottish landscape architect Ian McHarg), requires computable models of nature in order to test out landscape design ideas. Geodesign ideas become the prototypes and are explored by a judicious mix of design, data, data analytics, visualisation models and qualitative professional critique. The prototyping, testing and iteration takes place within a computable scale model.

So, above the scale of gardens and architectural landscaping, what knowledge and skills should Landscape Architecture teachers give their students? At undergraduate level? In professional master's programmes? In specialist master's programmes?

One thing we can say with confidence is that study visits are crucial. FoA's Division of Landscape Architecture runs what is probably the most adventurous, engaging and challenging programme of study visits in HKU. Long may they continue. Getting into the field is essential to start to understand context, landscape composition, process, cultural values and practices, the economic and ecological logic of nature-human interactions, and to start to grasp the complex ways in which all interact. That can only be a starting point, however. What processes, from all this complexity, do we select to study during the field visit, and then on the project, studio, or thesis that follows? What models of the complex landscape dynamics do we use to inform our design interventions? If our focus is on human-nature relationship, how do we teach students to sample scientifically to avoid the bias of only talking to those who want to talk to us? Is there such a thing as a landscape-sensitive mode of ethnographic research? Or should all landscape students take classes in tried and tested ethnographical methods to give accuracy to their interpretations? How do we sensitivity-test our landscape designs for climate change? Landscape designs last a long time. They are self-organising and emergent, the more so if they work *with* rather than against nature. We will need skills of landscape science, including ecological modelling, and species distribution modelling. We will need to master techniques of remote sensing to give us accurate data for description, analysis and prediction. We may need some advanced geomorphology if we want to work with landscape processes in the long term.

So, when landscape architecture moves out of the architectural scale, it becomes something more than architecture. And its knowledge and skill base shifts fundamentally towards the natural and social sciences. Teaching landscape architecture as though it is architecture doesn't do justice to the

complexity and very high contemporary significance of the subject. For this reason, FoA has spent some years building up our multi-disciplinary teaching capacity in DLA, where as well as those from landscape architecture and architectural studio backgrounds, we have colleagues who bring expertise and knowledge from human geography, physical geography, environmental psychology, landscape and architectural history, GIS science, critical qualitative GIS, climate modelling, mega-infrastructure programme evaluation, heritage policy, urban planning and so on. This is all absolutely vital for the next phase of Landscape @ HKU, none the least because of the issue of scale.

The scale issue makes this blog another in the ongoing series of DRups that unpack some of the hidden problems of representational scale in built environment teaching and research. The importance of modelling complexity doesn't just apply to the kind of complex ensemble of processes confronting landscape students and professionals. One reason why Kristof's curvilinear bamboo structures require design research is the structural and constructional complexity that frames aesthetic complexity (the latter arguably being the principal source of the beauty of Kristof's work). Kristof tells me that the deflection of a bamboo pole scales in peculiar ways in scale models: Double only the length and the deflection increases sixteen-fold. Double all dimensions including sections, however, and the deflection remains the same. If one of Kristof's students works with a 1:2 half-scale model, without a scientific theory to model the structure, the student will be misled about the real strength of the 1:1 structure. If not properly considered, the real thing, when built, could resemble a pile of spaghetti. As I mentioned in my recent DRup blog [‘scale and majesty’](#), the human mind cannot comprehend non-linear trends. Scaling up an architectural design that performs non-linearly when we only use human visuals and perception, will always result in error and possibly disaster (the first suspension bridges). Some of that error may be productive in the process of design research. But to understand it, it will need ‘taming’ by reductionist methods of inductive and deductive modelling. All the more so in something as multi-dimensionally complex as a landscape. So, what descriptive, analytical and predictive models do we expose our students to, to help them scale up from their field trips, surveys, GIS analysis and design studio experimentation? The knowledge and skill base of landscape studies and landscape architecture has to draw from the natural, social and design sciences in appropriate measure. It's hard, in my view, to justify a landscape architecture pedagogy that mimics architectural design research as summarised in the figure above. Lessons learned from architectural design education and design research may be useful in generating design *ideas* in landscape architecture, but they will have to be mixed with some kind of geodesign (Harvard method or otherwise) in order to become working and testable *prototypes* of landscape architecture interventions. That's why the current conversations about FoA's landscape programmes are so intellectually and pedagogically stimulating. Evidence-based landscape planning has never been more important for the present and future experience of human civilisation.

What 'graduateness' qualities will our landscape students be known for in 20 years' time?

If you have follow-up arguments, to counter any of my points, raise additional issues, and so on, you are invited to submit to the Dean's office at any time. Please keep it to the point and in the form of a logical argument. It would be nice to be able to put together a compendium of arguments that will help shape our landscape pedagogy and give vision to our landscape programmes for the coming decades. We can provide the compendium to the panel of external academic and professional advisors that will constitute the final stage of the current DLA vision consultation.

<>

Many congratulations to all those whose work and achievement is featured below. Particular praise to Chao Ren, for winning one of HKU's most prestigious prizes – Outstanding Young Woman Scholar 2022 – in recognition of her scholarly achievements in academic and applied urban climate modelling, planning and urban design; and also to our two prize-winning teams at this year's International Exhibition of Inventions Geneva (led by Anthony Yeh and Wilson Lu respectively). Next year I hope we'll see Eric's CRF team submitting an entry to the Geneva convention. Also, congratulations to all our students who put FoA at the top of CEDARS' 26th Recognition Ceremony for Students.



Chris Webster

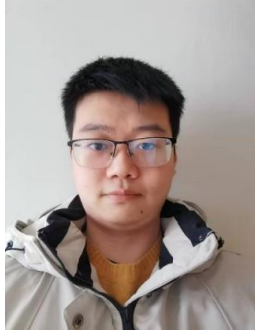

Dean, FoA

## Faculty of Architecture

### 1. New colleagues

- A warm welcome to the following colleagues, who joined our Faculty since March 2023:

	<p>Dr Da Derek Huo</p> <p>Lecturer Department of Real Estate and Construction</p> <p>Dr Huo obtained his PhD in Real Estate Economics at the University of Hong Kong, following his bachelor's degrees in construction management and in economics at Tsinghua University. He is also an alumnus of the Ronald Coase Institute.</p> <p>Dr Huo's major teaching themes are real estate economics and real estate data analytics. He is also interested in researching the formal and informal institutions (the rules of the game) in real estate markets, especially the emerging institutions in the industry and unique institutions that used to appear in history. He is keen on using real-world data to test the economic stories behind the institutions. His works have been published by academic journals such as <i>Journal of Financial and Quantitative Analysis</i>, <i>Cities</i>, and <i>Journal of Real Estate Finance and Economics</i>.</p>
	<p>Dr Pei Ma</p> <p>Postdoctoral Fellow Department of Real Estate and Construction</p> <p>Dr Ma completed her PhD in Construction Management at the University of Hong Kong. Prior to that, she received a master's degree in Management Science and Engineering from Tianjin University, and a bachelor's degree in Information Management and Information Systems from Dalian University of Technology.</p> <p>Under the supervision of Dr Isabelle Chan, Dr Ma carries out research on Building Information Modelling (BIM)-based Automation. Her research</p>

	<p>areas include construction innovation, early facility management involvement, and boundary management. Dr Ma is a member of the International Facility Management Association (Hong Kong Chapter).</p>
	<p>Dr Yi Ma</p> <p>Postdoctoral Fellow Department of Urban Planning and Design</p> <p>Dr Ma obtained his PhD in Urban Planning and Design from the University of Hong Kong, and his BEng and BA dual degree from Tsinghua University.</p> <p>Under the supervision of Professor Shenjing He, Dr Ma carries out research on climate gentrification, global south climate change responses, and climate justice.</p> <p>Dr Ma is also interested in research topics related to complex social space, including big data and AI's role in public governance, and China's social change and governance reform.</p>
	<p>Dr Man Wah Conny Wang</p> <p>Lecturer Department of Real Estate and Construction</p> <p>Dr Wang completed her PhD degree at Universiti Sains Malaysia, following her MSc degree in Construction Project Management and BSc degree in Building Surveying at the University of Greenwich. Her research areas focus on facilities management in the building context.</p> <p>Prior to joining HKU, Dr Wang had worked as Deputy Leader of a UGC-funded surveying programme at City University of Hong Kong. She is a Registered Professional Surveyor (RPS BS), Building Surveyor (MHKIS BS), Property &amp; Facility Management Surveyor (MHKIS PFM) and Construction Manager (MHKICM). In respect of knowledge transfer, she currently serves as a Panel Member of the Appeal Tribunal (Buildings Ordinance) and the Appeal Board Panel under the</p>

	<p>Construction Workers Registration Ordinance; Member of the Technical Committee on Design Manual: Barrier Free Access of the Buildings Department; Building Surveying Division Council Member of the Hong Kong Institute of Surveyors; and Co-opted Member of Professional Green Building Council.</p>
	<p>Dr Ya Zhao</p> <p>Postdoctoral Fellow Department of Urban Planning and Design</p> <p>Dr Zhao completed her PhD degree in Urban Planning and Design at the University of Hong Kong. Prior to that, she obtained a master's degree in Real Estate at HKU and a bachelor's degree in Land Management at Zhejiang University.</p> <p>Dr Zhao is working under the supervision of Dr Jiangping Zhou. Her research interests include urban economics, urban governance, transit-oriented development and land policy.</p>

## 2. The 48th International Exhibition of Inventions Geneva

- Professor Anthony Yeh and Professor Wilson Lu led their research teams to win two medals at this year's International Exhibition of Inventions Geneva (IEIG).



(From left) Dr Run Shi, Professor Anthony Yeh, Professor Wilson Lu and Mr Liupengfei Wu (PhD candidate, REC) received medals at the 48th International Exhibition of Inventions Geneva



## SILVER MEDAL

### **Smart Address Plates for Pedestrian Indoor Navigation and Location-Based Services and Management**

Developed by Professor Anthony Yeh, Dr Zhong Teng (PhD 2017) and Dr Run Shi (PhD 2021), Department of Urban Planning and Design

Traditionally, pedestrian navigation uses Location Positioning System (LPS) with trilateration to find the user's position, which have very high positioning error for outdoor GPS and indoor positioning. This new solution adopts a cost-effective innovative Location Confirmation System (LCS) to accurately locate and guide the user to the destination by using Smart Address Plates (SAP) that transmit stored geographic coordinates with innovative 3D Smart Address (SA) codes to the users even without WiFi or telephone signals. This SAP system can help to find shops/offices/restaurants/car parking spaces inside a multi-storey building accurately while providing location-based services and management for precise target marketing. It is highly scalable, connecting shops/rooms on a floor to a building, then to a district and to the whole city through a Smart Address Plate Management System (SAP-MS).

## BRONZE MEDAL

### **Remote e-Inspection System for the Manufacturing and Delivery of Offsite Modular Construction**

Developed by Professor Wilson Lu (Director of iLab, Department of Real Estate and Construction), together with Professor Anthony Yeh (Chair Professor, Department of Urban Planning and Design) and Mr K. L. Tam (Former Director, Estates Office)

This e-Inspection System is a Modular Construction Supply Chain Quality Assurance system that includes i-Core (an IoT device attached to each MC module to monitor the position, humidity, temperature and collision data), e-InStar (an App for uploading the checking result of each production step in a remote factory to the block chain), e-TranStar (an App for monitoring the location and condition of the MC module in the transport process) and a blockchain-based backend. Designed for offsite modular construction use to help solve housing problems, it reduces resources required for supervision and paperwork while ensuring tamper-proof data, helping overcome the current difficulties in monitoring the quality of production and transportation from remote sites. The system has been piloted in an HKU project in Hong Kong with two 17-storey buildings using 952 MiC modules.

Press release: <https://hku.hk/press/press-releases/detail/26060.html>

[IEIG](#) is one of the world's most significant annual events devoted to inventions and innovations. This year, nearly 1,000 inventions from around 40 countries were on display at the exhibition in Geneva during 26-30 April 2023, including the two winning projects above.

### 3. Dr Chao Ren

- received the Rosie Young 90 Medal for Outstanding Young Woman Scholar 2022 in recognition of her scholarly achievements in academic and applied urban climate modelling, planning and urban design.

The award presentation ceremony was held on 25 April 2023 at the Foundation Chamber of HKU.

The Medal is one of the University's highest honours for its professorial and clinical academics.



#### 4. CEDARS 26th Recognition Ceremony

- was held on 29 April 2023 at Rayson Huang Theatre. The Ceremony is an annual celebration with HKU student achievers and CEDARS service awardees. This year, there were more than 40 students across the Faculty's Ug, TPg and RPg programmes awarded for their achievements and contributions from January to December 2022.

Dr Frank Xue also participated as a guest at the Ceremony. The complete list of awardees can be found on the [Ceremony brochure](#).



FoA student awardees at CEDARS 26th Recognition Ceremony

# Department of Architecture

## 1. Spring 2023 Public Lecture Series – Moving Bodies



Speaker: Vinu Daniel, Principal, Wallmakers, India  
Topic: *The Two Snakes We Saved and Killed*  
Date: 28 April 2023  
Time: 6:30pm – 8:00pm  
Venue: Room 419, 4/F, Knowles Building

**Abstract:** *Most landscapes are entirely artificial. There are so many imported plants there. They may look beautiful, but they don't feel they belong there. We started to understand that the swamps, pits, and other ecologies that we so often build over are more real and important than whatever we make on the computer to replace them. So, the idea is not to bring new plants but to have the same plants that already exist there. They are beautiful enough. More importantly, can the existing ecology be improved? This house we want to present had a swamp and two snakes in it. So, we built a special enclosure for them and elevated the house over it in such a way that they could not get into the house easily and no inhabitants of the house would come in contact with them unintentionally. This way the snakes can continue to live their own lives. After all, who are the real inhabitants there?*

More information: [https://www.arch.hku.hk/event/\\_vinudaniel/](https://www.arch.hku.hk/event/_vinudaniel/)

## 2. Spring 2023 Discussion Lecture Series

**University of Hong Kong**  
Department of Architecture  
Discussion Series  
Spring 2023

**Feminist Architectural Histories of Migration**

**THU 27 APR 2023**  
6:30-8:00pm  
KB419  
Knowles Bldg.  
HKU

**Discussants**

**Elizabeth LaCouture**  
Programme Director  
Gender Studies Programme  
Assistant Professor  
Department of History  
School of Humanities  
The University of Hong Kong

**Shirley Surya**  
Curator, Design and Architecture, M+

**Speakers**

**Anooradha Iyer Siddiqi**  
Assistant Professor of Architecture  
Barnard College, Columbia University

**Will Davis**  
Princeton Mellon Postdoctoral Fellow  
Princeton University

**Eunice Seng**  
Chair  
Departmental Research  
Postgraduate Committee  
Associate Professor  
Department of Architecture  
The University of Hong Kong

**Moderator**

**Guillaume Othenin-Girard**  
Assistant Professor  
Department of Architecture  
The University of Hong Kong

**Respondents**

**Rochelle Yu**  
MArch student, Department of Architecture  
The University of Hong Kong

**Lu Zhang**  
PhD student, Department of Architecture  
The University of Hong Kong

**Sony Devabhaktuni**  
Assistant Professor  
Department of Architecture  
The University of Hong Kong

**Feminist Architectural Histories of Migration**, co-edited by Anooradha Iyer Siddiqi and Rachel Lee, is a collection of articles and media published in three phases from 2019-2022 in the open access online journal, *A&E Journal: Architecture Beyond Europe's Colonial Career for Architecture and Aggregates*. It takes migration as the central concept and historical approach behind feminist narratives of control, environments and spatial and material practices, treating migration as a method of writing anti-patriarchal, anti-racist, anti-capitalist, and anti-feminist architectural histories. In historiographical solidarity with people in the past and present who have been and are dispossessed of land and home, collaborators on this project are writing feminist practices of history writing and make space for migrant narratives of built environments. Both, by necessity, are based in collaboration.

This lecture is open to general public  
If more information please visit our website  
www.hku.hk

Topic: Feminist Architectural Histories of Migration

Date: 27 April 2023

Time: 6:30pm – 8:00pm

Venue: Room 419, 4/F, Knowles Building

Speakers:

- Anooradha Iyer Siddiqi, Assistant Professor of Architecture, Barnard College, Columbia University
- Will Davis, Princeton Mellon Postdoctoral Fellow, Princeton University, and Research Associate, Asia Research Institute, National University of Singapore
- Eunice Seng, Chair, Departmental Research Postgraduate Committee, and Associate Professor, Department of Architecture, HKU

Moderator:

- Guillaume Othenin-Girard, Assistant Professor, Department of Architecture, HKU

Discussants:

- Elizabeth LaCouture, Director, Gender Studies Programme, and Assistant Professor, Department of History, School of Humanities, HKU
- Shirley Surya, Curator, Design and Architecture, M+
- Sony Devabhaktuni, Assistant Professor, Department of Architecture, HKU

Respondents:

- Rochelle Yu, MArch student, Department of Architecture, HKU
- Lu Zhang, PhD student, Department of Architecture, HKU

**Abstract:** *Feminist Architectural Histories of Migration*, co-edited by Anooradha Iyer Siddiqi and Rachel Lee, is a collection of articles and media published in three phases from 2019–2022 in the open-access online journals *ABE Journal: Architecture Beyond Europe*, *Canadian Centre for Architecture*, and *Aggregate*. It takes migration as the central concept and historical event behind feminist narratives of constructed environments and spatial and material practices, testing migration as a method of writing antipatriarchal, antiracist, anticasteist, and antiformalist architectural histories. In historiographical solidarity with people in the past and present deterritorialized and dispossessed of land and home, collaborators on this project undertake a feminist practice of history writing and make space for migrant narratives of built environments. Both, by necessity, are based in collaboration.

More information: [https://www.arch.hku.hk/event/\\_feministarchitectural/](https://www.arch.hku.hk/event/_feministarchitectural/)

### 3. Open Studios: Moving Bodies

**Open Studios**  
HKU Music Department ensembles open their studios to join forces in a performance/installation featuring an eclectic mix of music traversing divisions of time, genre, and space. The repertoire ranges from fully notated scores to open-form improvisation, juxtaposing contemporary masterpieces, Balinese gamelan, and baroque chamber works.

**Moving Bodies**  
Collaborative Team  
Giorgio Bianconese  
Deborah Wough  
Shane Levinson  
Angus Lee  
Thomas Truong

**23 April 2023**  
**(SUN) 3 – 4:30pm**

All Welcome

**Loke Yew Hall**

Performers:  
Angus Lee, Rita  
HKU Early Music Ensemble  
HKU Chamber Music Ensemble  
HKU Percussion Ensemble  
HKU Gamelan

**H K U**

Terry Riley In C → Georg Philipp Telemann concerto for 4 Violins in G Major, TWV 40201 → Antonio Vivaldi Sonata for Recorder, Bassoon and Continuo, RV 86 → Jordan Grigg Shoreside → Kazuo Fukushima Mei → Traditional Lengkes → Johann Friedrich Fasch Sonata for Recorder, Violin, Bassoon and Continuo, FoWV N-DI → Alif I Gusti Agung Adi Putra Mo Meng → J.S. Bach Sarabande from Partita in A minor, BWV 1013 → Antonio Vivaldi Bassoon Concerto in A minor, RV 498 → Isang Yun Salomo → Nigel Westlake Omphalo Centric Lecture → Toshio Hosokawa Kuroda-Bushi

DEPARTMENT OF MUSIC THE UNIVERSITY OF HONG KONG  
THE UNIVERSITY OF HONG KONG faculty of architecture  
Department of Architecture

The HKU Music Department Ensembles open their studios for a performance/installation featuring an eclectic mix of music traversing divisions of time, genre, and space. The repertoire ranges from fully notated scores to open-form improvisation, juxtaposing contemporary masterpieces, Balinese gamelan, and baroque chamber works.

Date: 23 April 2023

Time: 3:00pm – 4:30pm

Venue: Loke Yew Hall, HKU

Performers:

- Angus Lee, flute
- HKU Early Music Ensemble
- HKU Chamber Music Ensemble
- HKU Percussion Ensemble
- HKU Gamelan

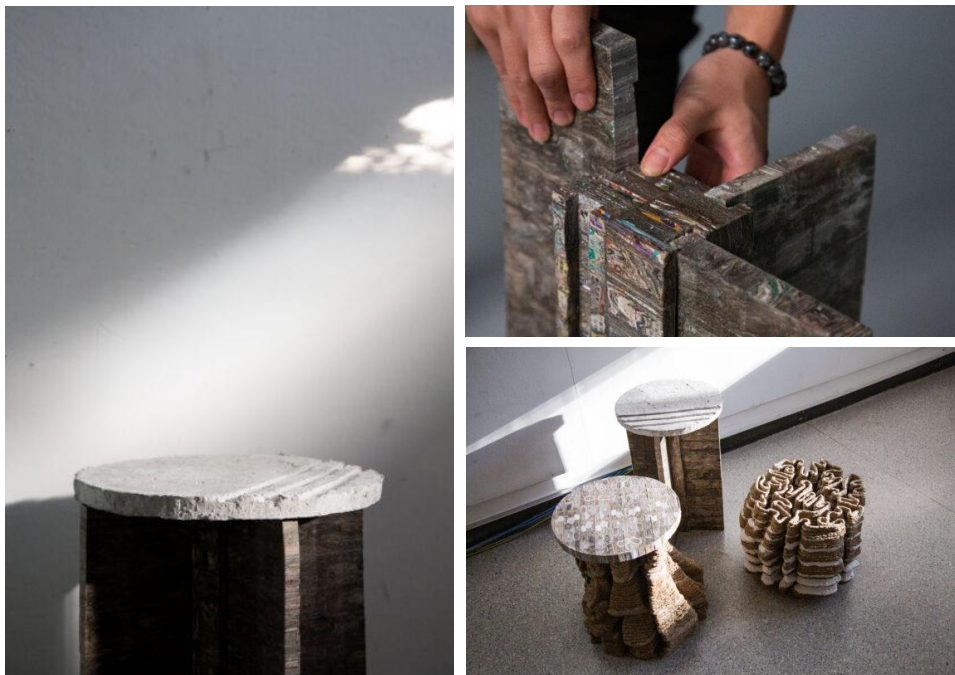
Collaborative Team:

- Giorgio Biancorosso
- Deborah Waugh
- Shane Levesque
- Angus Lee
- Thomas Tsang
- HKU Department of Music
- HKU Department of Architecture
- HKU Knowledge Exchange

More information: [https://www.arch.hku.hk/event/\\_open-studios-moving-bodies/](https://www.arch.hku.hk/event/_open-studios-moving-bodies/)

#### 4. Hong Kong Smart Design Awards

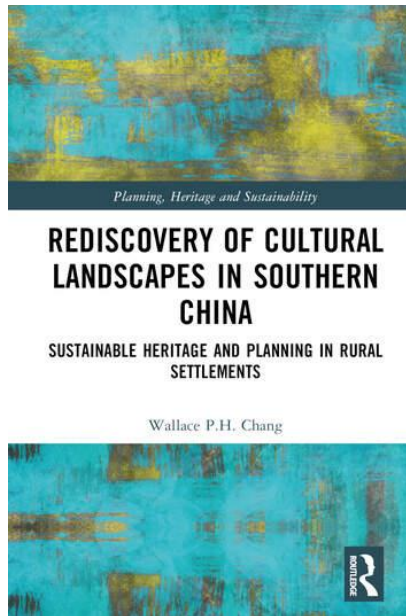
- BAsc(Design+) Year 4 students Tse Fergal Yau Wai and Huynh Ngoc Anh Duy won Green Award and Silver Award at the Hong Kong Smart Design Awards, for their project 'This is Paper', which explores the possibilities that paper as a material holds after its initial use. The research project aims to provide new potential avenues and applications for recycled paper through the creation of three new materials and their corresponding fabrication methodologies.



More information: <https://www.arch.hku.hk/hksda2023/>

## 5. Mr Wallace Chang

- has his new book *Rediscovery of Cultural Landscapes in Southern China: Sustainable Heritage and Planning in Rural Settlements* published by Routledge on 28 April 2023.



**Abstract:** *This book investigates the concept of human landscape in rural settlements in Southern China, where communities and their cultural landscapes are facing contemporary challenges following a period of rapid urbanization in the last 50 years.*

*While metropolitan cities, such as Hong Kong, are experiencing accelerated urban development, underpopulated rural villages are struggling to maintain the cultural heritage of their regions. Rediscovery of Cultural Landscapes in Southern China provides a detailed account into indigenous living cultures in traditional, rural settlements upon natural landscapes. Beginning with an overview of the theoretical framework, the book presents six unique cases, including: Tai O, Yim Tin Tsai, Lai Chi Wo, Nga Tsin Wai, Cangdong, and Meinong, while illustrating a relevant comparison between Hakka and Satoyama landscape systems. The spectrum of theoretical and case analyses allows for a rethinking of the evolving cultural landscape's positioning with valuable heritages in the context of a post-industrial society.*

*The book is written towards reinterpreting the cultural landscape by conceptualizing the human landscape for scholars, practitioners, and students interested in rural-cultural conservation and revitalization, heritage management, traditional architecture and landscape planning, and urban-rural development.*

More information: <https://www.routledge.com/Rediscovery-of-Cultural-Landscapes-in-Southern-China-Sustainable-Heritage/Chang/p/book/9780367466527>



- presented on the topic of 'E-pathy City' at the [HKHS International Conference 2023: 'A Vision for the Future: Liveable Communities for Sustainable Living of Multi-Generations'](#) on 17 April 2023.



# Division of Landscape Architecture

## 1. Guest Lecture



Topic: Challenges from Changing Climate: Dengue Fever Risk in High Density Built Environment

Date: 5 May 2023

Time: 10:00am – 12:00nn

Venue: Room 416, 4/F, Knowles Building (also via Zoom)

Speaker(s):

- Dr Chao Ren
- Dr Sean Hsiang-Yu Yuan
- Dr Linwei Tian
- Dr Marc Chong
- Dr Tsz Cheung Lee
- Mr Ming Wai Lee
- Dr Benoit Guénard
- Dr Shi Yin

**Abstract:** Climate change will impact health by changing the spread of infectious diseases like dengue fever. Hong Kong, with its ideal climate conditions, has seen an increasing trend in dengue cases since 2002. A seminar will share research findings on sustainable built environments and dengue fever, aiming to decrease health risks and enhance local adaptation.

More information:

<https://www.arch.hku.hk/event /challenges-from-changing-climate/>

## 2. Spring 2023 Public Lecture Series – Assembling Futures

DIVISION OF LANDSCAPE ARCHITECTURE  
SPRING 2023 LECTURE SERIES

### ASSEMBLING FUTURES

**LANDSCAPE AS PROCESS**

The changeability of landscape-architecture projects indicates an essential aspect of the discipline. The fact that the "end product" of landscape architecture ultimately is only the beginning of an ongoing process of development may represent one of the most radical differences to architecture. A landscape architect is not only able to design space, but also embed it in time. However, the temporal difference between these two areas, both of which are symbolized by the professional title of a landscape architect, will not only become visible at the end of a project, but is already inscribed into it at the very beginning. With regard to design, architecture tends to use the term of "context" to refer to the urban context, and sometimes also the cultural and historical one, which basically limits its temporal horizon to a mere few years, centuries and, at most, millennia. Landscape architecture, on the other hand, can also refer to the natural-historical context, with the associated disciplines of biology and geology causing the time horizon to grow quite immensely: from millennia to millions of years. This increased awareness of time as a determining factor on the part of landscape architecture perhaps occasionally also causes time to become the very content of the design. It is all about the design of processes. However, the awareness of this sort of events is also important the process of design. This, too, takes time. By nature, landscape architecture is a slow discipline. And the discovery of awareness requires not only special attention, but above all a patient eye on the part of an observer.

APR 19  
6:30—8:00PM  
KB419  
KNOWLES BLDG.  
HKU

**GÜNTHER VOGT**  
Director of Vogt Landscape Architects  
Professor and Chair of Landscape Architecture  
Institute of Landscape and Urban Studies (LUS), ETH Zurich

Discussant:  
Ivan Valin  
Head of Division of Landscape Architecture  
Associate Professor in Practice  
The University of Hong Kong

THE UNIVERSITY OF HONG KONG 香港大學  
faculty of architecture 建築學院

Division of Landscape Architecture  
For more information,  
please visit our website: [www.crcd.hku.hk](http://www.crcd.hku.hk)  
Enquiry: [rcd@hku.hk](mailto:rcd@hku.hk)

Topic: Landscape as Process

Date: 19 April 2023

Time: 6:30pm – 8:00pm

Venue: Room 419, 4/F, Knowles Building

Speaker: Günther Vogt, Director of Vogt Landscape Architect; Professor and Chair of Landscape Architecture, Institute of Landscape and Urban Studies (LUS), ETH Zurich

Discussant: Ivan Valin, Head of Division of Landscape Architecture, Associate Professor in Practice, HKU

**Abstract:** *The changeability of landscape-architecture projects indicates an essential aspect of the discipline. The fact that the 'end product' of landscape architecture ultimately is only the beginning of an ongoing process of development may represent one of the most radical differences to architecture. A landscape architect is not only able to design space, but also embed it in time. However, the temporal difference between these two areas, both of which are symbolized by the professional title of a landscape architect, will not only become visible at the end of a project, but is already inscribed into it at the very beginning. With regard to design, architecture tends to use the term of "context" to refer to the urban context, and sometimes also the cultural and historical one, which basically limits its temporal horizon to a mere few years, centuries and, at most, millennia. Landscape architecture, on the other hand, can also refer to the natural-historical context, with the associated disciplines of biology and geology causing the time horizon to grow quite immensely: from millennia to millions of years. This increased awareness of time as a determining factor on the*

*part of landscape architecture perhaps occasionally also causes time to become the very content of the design: it is all about the design of processes. However, the reverse of this turn of events is also important: the process of design. This, too, takes time. By nature, landscape architecture is a slow discipline. And the discovery of slowness requires not only special attention, but above all a patient eye on the part of an observer.*

More information: [https://www.arch.hku.hk/event/\\_transformative-heritage-conservation-in-hong-kong-macao-and-mainland-china/](https://www.arch.hku.hk/event/_transformative-heritage-conservation-in-hong-kong-macao-and-mainland-china/)

### 3. Village Commoning Symposium

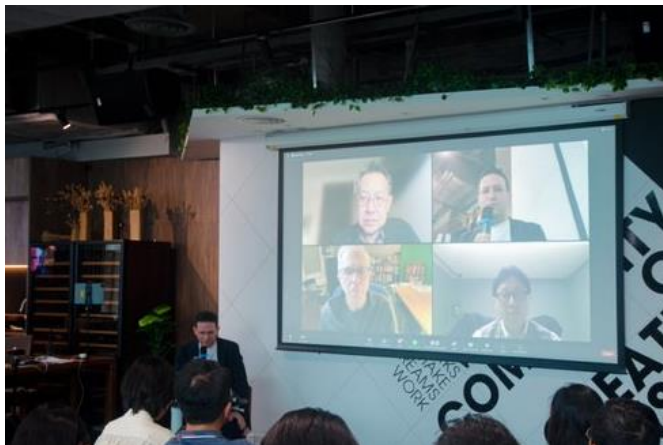
- was successfully held at the Commons Workshop in Wan Chai on 29 April 2023.

The symposium aimed to foster a thorough understanding of the concept and theory of commoning, and to spark conversations about its potential in contributing to village revitalisation in Hong Kong. International and local speakers were invited to share their thoughts on commons and commoning, while participants also had a first-hand experience about village commoning through an interactive workshop.





The Principal Investigator, Ms Vincci Mak, welcomed the guests at the Symposium.



International experts Professor Jeffrey Hou, Mr David Bollier and Professor Suh-Hyun Park were invited to share theories behind commons and commoning online, and joined Dr Maxime Decaudin for a panel discussion.



Another panel discussion was moderated by Dr Cecilia Chu (far left), with Professor Pun Ngai, Ms Ada Wong JP, Mr Eric Ho and Professor Daren Leung (from left to right) speaking on the rise of commons movements in Hong Kong.



Symposium participants had an immersive commoning experience in an interactive workshop.



Moderated by Ms Vincci Mak (far left), a panel discussion on commoning and sustainability engaged local experts Ms Hermion Au, Professor Shenjing He, Professor Thomas Chung and Mr Charles Lee (from left to right).

Village Commoning: Developing a Community-led Model in Countryside Revitalisation is a research initiative established since 2021 at the University of Hong Kong (HKU), funded by the Countryside Conservation Funding Scheme of the Hong Kong SAR Government. Led by Ms Vincci Mak, Senior Lecturer at HKU Division of Landscape Architecture, the team seeks to derive a community-led model of village revitalisation that enables local stakeholders to take a greater role in initiating the revitalisation of their village assets. Utilising 'commoning' as a conceptual framework, this model emphasises the collective management of resources that can lead to the creation of new values, in particular in fostering a sense of pride, and ownership of place and empowering the community as a whole.



Website: <https://villagecommoning.hku.hk/>  
Facebook: <https://facebook.com/villagecommoninghk>  
Instagram: <https://www.instagram.com/villagecommoninghk/>  
More information: <https://www.arch.hku.hk/event/village-commoning-symposium/>

#### 4. Dr Chao Ren

- has been appointed by the Hong Kong Red Cross to be its Emergency Preparedness and Response Strategic Committee Member from 1 April 2023 to 31 August 2024.
- gave a research seminar titled 'Understanding of Heat-Health Impact in Subtropical High-density Cities: An Experience from Hong Kong' for the HKU Institute for Climate and Carbon Neutrality, on 2 May 2023.



**Institute for Climate and Carbon Neutrality**  
THE UNIVERSITY OF HONG KONG

**UNDERSTANDING OF HEAT-HEALTH IMPACT  
IN SUBTROPICAL HIGH-DENSITY CITIES: AN  
EXPERIENCE FROM HONG KONG**



**SEMINAR HIGHLIGHT**

The lecture will introduce the new findings of the current situations of extreme hot weather of Hong Kong, as a case study of high-density cities, and identify the key characteristics of the Heat-Health impact, including the spatial pattern of very hot day and hot night in Hong Kong, urban heat island during heatwaves and the corresponding health impact. The seminar will illustrate the idea of "Science in Time, Science in Place" and explain how to deliver a cross-disciplinary collaboration bridging the scientific world and the community and society.

**SPEAKER: DR. CHAO REN**  
ASSOCIATE PROFESSOR  
FACULTY OF ARCHITECTURE  
HKU

**ABOUT THE SPEAKER:**  
Dr. Chao REN specializes in applied climatology and climate design, who uses GIS, and spatial modelling methods and remote sensing techniques to study urban environmental performance and develop climate response design strategies and guidelines. Chao serves as an Associate Editor for Urban Climate, and is a member of urban expert team of the World Meteorological Organization and Global Heat-Health Information Network. She has been involved in several international collaborative research reports, including the IPCC AR6 and UNEP's GEO-7 report.

ALL WELCOME!

Registry 

Zoom Link 

02.05.2023 | TUESDAY 4: 00 PM - 5:00 PM VENEUE: KB132, MAIN CAMPUS, HKU

**Abstract:** *Extreme hot weather is likely to become more frequent and intense under future climate change, particularly in urban areas due to the complex urban settings. It causes implications on public health such as heat stroke, heat-related diseases and excess mortality due to negative physiological consequences of prolonged exposure to extreme heat. Hong Kong has experienced considerable warming in the last few decades. In the high-density urban environment of Hong Kong, such intense heat is exacerbated by urban heat island phenomenon due to the compact urban form and settings, which is also more prominent during night-time. The lecture will introduce the new findings of the current situations of extreme hot weather of Hong Kong, as a case study of high-density cities, and identify the key characteristics of the Heat-Health impact, including the spatial pattern of very hot day and hot night in Hong Kon, urban heat island during heatwaves and the corresponding health impact. The study will illustrate the idea of 'Science in Time, Science in Place' and explain how to deliver a cross-disciplinary collaboration bridging the scientific world and the community and society.*

## 5. Mr Mathew Pryor

- presented on the topic of 'Near Peer Teaching (NPT) in Design Studio Courses', as part of the Students as Partners: Community of Practice Seminar organised by the HKU Centre for the Enhancement of Teaching and Learning on 27 April 2023.

The poster is for a 'Community of Practice Seminar' titled 'STUDENTS AS PARTNERS'. It is scheduled for 27 Apr 2023 from 12:30 pm to 1:30 pm at the CETL Learning Lab (RRS 321, Run Run Shaw Building, Main Campus, HKU). The poster lists six speakers and one facilitator, each with a circular portrait and their name and affiliation. The speakers are Mr. Mathew Pryor (Associate Professor, Faculty of Architecture, HKU), Dr. Mandy Liu (Lecturer, CES Faculty of Medicine, HKU), Ms. Elizabeth Fang (Student AMBS Co-ordinator, CES Faculty of Medicine, HKU), Dr. Gloria Wang (Associate Professor, Director of the Microbiome in Health Programme, Faculty of Social Sciences, HKU), Mr. Tolo Cheung (Assistant Professor, Biostatistics, Psychology & Counselling, CES of 2024, Faculty of Social Sciences, HKU), and Prof. Michael Boleto (Clinical Professor, Faculty of Dentistry, HKU). The facilitator is Prof. Michael Boleto. The poster also features logos for the University of Hong Kong, CETL (Centre for the Enhancement of Teaching and Learning), HKU Dentistry, and P@HKU (Students as Partners).

In the Seminar, Mathew looked at the increasing use of upper year students as student teaching assistants (STA) (near-peer teachers) in design studio courses. With reference to his own 3rd year undergraduate landscape systems studio, he discussed the role of STAs in supporting instructors and students, and reflected on the highly positive impact they have had on student learning, and the benefits to the STAs themselves.



## Department of Real Estate and Construction

### 1. REC Research Seminars and DUPAD & REC Joint Public Lectures

- invited Professor Jieming Zhu (Tongji University), Dr Anthony Lee Zhang (University of Chicago Booth), Professor Mark William Baker (University of Manchester) and Professor Cecilia Wong (University of Manchester) to present their research on land rights, economy and policy in March 2023.

	Date	Speaker	Topic
	28 March	Prof Jieming Zhu, Tongji University	<a href="#">Land Rights and Urban Forms: Cases of China, Vietnam, Indonesia and Singapore</a>
	29 March	Dr Anthony Lee Zhang, The University of Chicago Booth	<a href="#">Industrial Land Discount in China: A Public Finance Perspective</a>
	29 March	Prof Mark William Baker, University of Manchester	<a href="#">DUPAD &amp; REC Joint Public Lecture - What's the Problem with Planning: Reflections on Criticisms and Reforms in the UK Planning System over the Last Decade</a>
	31 March	Prof Cecilia Wong, University of Manchester	<a href="#">DUPAD &amp; REC Joint Public Lecture - Spatial Inequalities and Spatial Policy Thinking: The Case of England</a>

## 2. CBRE Company Visit

- BSc(Surveying) and MSc(Real Estate) students were invited to visit CBRE on 24 March 2023, where they had the opportunity to meet with senior management staff of the company, and learn from their expertise and experiences in providing real estate services worldwide.



## 3. Site Visit to Cheerful Court

- Dr Isabelle Chan and Sr Peter Wong led a group of BSc(Surveying) students to visit Cheerful Court in Ngau Tau Kok on 14 March 2023, as part of RECO3026 Surveying Studio 4. Cheerful Court is one of the Senior Citizen Residences Scheme projects run by the Hong Kong Housing Society. During the visit, the students received a guided tour on Care & Attention Home and Elderly Housing, and had the opportunity to learn about how the Scheme assists the elderly in the community to achieve ageing-in-place and meets the housing needs of an ageing population.



#### 4. RGC Postdoctoral Fellowship Scheme (PDFS) 2023/24

- Dr Leung Ka Man has accepted the offer by the Research Grants Council Postdoctoral Fellowship Scheme 2023/24 to take up a full-time appointment as Postdoctoral Fellow (PDF) in the Department of Real Estate and Construction.

#### 5. MSc(DMBA)

- The newly launched Master of Science in Digital Management of Built Assets is covered by HK01: [港大建設資產數字管理碩士 | 助建造業數碼轉型 培育行業領導者 \(hk01.com\)](http://hk01.com)



#### 6. Ar Kasing Yu

- was interviewed by *Being Hong Kong* magazine ('A Mid-Levels' Dream', Spring 2023 issue), in which he discussed the origins of the homophones '台 / 臺', which mean platform/step in Chinese.

Read the full interview [here](#).

「台」定「臺」？

香港大學建築學院地產及建設系助理教授（實務）余家樂研究建築保育多年，他指出半山的街名和地盤，一時寫「台」一時寫「臺」，近代用字用法相雜，但「臺」拆開上下部分，就是「吉+臺」，說明「臺」的意思。

在香港，並非命名為臺的屋高皆位於臺上，而沒有命名為臺的街道，卻可能建臺。要分辨真正的臺，可從建築方式判斷：臺是建在半山或斜坡上，沿斜坡加建平地，平臺外加護土牆，用以加固土坡，防止山崩，護土牆可說是內線上最易分辨臺的方式。

中上環都是依山而建的舊城區，從前不少地方都是起臺建屋，有斜坡的地方，就有臺的可能，不過中環和上環建臺的原因不一，前者比後者也更早建臺。中環的1860年代開始在臺上建屋，半山園以上的富有人家，當初為了看到景觀優美，

香山海的高住宅而建築。至於上環區，開埠後，山下有大量華人聚居，尤其是太平山街一帶，居住環境擠迫，衛生情況惡劣，1894年更爆發鼠疫，導致數千人離世。港英政府在鼠疫後「清洗太平地」，拆卸原有的木屋，並在1903年實施「公共衛生及建築條例」，由上環華人區築地基建住宅，以新的建築方式改善居住環境，並要求每幢大廈前有一定空地，引入自然光和空氣到屋內，空地除了提供健康的生活環境，亦形成公共空間，在未有公園的年代，讓居民可以有活動地方，連接街坊間。

現在的太子臺是半山電燈範圍中，唯一擁有歷史建築評級的臺，根據余家樂的相關研究所指，從舊地圖考證，太子臺原是歐式風格，1889年前，太子臺台階後方屬巴黎外方傳教會（Missions étrangères de Paris）的遺址。1897年時，該址已轉為大宅 Douglas Villas，大宅後來到卸時樓下維修，成為太子臺台階。

余家樂曾研究「臺」的歷史和建築，逾十年來在香港從事古蹟建築研究。

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青洲會館的 Douglas Villas 的業主為 Douglas Laprak.

Douglas Laprak 是香港開埠初年 (1850-1860 年代) 的著名大商，有份創建香港地產商會及黃埔船塢。1864 年他成為嘉豐銀行的創辦委員會成員，並於翌年建成住所物業杜格拉斯堡 (Douglas Castle，香港大學大學堂的前身)。他的商業足跡遠不止於此，後來中環德忌利士街 (Douglas Street) 亦是以他命。

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- was interviewed by RTHK's documentary programme 'Hong Kong United', in the episode of '漫遊築覺—中環商業歷史建築', in which he discussed the economic impact of conserving historical commercial buildings in Central.

The interview came out on 13 April 2023 and is available online:

<https://www.rthk.hk/tv/dtt32/programme/hkunited/episode/869200>



- was invited by Jao Tsung-I Academy to be the facilitator for its History and Culture Lecture Series: The Past, Present and Future of Heritage Conservation (歷史文化講座系列：保育項目的過去、現在與未來) on 23 March 2023. The guest speakers were Professor Raymond Fung Wing-kei and Professor Lau Chi-pang, and the lecture was well-received with around 800 participants joining face-to-face and online.



## 7. Professor K.W. Chau

- was invited to speak for the Sing Tao 85th Anniversary Property Seminar '2023年地產復甦轉勢講座—把握樓市新機遇', at the Hong Kong General Chamber of Commerce on 25 March 2023. He analysed the property market in Hong Kong today during the full-house event.



8. Dr Michael Wang

- has the following co-authored paper accepted:

Ling, D.C., **Wang, C.**, & Zhou, T. (2023). How Do Institutional Investors React to Local Shocks During a Crisis? A Test Using the COVID-19 Pandemic. *Real Estate Economics*.

[https://twitter.com/AREUEA\\_ORG/status/1646121667117162496](https://twitter.com/AREUEA_ORG/status/1646121667117162496)

- was invited to serve on the scientific committee of the [AREUEA International Conference 2023](#), to be held in Cambridge, UK, on 19-22 July 2023. The Conference will be hosted by the Cambridge Real Estate Research Centre at the Department of Land Economy of the University of Cambridge.

## Future Urbanity & Sustainable Environment (FUSE) Lab

### 1. Dr Binley Chen

- has been elevated to become an IEEE Senior Member, which is the highest grade for which IEEE members can apply.
- was invited to give a lecture on 'Urban Remote Sensing and Environmental Health' at Tsinghua Shenzhen International Graduate School on 27 February 2023.
- was invited to give a lecture on 'Understanding Urban Environment, Exposure, and Equality (U3E) with Geospatial Big Data' at the Institute of Space and Earth Information Science, The Chinese University of Hong Kong, on 17 March 2023.

**Seminar**  
Understanding Urban Environment, Exposure and Equality (U3E) with Geospatial Big Data

**Abstract**

Strong evidence has indicated that urban environment such as greenspace, blue space, air pollution, and heat stress significantly affect human health and well-beings. Therefore, the timely and accurate monitoring and assessment of different urban environments and the associated exposure and equality issues are critically important for understanding urban heterogeneities and developing urban planning and response strategies. However, research advances are limited to the following three aspects. First, limitation in the data capability of quantifying spatially and temporally explicit dynamics of urban environments. Second, limitation in the methodological framework of characterizing human-environment spatiotemporal interactions into environmental exposure assessments. Third, limitation in the evidence-based diagnosis of coupling environment (i.e., physical environment condition), exposure (i.e., human perceived environment), and equality (i.e., social and environmental justice) to optimize solutions and prioritize practices. A holistic framework of advancing the monitoring-modeling-assessment capability for sustainable and inclusive urban environments is urgently needed but has not yet been achieved. This talk will introduce some of recent research studies in Future Urbanity & Sustainable Environment (FUSE) Lab working toward this promising direction of Urban Environment, Exposure and Equality (U3E).

**DATE** Mar.17.2023

**TIME** 15:30 - 17:00

**ZOOM** Meeting ID 912 0069 3804 PSD: 139855

**VENUE** Room 303, Fok Ying Tung Remote Sensing Science Building, The Chinese University of Hong Kong

**Prof. Bin Chen**  
Faculty of Architecture  
The University of Hong Kong (HKU)

Dr. Bin Chen is an Assistant Professor at the Faculty of Architecture, The University of Hong Kong. Before joining HKU, he worked as a Postdoctoral researcher at the University of California Davis. Dr. Chen has been broadly trained in geospatial science and environmental science. His research aims to leverage geospatial big data, data-model fusion, and advanced interdisciplinary approaches to investigate the interaction loops between urban environmental change, human activities, and public health, with the ultimate goal of contributing to sustainable and healthy cities. He has published more than 60 SCI journal articles, including Science, PNAS, Nature Communications, Science Advances, Science Bulletin, RSE, EJ, ISPRS P&RS, etc. He is the Associate Editor of Remote Sensing in Ecology and Conservation. He received the 2022 Global Young Scientist Award, China New Talents in Science and Technology-Shining Potential Award, 2021 AAG Early Career Award in Remote Sensing, HKU-100 Scholar Award, ISPRS Best Young Author Award, and Li Xiaowen Remote Sensing Excellent Youth Award.

更多信息请关注微信公众号:ISEISCUHK

- has been involved as Co-I in China's National Key Research and Development Plan Project – 'Green and Low-carbon Development Monitoring and Diagnosis Optimization Application in Megacities', with a total grant of 14.8m RMB. He is responsible for the sub-topic of 'Data-model-driven Retrieval of High-resolution Urban Ecological Parameters'.

- has published the following papers:

- (i) Stenseth, N. C., Schlatte, R., Liu, X., Pielke, R., Li, R., **Chen, B.**, Bjørnstad, O. N., Kusnezov, D., Gao, G. F., Fraser, C., Whittington, J. D., Bai, Y., Deng, K., Gong, P., Guan, D., Xiao, Y., Xu, B., & Johnsen, E. B. (2023). How to avoid a local epidemic becoming a global pandemic. *Proceedings of the National Academy of Sciences*, 120(10), e2220080120. <https://doi.org/10.1073/pnas.2220080120>

**Abstract:** *Here, we combine international air travel passenger data with a standard epidemiological model of the initial 3 mo of the COVID-19 pandemic (January through March 2020; toward the end of which the entire world locked down). Using the information available during this initial phase of the pandemic, our model accurately describes the main features of the actual global development of the pandemic demonstrated by the high degree of coherence between the model and global data. The validated model allows for an exploration of alternative policy efficacies (reducing air travel and/or introducing different degrees of compulsory immigration quarantine upon arrival to a country) in delaying the global spread of SARS-CoV-2 and thus is suggestive of similar efficacy in anticipating the spread of future global disease outbreaks. We show that a lesson from the recent pandemic is that reducing air travel globally is more effective in reducing the global spread than adopting immigration quarantine. Reducing air travel out of a source country has the most important effect regarding the spreading of the disease to the rest of the world. Based upon our results, we propose a digital twin as a further developed tool to inform future pandemic decision-making to inform measures intended to control the spread of disease agents of potential future pandemics. We discuss the design criteria for such a digital twin model as well as the feasibility of obtaining access to the necessary online data on international air travel.*

**PNAS**

Proceedings of the  
National Academy of Sciences  
of the United States of America

- (ii) Xiao, Y., Zhou, J., Cheng, Q., Yang, J., **Chen, B.**, Zhang, T., Xu, L., Xu, B., Ren, Z., Liu, Z., Shen, C., Wang, C., Liu, H., Li, X., Li, R., Yu, L., Guan, D., Zhang, W., Wang, J., Hou, L., Deng, K., Bai, Y., Xu, B., Dou, D., & Gong, P. (2023). Global age-structured spatial modeling for emerging infectious diseases like COVID-19. *PNAS Nexus*, 2(5), pgad127. <https://doi.org/10.1093/pnasnexus/pgad127>

**Abstract:** Modeling the global dynamics of emerging infectious diseases (EIDs) like COVID-19 can provide important guidance in the preparation and mitigation of pandemic threats. While age-structured transmission models are widely used to simulate the evolution of EIDs, most of these studies focus on the analysis of specific countries and fail to characterize the spatial spread of EIDs across the world. Here, we developed a global pandemic simulator that integrates age-structured disease transmission models across 3,157 cities and explored its usage under several scenarios. We found that without mitigations, EIDs like COVID-19 are highly likely to cause profound global impacts. For pandemics seeded in most cities, the impacts are equally severe by the end of the first year. The result highlights the urgent need for strengthening global infectious disease monitoring capacity to provide early warnings of future outbreaks. Additionally, we found that the global mitigation efforts could be easily hampered if developed countries or countries near the seed origin take no control. The result indicates that successful pandemic mitigations require collective efforts across countries. The role of developed countries is vitally important as their passive responses may significantly impact other countries.



2. Miss Ying Tu (RA, DLA), Dr Shengbiao Wu (RAP, DLA) and Dr Binley Chen

- have published the following paper:

**Tu, Y., Chen, B.\***, Yu, L., Song, Y., **Wu, S.**, Li, M., Wei, H., Chen, T., Lang, W., Gong, P., & Xu, B. (2023). Raveling the nexus between urban expansion and cropland loss in China. *Landscape Ecology*. 1-16. <https://doi.org/10.1007/s10980-023-01653-7>



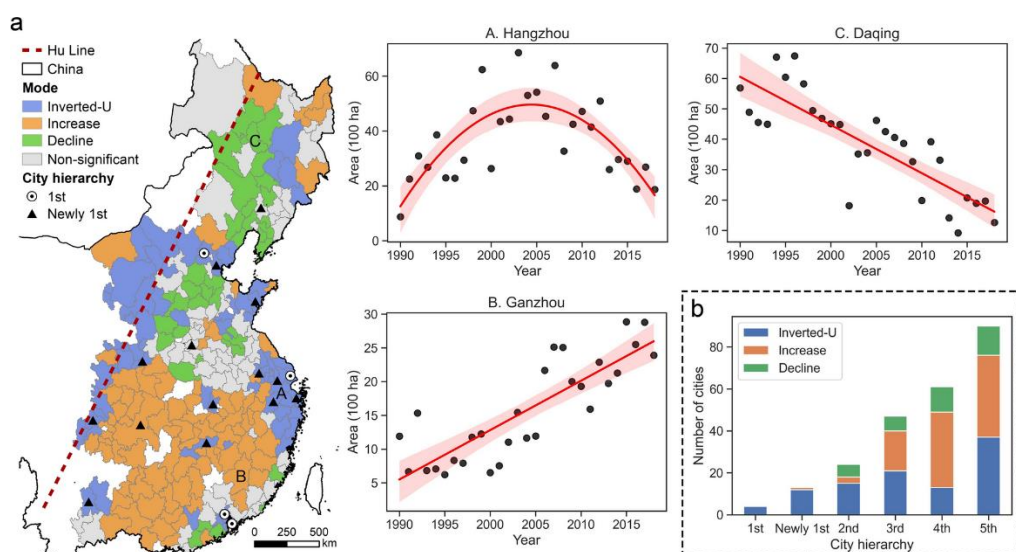
**Context:** The dramatic expansion of urban lands has caused widespread cropland losses in China, yet little evidence is given on the progress of such transformation spatial–temporal explicitly.

**Objectives:** The present study aims to disentangle the underlying interaction between urban expansion and cropland loss as well as its socioeconomic drivers and future trends.

**Methods:** We analyzed the extent of cropland loss resulting from urban expansion among different regions and city tiers using China’s annual land cover datasets. We then introduced the Environmental Kuznets Curve hypothesis to examine the relationship between such progressive changes and economic growth through panel data regressions. By combing the future urban land expansion datasets, we further estimated the pressure of potential cropland loss under five shared socioeconomic pathways.

**Results:** Urban expansion directly led to a loss of 12 Mha croplands during 1990–2019. Nearly 84% of newly built urban lands occurred on croplands, with higher-tier cities experiencing more severe and direct losses. There exists an inverted-U shape relationship between cropland-urban land conversion and economic factors in China. Most 1st, newly 1st, and 2nd tier cities followed this decoupling pattern while some of the lower-tier cities were characterized by the increase or decline mode. It is estimated that 3.9–4.9 Mha of the existing croplands will be replaced by future urban land expansion by 2050, where 2nd and 3rd tier cities will have the greatest loss in terms of accumulative area.

**Conclusions:** These findings highlight the important role of land use transition and adaptive planning policies in ensuring food security and achieving sustainable development goals.



3. Dr Binley Chen, Dr Shengbiao Wu and Dean Chris Webster

- have their article 'Contrasting inequality in human exposure to greenspace between cities of Global North and Global South' selected as one of *Nature Communications*' [Top 25 Social Science & Human Behaviour Articles of 2022](#).



# Healthy High Density Cities Lab

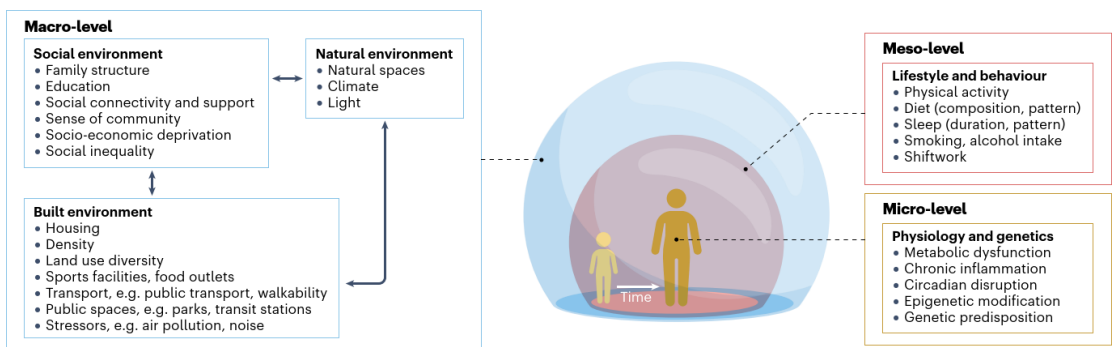
1. Dr Chinmoy Sarkar and Dr Ka Yan (Yvonne) Lai

- have published the following paper:

**Sarkar, C\***, & **Lai, K. Y.** (2023). Urban built environments: interventions for reducing cardiometabolic risks. *Nature Reviews Endocrinology*. <https://doi.org/10.1038/s41574-023-00827-2>

Available at: <https://rdcu.be/c8Kdk>

The screenshot shows the journal's interface. At the top, it says 'nature reviews endocrinology' with navigation links for 'View all journals', 'Search', and 'Log in'. Below that are links for 'Explore content', 'About the journal', and 'Publish with us', along with 'Sign up for alerts' and 'RSS feed'. The main article title is 'Urban built environments: interventions for reducing cardiometabolic risks' by Chinmoy Sarkar & Ka Yan Lai, dated 30 Mar 2023. A diagram illustrates the 'holistic person-place-time framework' with a central figure and arrows pointing to 'Natural environment' (Natural spaces, Climate, Light) and 'Built environment' (Housing, Density, Land use diversity, Sports facilities, food outlets, Transport, Public spaces, Stressors). To the right, there are two news snippets: 'Large study on hormone therapy for transgender youth provides reassurance amid treatment politicization' and 'A novel resource to study endometriosis at the single-cell level'.



**Fig. 1 | A holistic person-place-time framework for studying the aetiology of cardiometabolic diseases.** Multiple multi-level risk factors; namely, individual, lifestyle and behaviour and environment interact to produce health transitions over the life course.

2. Dr Ka Yan (Yvonne) Lai, Dean Chris Webster, Ms Sarika Kumari and Dr Chinmoy Sarkar

- have published a co-authored paper with Professor John Gallacher of the Department of Psychiatry of Oxford University:

**Lai, K. Y., Webster, C., Kumari, S., Gallacher, J. E. J., & Sarkar, C.\*** (2023). The associations of socioeconomic status with incident dementia and Alzheimer's disease are modified by leucocyte telomere length: a

population-based cohort study. *Scientific Reports*, 13(1), 6163.  
<https://doi.org/10.1038/s41598-023-32974-x>

Available at: <https://rdcu.be/c9YxO>

**Abstract:** *Socio-economic status (SES) and biological aging are risk factors for dementia, including Alzheimer's disease, however, it is less clear if the associations with SES vary sufficiently across different biological age strata. We used data from 331,066 UK Biobank participants aged 38-73 with mean follow-up of 12 years to examine if associations between SES (assessed by educational attainment, employment status and household income) and dementia and Alzheimer's disease are modified by biological age (assessed by leucocyte telomere length: LTL). Diagnosis of events was ascertained through hospital admissions data. Cox regressions were used to estimate hazard ratios [HRs]. A consistent dose-response relationship was found, with participants in low SES and shorter LTL strata (double-exposed group) reporting 3.28 (95% confidence interval [CI]: 2.57-4.20) and 3.44 (95% CI: 2.35-5.04) times higher risks of incident dementia and Alzheimer's disease respectively, compared to those of high SES and longer LTL (least-exposed group). Of interest is a synergistic interaction between SES and LTL to increase risk of dementia (RERI: 0.57, 95% CI: 0.07-1.06) and Alzheimer's disease (RERI: 0.79, 95% CI: 0.02-1.56). Our findings that SES and biological age (LTL) are synergistic risk factors of dementia and Alzheimer's disease may suggest the need to target interventions among vulnerable sub-groups.*

3. Dr Feifeng Jiang, Dr Jun Ma and Dean Chris Webster

- have the following paper accepted for publication:

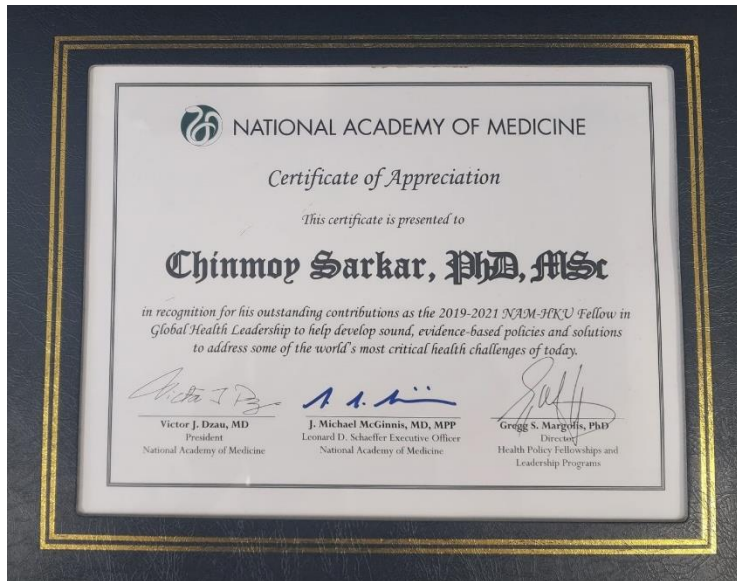
**Jiang, F., Ma, J., Webster, C., Li, X., & Gan, V. (2023).** Automated Building Layout Generation using the Site-embedded GAN Model. *Automation in Construction*. [Manuscript Number: AUTCON-D-22-02305R1]

**Abstract:** *Building layout generation has entered a new era in recent years, leveraging state-of-the-art deep generative methods to learn morphological properties of existing urban structures and synthesize building alternatives responsive to local context. However, most existing research generally follows an image-to-image translation idea, while overlooking the impact of site/design attributes on building configuration, making their results less performative. Besides, most synthesized layouts are commonly displayed in 2D pixelized images, limiting further performance evaluation and informed decision-making. This study, therefore, proposes a novel GAN-based model, namely site-embedded generative adversarial networks (ESGAN) for automated building layout generation. Both qualitative and quantitative results in New York City indicate ESGAN is capable of synthesizing visually realistic and*

semantically reasonable layouts. This end-to-end generative system can not only encode a conditional vector to improve performance in different design scenarios but also display synthesized layouts at different levels of detail for human-system interaction.

#### 4. Dr Chinmoy Sarkar

- was commended by the US National Academy of Medicine, Washington DC, for his contributions as HKU's inaugural *International Fellow in Global Health Leadership*.



#### 5. Dr Ka Yan (Yvonne) Lai

- was selected to participate in Cohort 6 of the Urban Land Institute's Health Leaders Network as part of the ULI Building Healthy Places Initiative. As the only academic within a cohort of 30 policy makers, practitioners and entrepreneurs selected globally ([Cohort 6 Participants](#)), she participated in the Introductory Forum in Washington DC on 29-31 March 2023.



ULI fellows' site visit to St. Elizabeth's East, a revitalised historic campus of a formerly self-contained mental health community (St Elizabeth's Hospital) in Washington DC

6. Mr Evan Chi Cho Cheung (PhD student, DUPAD)

- won the 2023 ESRI Young Scholars Award (Hong Kong) for his work entitled 'A Walk to Remember – Measuring Objective Walkability with Environmental Considerations in Hong Kong'. Mr Cheung is a DUPAD PhD student supervised by Dr Chinmoy Sarkar and Dean Chris Webster. The judges appreciated his intelligence on the creative use of GIS applications and insights for a better society in Hong Kong.

The winning project is available at: <https://arcg.is/0y8PKH0>



Evan receiving the ESRI Young Scholars Award from Dr Jack Dangermond, Founder and President of ESRI

# iLab

## 1. iLab members

- welcomed Ir Thomas Ho On-sing, Chairman of the Construction Industry Council (CIC), among other guests, who visited iLab on 22 March 2023. During the visit, Professor Wilson Lu briefed the guests on the team's recent research outcomes, including MiC Trilogy and Coupler Inspector Robot, which promote digitalisation of the construction industry.



Photos: [www.cic.hk](http://www.cic.hk)

'Safety Walk with Thomas – Top-notch Scholars at HKU iLab for the Development of Innovative Smart City' (安全誠行—智慧城市研發基地創科尖子匯聚港大 iLab) is available on YouTube: <https://youtu.be/JeP5dZDQZCw>



Photos: [www.cic.hk](http://www.cic.hk)

- welcomed four distinguished guests from the Hong Kong Liaison Office of the Central People’s Government and the Legislative Council of HKSAR, on 23 March 2023.

The guests received a presentation by Professor Wilson Lu on iLab’s past research outcome as well as its current research highlights, followed by a guided tour of the state-of-the-art facilities and equipment of the lab.



- presented their ‘Remote e-Inspection System for Cross Border MiC Logistics’ in the InnoEX 2023, held at the Hong Kong Convention and Exhibition Centre on 14-15 April 2023. InnoEX 2023 was organised by the HKSAR Government and Hong Kong Trade Development Council. It brought together influential tech experts, entrepreneurs, thought leaders and investors from around the region to discuss collaborations, share upcoming trends and exchange insights into future opportunities. The ‘Remote e-Inspection System for Cross Border MiC Logistics’ received 2022 Hong Kong ICT Smart Logistics Gold Award in November 2022.

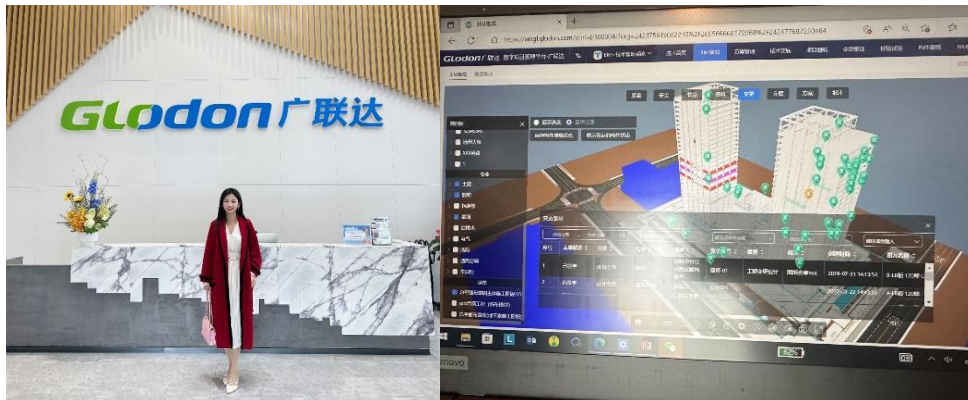


From left: Mr Bolun Wang (PhD Year 1 student, REC), Mr Liupengfei Wu (PhD Year 3 student, REC), Professor Anthony Yeh (Department of Urban Planning and Design), Mr K. L. Tam (HKU Estates Office), Mr Jinfeng Lou (PhD Year 3 student, REC).



## 2. Ms Wenjun Gao (PhD student, REC)

- visited Glodon Company Limited and Unitised Green Prefab in Shanghai on 7 April 2023. During her meeting with the Glodon team, Wenjun discussed the challenges that organisations face when implementing BIM in change management, and how they could possibly overcome these challenges. They also talked about the latest developments in BIM technology and how these developments could help organisations improve their processes and workflows.



## 3. Professor Wilson Lu

- gave a talk titled 'Blockchain-enabled Remote e-Inspection 2.0 for Modular Construction: From a COVID-19 Expediency to a Post-pandemic Common Practice' in his capacity as Bayu Chair Professor (awarded by the Chongqing Municipal Government) on 7 April 2023, at Chongqing University.



**管科学院 学术报告**





**吕伟生**  
Wilson Lu

香港大学  
教授、博士生导师  
重庆市巴渝讲座教授

Prof. Wilson Lu is Professor in the Department of Real Estate and Construction, and Associate Dean (Research) of Faculty of Architecture, the University of Hong Kong (HKU). He is also the Director of ILab@hku, and the immediate past President of the Chinese Research Institute of Construction Management (CRI/CIOM). His research interests focus on Construction Management with two directions:

- Construction informatics: Building Information Modelling (BIM), Smart construction, Big data, and Blockchain; and
- Circular Construction: Construction waste management, Circular economy, and public policies.

Prof. Lu is the leader of research grants worth around US\$7.5million. He was the receiver of the ASCE Journal of Management in Engineering (JME) Best Peer Reviewed Paper Award for 2022; Resources, Conservation & Recycling (RCR) Best Paper Award 2021; buildingSMART International (BSI) Awards 2021 (the "Professional Research" category), Hong Kong Construction Industry Council (CIC) Construction Digitalization Award 2021, HKU Outstanding Young Researcher Award 2014-15, HKU Faculty Knowledge Exchange (KE) award 2018-19, and HKU Faculty Research Output Prize (ROP) award 2018-19. Prof. Lu has been ranked as one of the Top 1% Scholar by Clarivate Analytics since 2017.

**基于区块链技术的装配式建筑远程电子化质量检测2.0：  
从新冠时代的权宜之计到后疫情时代的通行做法**

**时间** 2023年4月7日（周五）下午14:30

**地点** 九二建管大讲堂 管科学院楼207

**主持人** 叶铨晖 教授、院长

**主办单位**  
重庆大学管理科学与房地产学院  
重庆大学可持续建设国际研究中心



- attended the Forum on Digital Smart Construction and gave a talk on 'Construction Digital Transformation: Historical Opportunities and Challenges Facing Us', on 8 April 2023, at Chongqing University.

**“数智建造 创领未来”  
发展论坛**

2023年4月8日 重庆大学

本论坛汇聚来自香港大学、香港理工大学、重庆大学、同炎数智科技(重庆)有限公司、科大讯飞、智象科技的专家学者和业界精英,以推动人工智能和数字化创新应用为出发点,探讨如何赋能建筑领域高效数智化转型升级,加速推动我国数字产业的高质量发展。

诚邀您的莅临出席,共话数智未来!

**演讲嘉宾**

**沈岐平 教授**  
香港理工大学协理副校长、教授  
时间: 14:10-14:40  
主题: 组裝合成建筑的机遇与挑战

**吕伟生 教授**  
香港大学建筑学院副院长、教授  
时间: 14:40-15:10  
主题: 建筑业的数字化转型: 学界的历史性机遇和挑战

**汪 洋 教授级高工**  
同炎数智科技(重庆)有限公司董事长  
时间: 15:30-16:00  
主题: 工程项目全生命周期数智化服务的融合创新

**胡少云 先生**  
科大讯飞智慧城市BG副总裁、智象科技总经理  
时间: 16:00-16:30  
主题: 工程全过程管理数智化创新应用

**毛 超 教授**  
重庆大学管理科学与房地产学院副院长、教授  
时间: 16:30-17:00  
主题: 智慧建造产业生态链体系与发展

4. Mr Vikrom Laovisutthichai (PhD candidate, REC, HKPFS)

- gave a talk entitled 'Towards Design for Excellence (DfX)-enabled High-rise Modular Buildings' on 12 April 2023 at the Construction Management Lab of the University of Tokyo. The participants included practitioners and professors from top Japanese construction firms (e.g., Takenaka, Obayashi, and Sekisui Heim) and universities.



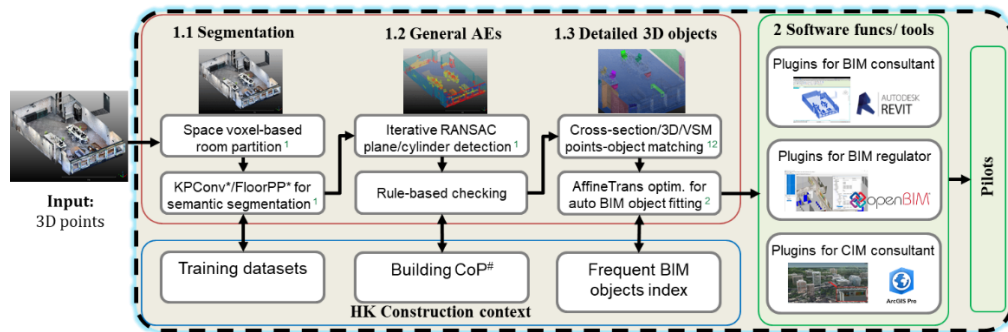
5. Mr Zhe Chen (PhD Year 2 student, REC), Mr Dong Liang (PhD Year 2 candidate, REC) and Ms Jiajia Wang (PhD Year 1 student, REC)

- visited the China State Construction (CSC) Hailong Technology Company for research collaboration and knowledge exchange on 20 March 2023. A seminar was presented to share the latest research on quality assurance of prefabricated components, 3D point cloud processing and testing, Non-Destructive Testing (NDT) of Ground Penetrating Radar (GPR), and whole-process lean quality management. CSC Hailong is a leading company in precast elements and modular integrated construction (MiC) in Hong Kong and Macau.



6. Dr Frank Xue

- received an Innovation and Technology Fund (ITF) for his Tier-1 project (No. ITP/004/23LP) from the Innovation and Technology Commission (ITC).



**Title:** Scan-to-BIM Automation System for Built Assets Digitalization in Hong Kong

**Period:** 3/2023 - 3/2025

**Project cost:** HK\$ 5.21M (ITF) + 2.3M (industry sponsorship) = 7.51M

**PC:** Dr Frank Xue

**Co-PIs:** Professor Antony Yeh and Professor Wilson Lu

**Keywords:** 3D point cloud; deep learning; BIM; CIM; open BIM

7. Mr Sou Han Chen (IPD-2022, RA, REC), Ms Qianyun Zhou (RA, REC), Mr Lingming Kong (PhD Year 1 student, REC) and Mr Zhe Chen (PhD Year 2 student, REC)

- received Honourable Mention at the BIM Automation Arena 2023 competition, organised by the Hong Kong Institute of Building Information Modelling (HKIBIM), on 31 March 2023, for their project 'Deep Auto Modeller: A Cross-visual Programming Tool for BIM Data and Deep Learning', which adopts deep learning to facilitate automatic BIM detailing.



8. Frank Ato Ghansah (PhD Student, REC) and Professor Wilson Lu

- have the following paper accepted for publication:

**Ghansah, F. A. & Lu, W.** (2023). Responses to the COVID-19 pandemic in the Construction Industry: A literature review of academic research. *Construction Management and Economics*. Accepted.

**Abstract:** *Over the past three years, the global construction sector has been severely affected by the noxious coronavirus (COVID-19) pandemic. Visionary construction stakeholders, including governments, practitioners, and academia, all have been actively devising strategies to deal with the crisis caused by the pandemic. Despite the rich contributions by academia, an in-depth review of their research works to understand how the pandemic has been handled to position the construction industry for post-pandemic actions and future pandemics is hitherto lacking. Hence, an up-to-date literature review is conducted in this study to better understand this terra incognita. It does so by adopting a six-step thematic analysis of 159 empirical peer-reviewed research articles in relation to COVID-19 on construction. The review discovered a growing research interest from different countries from 2020 to 2022. The existing studies can be put under four major topics, namely the COVID-19 impacts, challenges and opportunities, responding strategies, and post-COVID-19 interventions. A framework consisting of four categories of responding strategies, namely vaccination, personal responsibility of workers, government-instructional practices, and organisation-based approaches, is proposed through the lens of the socio-technical system theory to handle the pandemic crisis in construction. Limitations of the existing studies were further identified. Four pertinent research directions were finally proposed: building upon and testing the proposed COVID-19 response framework, adoption of more advanced innovative strategies to increase productivity amid pandemics and survive the risk of future pandemics, beyond the technological response to COVID-19 in construction, and post-pandemic view of the construction industry. This study contributes to the knowledge body by providing a candid evaluation of the knowledge contributed by academia to deal with the risks of future pandemics in the global construction industry.*