

Designing along the curve

A recent conversation about interior design turned to the issue of equality of preferences. Few would argue that an individual's view on a matter should be respected. Or phrased differently, that everyone has a right to their own view. And if everyone has a right to a view, then by extension, every view is of equal value in terms of respect accorded. This suggests a completely flat structure in terms of the weights attached to different individuals' preferences for a design, be it a product design, interior design, building design or open-space design.

In selecting a design that is co-consumed by more than one of those individuals, multiple diverse preferences have to be combined and compared in some way. What are the choices?

First, one person could be given the authority to decide on the design, regardless of ability or inclination to understand the preferences of others. Second, an individual could be chosen to decide, but selected on the basis of having similar tastes to most other individuals. Third, an individual could be selected for their ability and motivation to understand the preferences of others, regardless of own preferences, and given the authority to choose the design. Fourth, individuals could have open discussion, argument and debate and come to a collective agreement by deliberation, oration, persuasion, lobbying, fighting or litigation. Fifth, a formal voting system could be established allowing individuals to anonymously vote on a range of design options. Sixth, a competition could be set up in which those who are more expert at creating designs that meet a diverse range of tastes, bid for the right to make the design on behalf of everyone.

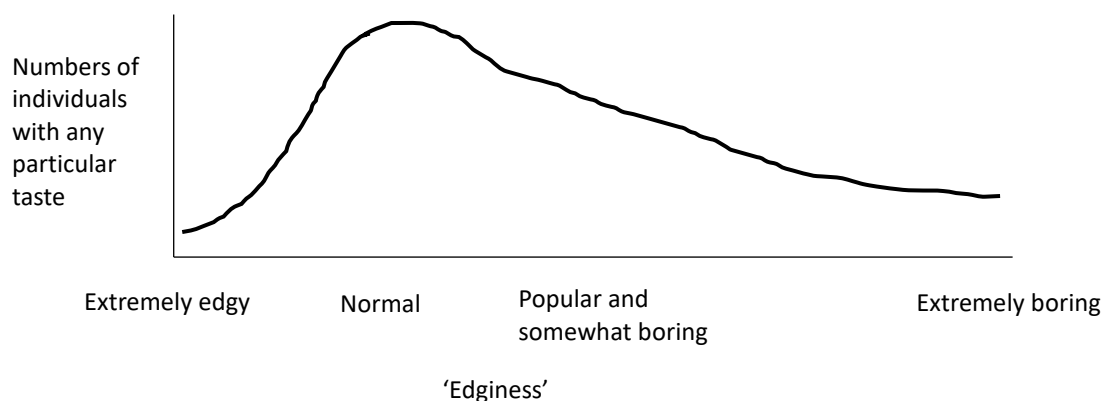
Clearly, each of these carries risks and has implementation problems. The first runs the risk of an autocrat imposing one person's tastes on all others with impunity. The second, requires a knowledge of all preferences. The third runs the risk of the wrong individual being chosen. The fourth, is open to domination by the more powerful and articulate. The fifth, has been demonstrated to be impossible (by American economist

and Nobel Laureate, Kenneth Arrow). The sixth, sounds like a sensible approach but the competition could be captured by particular interests such as the elite, powerful or populist. You will see that the thought experiment applies across our Built Environment (BE) fields, and there are published academic and professional discussions on such matters in urban design, community architecture, architecture management, urban planning, transport, housing, landscape architecture, development studies, infrastructure planning, and so on.

One view of the mission of design-focused educators in the BE is that we are training students to hone their individual design abilities, refine their design tastes, develop a design language, understand the design needs and preferences of multiple individuals and groups, and synthesise solutions to design problems that perform to different kinds of optimisation. Optimisation choices include making most people happy most of the time (utilitarianism); keeping to the aesthetic high ground, regardless of unpopularity (elitism); creating a design that has the majority vote (democratism); minimising unhappiness (an inverse form of utilitarianism); and so on.

I am not sure where such considerations are taught in our curriculum, but students should probably be asked to reflect on these issues – call it the ‘political economy of design’. How we train our students in these regards influences the kind of leaders they will become in industry and government. A constant reinforcement of individualism in studio education may be assumed to encourage an elitist or autocratic mentality. A constant reinforcement of the need to evaluate designs according to environmental, social and economic as well as visual performance, will build students’ professional humility and give them intuition about the robustness and acceptability of their own designs.

While the value of *personal* design tastes may be equal, the value of *professional* design tastes should not be. The latter should be weighted towards what customers want. In my sketched curve below, the horizontal axis represents different designs ranked on a continuum from more edgy to less edgy. The vertical axis shows number of individuals in a market (for eyewear, a residential building, etc.) with varying preferences along the continuum. There are very few people with a taste for something that is extremely edgy (unusual) and few (but perhaps more) with a taste for something extremely normal. I have drawn the curve as though most people like something edgy but not too much so. It is a skewed distribution, reflecting the impact of fashion and design on peoples’ tastes. For some products, the curve will be more of a normal curve, with the majority evenly distributed around some middle ground. Preferences for some other product designs may be skewed towards the ‘boring’ – perhaps those with high utilitarian value or those with significant safety issues.



This raises the interesting question of how architecture, landscape and urban design schools train students to separate their own design preferences from those of a client. I am sure there are many ways in which this can be done, and it would be interesting to have a discussion about which methods are more effective than others.



Masahiromaruyama eyewear, from:
<https://www.store.masahiromaruyama.com/collections/erase>

Japanese eyewear designers are famously sophisticated and edgy. Masahiromaruyama is among the most edgy, with a hallmark design shifting one of the arms to the base of the lens frame. There are reasons why frames have evolved to their standard form and deconstructing them like this is fun and provides a fashion statement for a certain type of wearer. There is a reason, however, why companies like Masahiromaruyama find themselves gravitating back to the middle-ground over time (read the narrative on their webpage, where they rationalise a drift to more normal products in a way that is befitting their brand, but is essentially saying ‘we offer normal as well’). Were they not to, they would not be as big and influential a brand as they now are. Mercedes Benz famously shifted away from exclusivity (in price and in design) 20 years or so ago, in a market-leading and very clever strategy that BMW, Porsche and others followed.

Being a good product or building designer means being able to design to *serve* other peoples’ tastes, while bringing to bear the designer’s flare and technical skills in a way that *influences* other people’s tastes. It is a tricky negotiation. Ideally, we want to train our students to be able to design buildings that appeal to clients at the extreme left-end of my curve (like the few buyers of expensive, quirky and highly styled, odd-shaped glasses), but who are also able to design for the majority of middle-ground tastes. Designing the boring can eventually become edgy – take a look at other Japanese eyewear designers riding the vintage wave.




I suspect that one way of training students to be flexible, professional designers, influenced but not bound by their own tastes, confident enough to design ‘anywhere along the curve’, and clever enough even to design ‘boring’ with irony, is to teach them to design with strong constraints. In other words, to design for performance, including but not limited to aesthetic performance. How do we train students to be among the most edgy designers in the world, but also to design to a set of performance indicators including functional, aesthetic, environmental, economic, logistical, circulatory, structural, social and so on?


Many congratulations to colleagues featured below, with special acknowledgement to the amazing set of performances and exhibitions curated by Thomas Tsang and ARC colleagues.

Chris
Dean, FoA

Faculty of Architecture

1. A warm welcome to the following new colleagues, who joined our Faculty in September 2022:

	<p>Mr Francisco Daniel Cevallos Barragan</p> <p>Lecturer Division of Landscape Architecture</p> <p>Mr Cevallos Barragan obtained a Master of Landscape Architecture from The University of Hong Kong in 2020. He had practiced in the architectural profession for five years previously, and he teaches for the BALS, PDLA and MLA programmes at DLA.</p>
	<p>Dr Junjie Chen</p> <p>Research Assistant Professor Department of Real Estate and Construction</p> <p>Dr Chen obtained his PhD in Hydraulic Engineering from Tianjin University in 2020. Subsequently, he joined The University of Hong Kong as a postdoctoral fellow with REC until 2022. His research covers diverse topics in construction informatics and built environment. He has published papers in top international journals, co-authored a book and obtained five patents thus far.</p>
	<p>Dr Shoeb Ahmed Memon</p> <p>Lecturer Department of Real Estate and Construction</p> <p>Dr Memon received his PhD in Construction Management from The University of Hong Kong in 2017. His teaching and research interests include Business Process Engineering, BIM, New Engineering Contracts (NEC), Construction Project Management (CPM) and Construction Safety. He is developing and teaching courses for the Master of Science in Integrated Project Delivery programme.</p>

	<p>Mr Haotian Zhang</p> <p>Assistant Lecturer Department of Architecture</p> <p>Mr Zhang holds MArch degrees from Tsinghua University and the Cooper Union. As a designer and researcher, he is interested in rural Chinese futurism and digital representation in the realm of realism. At ARC, he is responsible for leading the undergraduate design studios 'Scenographic Hong Kong' and 'Reflective Hong Kong, Matte Hong Kong', as well as teaching undergraduate courses, electives and workshops.</p>
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Department of Architecture

1. Fall 2022 Discussion Series



Date: 7 October 2022 (Fri)

Venue: KB 419, Knowles Building, The University of Hong Kong
and via Zoom

Time	Venue	Speaker	Discussion Topic
9:00 am	Zoom	Ruo Jia Adjunct Assistant Professor, Columbia University; Founder and Director, IfWorks	IfWorks: Posthumanist Feminist Architectural Theory/Practice
1:00 pm	KB419	Anthony Ko Founder and Design Director, Dilemma Studio	Repair Something
1:30 pm	KB419	Rafael Luna Assistant Professor of Architecture, Hanyang University; Principal, PRAUD	Elements of Contemporanism
2:00 pm	KB419	Markus Wernli Research Assistant Professor, Hong Kong Polytechnic University	Designing with Sustainment
3:00 pm	Zoom	Mark Breeze Studio Master and Graduate Seminar Director, Architectural	From Product to Process: Rethinking the Role of Design

		Association; Studio Master, Central St Martins, University of the Arts, London; Founding Chair, Sustainable Shelter Group, University of Cambridge	in Humanitarian Sheltering
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For further information, please visit the [Faculty website](#).

2. Alumni Forum 2022: Community

- invites three teams of young alumni, each developing a unique method for engaging architecture with community through their distinct models of design practice: running an architectural office, building on-site, and curating exhibitions.



Date: 8 October 2022 (Sat)

Time: 2:00 pm – 4:00 pm

Venue: KB 318, 3/F, Knowles Building, The University of Hong Kong and via Zoom

Zoom link:

<https://hku.zoom.us/j/92781973128?pwd=bG92TUphb1VWVDJNUHIIWlk0a1JSZz09>

Meeting ID: 927 8197 3128

Password: 737699

Moderator: Professor Weijen Wang

Commentators: Benny Chan (BArch 1985), President Elect, HKIA
William Tsang (MArch 1998), Senior Architect, ArchSD

(i) Building in PoToi Island

by Rochelle Yu, BA(AS) 2020 and MArch Year 2
Sherman Lam, BA(AS) 2020

(ii) Rural School in Cambodia

by Magic Kwan, BA(AS) 2008
Kenrick Wong, MArch 2014

(iii) A Bottom-up Biennale

by Curators, 2022 Hong Kong & Shenzhen Bi-City Biennale of Urbanism\ Architecture (Hong Kong):

Erica Chui, MArch 2005
Alfred Ho, BA(AS) 2007
Wiki Lo, BA(AS) 2007
Carla Lung, MArch 2014
Fei Mui, BA(AS) 2009
Nicky Wong, MArch 2013

This forum is open to the general public.

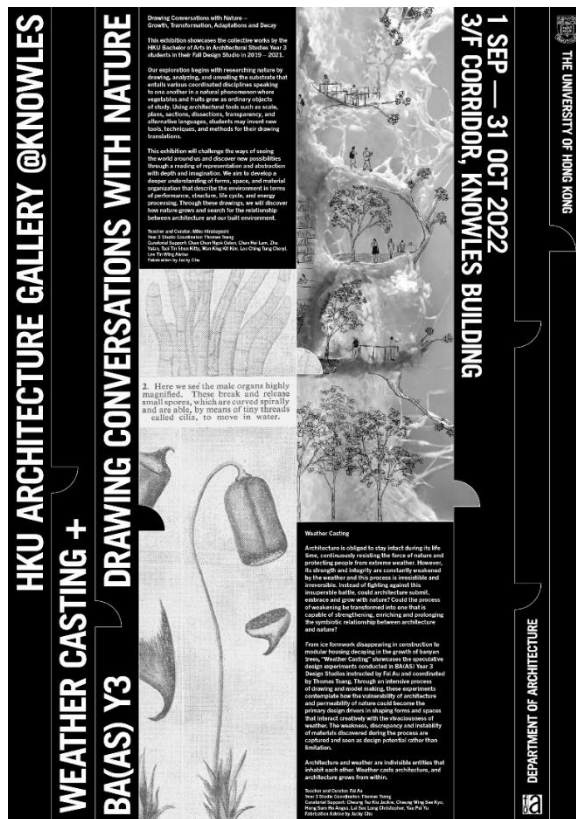
CPD Credit Hours and AIA CES Learning Unit Hours are offered to members of the HKIA and AIA.

For further information, please visit the [Faculty website](#).

Enquiry: vtsewk7@hku.hk

3. 'Weather Casting + Drawing Conversations with Nature' Exhibition @ Knowles

- showcases the collective works by BA(AS) Year 3 students in their Fall Design Studios in 2019-2021. It is on view along the 3/F corridor at Knowles Building.



Date: 1 September 2022 (Thu) – 31 October 2022 (Mon)

Venue: 3/F Corridor, Knowles Building, HKU

Weather Casting

Architecture is obliged to stay intact during its life time, continuously resisting the force of nature and protecting people from extreme weather. However, its strength and integrity are constantly weakened by the weather and this process is irresistible and irreversible. Instead of fighting against this insuperable battle, could architecture submit to, embrace and grow with nature? Could the process of weakening be transformed into one that is capable of strengthening, enriching and prolonging the symbiotic relationship between architecture and nature?

From ice formwork disappearing in construction to modular housing decaying in the growth of banyan trees, 'Weather Casting' showcases the speculative design experiments conducted in BA(AS) Year 3 Design Studios instructed by Fai Au and coordinated by Thomas Tsang. Through an intensive process of drawing and model making, these experiments contemplate how the vulnerability of architecture and permeability of nature could become the

primary design drivers in shaping forms and spaces that interact creatively with the vivaciousness of weather. The weakness, discrepancy and instability of materials discovered during the process are captured and seen as design potential rather than limitation.

Architecture and weather are indivisible entities that inhabit each other. Weather casts architecture, and architecture grows from within.

Teacher and Curator: Fai Au

Year 3 Studio Coordinator: Thomas Tsang

Curatorial Support: Cheung Tsz Kiu Jackie, Cheung Wing See Kyo,
Hong Sum Ho Angus, Lai See Long Christopher,
Yau Pui Yu

Fabrication: Jacky Chu

Drawing Conversations with Nature – Growth, Transformation, Adaptations and Decay

Our exploration begins with researching nature by drawing, analysing, and unveiling the substrate that entails various co-ordinated disciplines speaking to one another in a natural phenomenon where vegetables and fruits grow as ordinary objects of study. Using architectural tools such as scale, plans, sections, dissections, transparency, and alternative languages, students may invent new tools, techniques, and methods for their drawing translations.

This exhibition challenges the ways of seeing the world around us and discovers new possibilities through a reading of representation and abstraction with depth and imagination. We aim to develop a deeper understanding of forms, space, and material organisation that describes the environment in terms of performance, structure, life cycle, and energy processing. Through these drawings, we discover how nature grows and search for the relationship between architecture and our built environment.

Teacher and Curator: Miho Hirabayashi

Year 3 Studio Coordinator: Thomas Tsang

Curatorial Support: Chan Chun Ngok Osten, Chan Hei Lam,
Lee Ching Tung Cheryl, Lee Tin Wing Alvina,
Tsoi Tin Shun Kitty, Wan King Kit Kim, Zhu Yalan

Fabrication: Jacky Chu

4. 'HELLO My Hong Kong Is ...' Exhibition @ Knowles

- presents the work of the BASc(Design+) Year 4 studio taught by Lidia Ratoi with Clarissa Lim where students were asked to depict their own Hong Kong using key objects. It is now on display along the 4/F corridor of Knowles Building.



Date: 3 October 2022 (Mon) – 2 December 2022 (Fri)

Venue: 4/F Corridor, Knowles Building, HKU

This exhibition is a playful interpretation of a work by British photographer Nadia Lee Cohen, 'HELLO My Name Is', in which the artist metamorphoses into a host of characters, creating a micro-universe for each of them, based on Americana memorabilia and pop-art iconography. Students have started the semester by selecting key objects which depict *their own* Hong Kong, and using the said objects as triggering devices for design proposals.

The Studio – The Island of the Day Before

The studio is inspired by the Umberto Eco novel of the same name, in which the central character is an Italian nobleman stranded on a deserted ship – although the shore is very close, Roberto is unable to swim, and is therefore stranded on the ship. The book follows him in his increasingly decaying mental state, while focusing on Baroque-era science, metaphysics, and cosmology.

Much like Roberto, one might find oneself stranded in present day Hong Kong, an island both in a geographical sense, as well as a metaphorical one. There is

a general sense of imagined nostalgia in the city, with inhabitants continuously looking back at the golden age of the city. However, there is little to no indication of what *is* the future of the city.

Students question what can be currently defined as *genius loci* in Hong Kong – what is the spirit of the place, and more importantly, what will this be in a few decades' time? Using the past and current status quo of the city as a potentiator for the future, students address this issue through the concept of *healing*, which is disseminated into two types of understanding – architectural healing and social healing, with both instances enabling human and non-human life.

Studio Lead: Lidia Ratoi

Teaching Assistant: Clarissa Lim

Students: Cheung Yik Hei Anson, Gurka Tanya Marie, Hemnani Bhavisha Anil, Heung Tsz Kwan Winnie, Ma Matthew Tsun Tik, Wong Yan Shun Carson, Wong Chun Yan Oscar.

Image Credit: Wong Chun Yan Oscar

5. MArch Fall 2022 Workshop Festival

- curated by Thomas Tsang, was successfully held on 9 – 13 September 2022 under the theme of '*Unpacking: Present, Past, Future*', to offer HKU members a series of exciting activities at the beginning of this semester, including guided tours, exhibitions, and workshops. Event highlights and photo recaps can be found on [Instagram](#).



(i) HKUST Shaw Auditorium Tour | Architectural Tour

Date: 9 September 2022 (Fri)

Time: 2:30 pm - 4:00 pm

Venue: HKUST Shaw Auditorium

Studio teachers: Elva Tang / Claude Godefroy



This tour visited the recently completed Shaw Auditorium at the Hong Kong University of Science and Technology. The building is designed with a highly flexible, acoustically sophisticated auditorium with bright and generous social spaces. The designer presented how the team arrived at an inventive response to a diverse mix of uses and the

subtropical Hong Kong climate. The tour included access to the auditorium and the backstage area.

(ii) Rumsey Street in-situ | Performance Screening

Date: 10 September 2022 (Sat)

Time: 1:00 pm - 1:30 pm

Venue: Car Park, Knowles Building, HKU

Studio teacher: Sony Devabhaktuni

The intervention of films projected on moving screens was a first response to the Rumsey Street Car Park, the site of the studio's semester-long study of future lives for parking structures in Hong Kong. The performance/screening played with the idea of the moving image and considered the different scales that currently take place at Rumsey Street.



(iii) Building Blocks | Installation Workshop / Performance

Date: 10 September 2022 (Sat)

Time: 1:30 pm - 2:00 pm

Venue: Car Park, Knowles Building, HKU

Studio teacher: Roberto Requejo Belette



This workshop was an opportunity to work with a range of building block toys to produce a multiplicity of massing studies in a short amount of time outside the pressure of being contextual and strategic, but under the pressure of being playful. The ease of assembly and disassembly embedded into the design of the building blocks ought to facilitate that we work fast and focus more on the outcome than on overcoming the difficulties of making.

(iv) 12 Towers of Vision | Outdoor Installation / Exhibition

Date: 10 September 2022 (Sat)

Time: 2:00 pm - 2:30 pm

Venue: Concourse, G/F, Knowles Building, HKU

Studio teachers: Fai Au / Ulrich Kirchhoff

This workshop addressed code constraints in high-density towers. Students were asked to formulate and create 12 visionary building towers through the lens of 'environmental and sustainability', 'public and social', 'health and safety', or 'construction and technology'. The workshop questioned how the codes would reshape ideas and how ideas could reshape the regulations.



(v) Bathing Scene | Outdoor Installation / Performance

Date: 10 September 2022 (Sat)

Time: 2:30 pm - 3:00 pm

Venue: Mong Kwok Ping Garden (Lily Pond), HKU

Studio teacher: Géraldine Borio



This event was an opportunity to explore an uncommon bathing experience on the HKU campus. It planned a series of sensory experiments to challenge the participants' perceptions.

(vi) Drawing Transformation | Exhibition

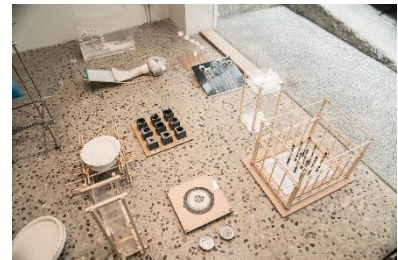
Date: 10 September 2022 (Sat)

Time: 1:00 pm - 4:00 pm

Venue: 54 Sai Street, Tai Ping Shan, Sheung Wan

Studio teachers: Donn Holohan / Jersey Poon

Our environment is in continuous flux. Changes occur in different shapes, scales, and forms. As architects, we are sometimes instigators and always participants in far-reaching changes. For this festival, we screened a selection of short films and videos that touch upon contingent change, transformation, or metamorphosis.



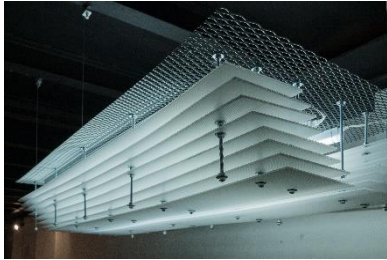
(vii) 3 Elements | Exhibition

Date: 10 September 2022 (Sat)

Time: 5:00pm - 7:00 pm

Venue: Thy Lab, G/F, 135 Yu Chau Street, Sham Shui Po

Studio teachers: Charlotte Lafont-Hugo / Gilles Vanderstocken



This workshop opened the material side of the studio. Students explored both the design and construction of three elements classically deployed/employed in cultural spaces: a vertical display, a horizontal display, and a lighting device. These elements were dismountable, cheap, and made out of off-the-shelf standard/proprietary components and

materials. Opening supported by the Consulate General of Belgium and Flanders Investment & Trade.

(viii) Walk The Line | Reading Screening

Date: 11 September 2022 (Sun)

Time: 10:00 am - 10:45 am

Venue: Pinewood Battery, Lung Fu Shan

Studio teacher: Guillaume Othenin-Girard

This gathering at Pinewood Battery provided an opportunity for the studio to share and recount some of the impressions and findings, as students surveyed segments that constitute the Gin Drinkers Line. Photographs of the defensive apparatus and the surrounding landscape as well as maps accompanied the collective narrative that composes the two walks.



(ix)Projecting City | Installation / Performance

Date: 11 September 2022 (Sunday)

Time: 11:00 am - 12:00 am

Venue: Clock Tower, Hong Kong Park

Studio teacher: Anneli Giencke



Students tested their initial study models of optical devices by exploring and recording their visual effects in the urban environment of Hong Kong. Field investigations were used to improve, adjust, and further develop their devices in the studio. Their immersive experiences were also documented through the mediums of photography and video.

(x) Reconstructing Imagination | Installation / Performance

Date: 11 September 2022 (Sun)

Time: 4:00 pm - 6:00 pm

Venue: Sandy Bay Swimming Shed & Sunset Pavilion, Pok Fu Lam

Studio teacher: Kaicong Wu

This workshop was an experiment with the studio's Phase I design work. The studio started with individual art-making projects. Students guided by their intuitions made small physical models to represent their imagination of the proposed Kau Yi Chau artificial islands using found objects (ready-made, fruit, inflatables, etc.). They needed to immerse (literally) their models in the Sandy Bay beach and recorded the relationships between their physical models and the central waters through photos, videos, and photogrammetry tools.



(xi)Lantau Field School | Exhibition

Date: 13 September 2022 (Tue)

Time: 6:00pm - 8:00 pm

Venue: PROJCT, G/F, 42 Circular Pathway, Sheung Wan

Studio teacher: Lily Zhang

Aligning with our studio expeditions to explore various sites around Lantau, we produced physical models, drawings, images, photographs, films, sound recordings, collages, paintings, sketches, site specimens, process documentation, and a field school atlas, with all materials curated as a final public exhibition.



6. 'Images of Lantau' Exhibition @ PROJCT

- invited participants to appreciate the beauty of Lantau Island through an impressive collection of models, images, and drawings.



Date: 13 September 2022 (Tue) – 20 September 2022 (Tue)

Opening Celebration: 13 September 2022 (Tue) 6:00pm - 8:00 pm

Closing Night Event: 20 September 2022 (Tue) 6:00pm - 8:00 pm

Venue: PROJCT, G/F, 42 Circular Pathway, Sheung Wan

There is something exciting about visiting a new place. It is somewhat similar to the feeling one gets when finding a new idea. For many of us who live in the city, Lantau feels like a faraway place, with much to discover and learn. Even the most common, everyday scenes for the people who live there seem to be fresh and bright for us visitors. We may walk around the mountains and beaches all day long in the fading heat of summer, our clothes soaked through, our feet sore, our legs stiff and uncooperative as if they were sticks. Despite this, our hearts are filled with memories, and bit by bit, our pockets become full of stones, shells, and fallen leaves found on our trip, things that could have been found on a walk in our own neighborhoods. Once arriving home, we may carefully take them out and place them by the bedroom window or the edge of the desk. The next time we notice them, the leaves have wilted, the stones are covered with dust, and the shells seem to have lost some of their luster. Yet even as their existence fades gradually and their materials deteriorate, through each one of them, the experience of the trip comes back to us from our memories as if it were only yesterday. The root of new ideas, in other words, may be to pay attention to such small, trivial things. By collecting things that we would not normally pay attention to and looking back at them one by one, we may find hidden information that we never knew existed. For those of us practicing architecture, in the initial stages of design, it may be as important to look at various things freely with clear and unclouded eyes, like the fragments of memories collected on our travels. Each memory is a small part of this newly familiar land and a small part of our affection. Together all these traces comprise one larger collective image of Lantau, the beginnings of our endless possibilities for design.

Curators: Lily Zhang, Yeung Hei Marco, Law Pak Lun Parco

Participants: Kong Jining Estela, Lam Pui Hin Jason, Li Pei Li Sally,
Lo Chun Yin Kelvin, Lo Puinam Preston, Shi Shun Mort,
Song Qining, Sun Yuerong Rayna, Xiong Zhejian Jensen,
Xu Ziyang Sherry, Zhai Xinyu Jerry, Zhang Zixuan Alan

Division of Landscape Architecture

1. 'BIG FOREST, small forests' Exhibition @ PMQ

- celebrated the projects and outcomes from this year's Postgraduate Diploma in Landscape Architecture (PDLA) Intensive Workshop.



Date: 26 August 2022 (Fri) – 17 September 2022 (Sat)

Time: 10:00 am – 8:00 pm

Venue: S314, 3/F, Staunton (Block A), PMQ, 35 Aberdeen Street,
Central, Hong Kong

There are many human-made elements scattered throughout our cities. Not only architecture and infrastructure, but also landscapes are in fact artificially made, and all produced through design. So what does a designer do first when working on a project? These days, very often the initial step involves turning on your computer. You gather some drawings representing typical trees and plants, perhaps ones that you've never even seen before in reality, and place them on the drawing board in the pattern of what you think composes a garden, a park, or a city landscape. Somehow, this series of actions completes the designer's work, relying solely on the sense of sight and graphic arrangement while maintaining distance from the actual living entities of nature.

So, what does nature provide us? In fact, nature itself does not offer only us humans anything in particular. Instead, we react to and form a part of the earth's

embedded cycles. We naturally rely on all our senses, in addition to sight, in our everyday lives, yet for some reason we do not routinely utilise these senses for design. If we broaden our awareness, we realise that the information we see with our eyes, today frequently obtained from the computer screen, compared to the input we hear from our ears may be completely different, just as when we touch and smell something, we may also wish to experience how the taste corresponds.

This exhibition explores the possibilities of designing new landscapes from such a natural, immediate, and sensorial point of view. Rather than relying solely on the visual and producing work that remains only at the level of drawing, students spend time outdoors and around the city to observe and collect various little plants that are often overlooked, such as common weeds. With these plants that compose our everyday environment, students consider their own landscape design potential based on firsthand experiences and discoveries, such as colour, scale, scent, texture, growth patterns, and originating locales.

Through these new and classic methodologies, first-year PDLA students expand their understanding of Hong Kong's day-to-day surroundings and inherent values to create their own new small landscape designs.

Curators: Lily Zhang, Wataru Shinji

Exhibition Assistants: Law Pak Lun Parco, Yeung Hei Marco

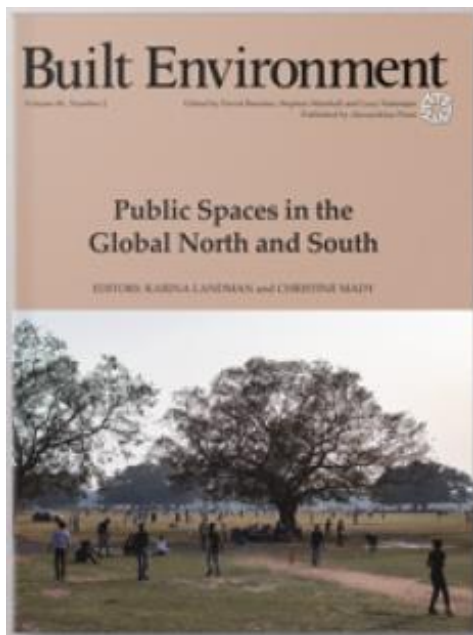
Participants: Ban Han, Bao Shutong Bonnie, Cheng Tsz Ho Dave,
Ho Chi Chung Terry, Lei Yanqing Ayla, Li Huanyang MuTsing,
Li Sze Yin Anna, Lim Wing Kwan Tanya, Tin Yun Yue Tina,
Sun Xiaofei Kathy, Yu Kaixin Kyle, Yu Yik Hei Josh

2. Dr Cecilia Chu

- has been invited to serve as Co-chair of the 'Research + Methods Track' of the Council of Educators in Landscape Architecture (CELA), succeeding DLA's Dr Bin Jiang who held this position for the past three years.



- has been invited to be a member of the Editorial Board of the *Built Environment* journal.



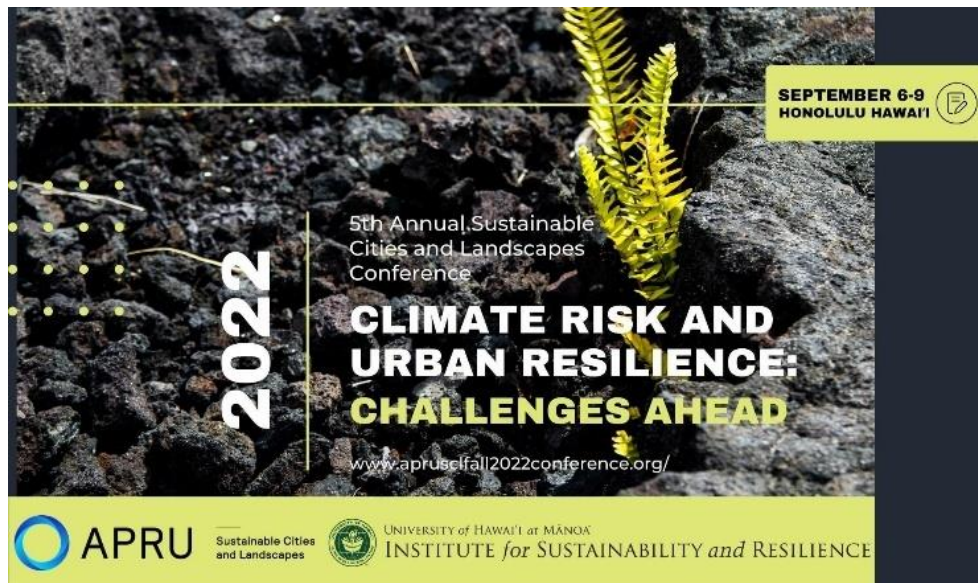
3. Ms Jiali Li (PhD Year 2 student) and Ms Qiao Lin (PhD Year 1 student)

- have been appointed President and Vice President of the CIB-HKU Student Chapter. Jiali and Qiao co-organised the Welcome Session for new FoA students on 23 September 2022.



4. Mr Mathew Pryor

- has been appointed as a co-leader of the Urban Landscape Biodiversity Working Group at the APRU Sustainable Cities and Landscapes Conference 2022, hosted by the University of Hawai'i at Mānoa, on 5-8 September 2022. The Working Group aims to design and publish a range of urban biodiversity project case studies and related teaching materials for landscape architectural programmes around the Pacific, and to establish a system of teaching fellowships to allow instructors of urban biodiversity and landscape ecology the opportunity to experience teaching methods in other leading schools.



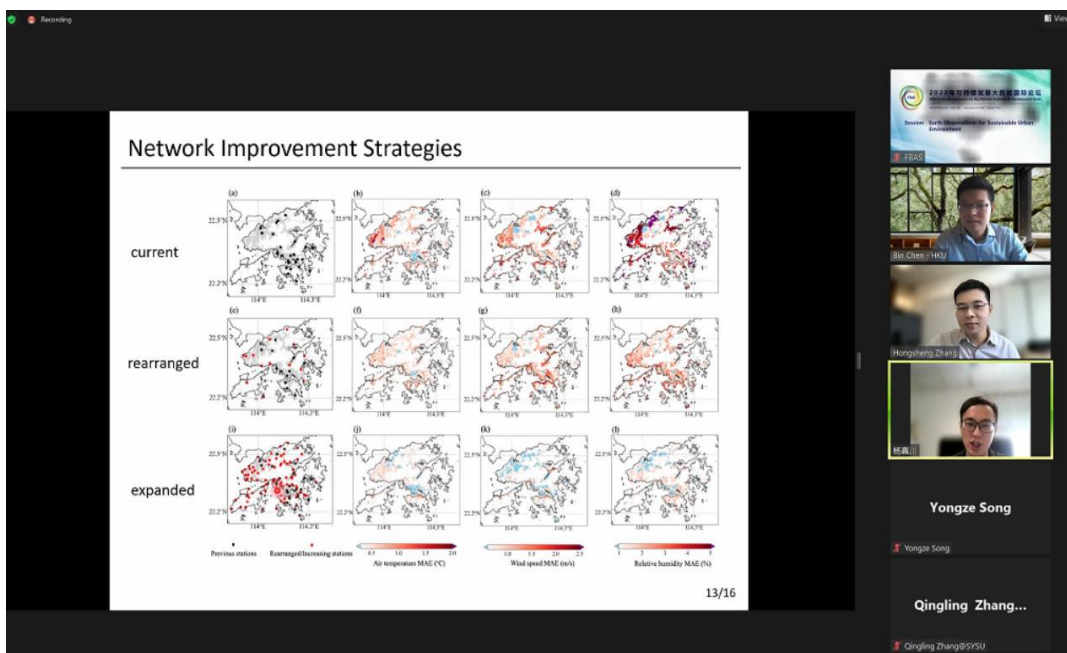
- was invited to give a keynote presentation to the 2022 Taipei Garden City International Forum (臺北田園城市國際論壇), hosted by the Department of Economic Development, Taipei City Government, on 22 September 2022.

Speaking alongside Professor Jeffrey Hou from the University of Washington, Mathew discussed the changing attitudes to farming from the traditional view of farming being low-class manual labour to becoming a worthy endeavour concerned with promoting food security and environmental health, through the active engagement of city dwellers with different forms of urban agriculture. His online presentation argued that urban authorities need to reconceptualise the value of urban agriculture as being social capital rather than food produce, and focus governance strategies on its benefits to mental health and community well-being.



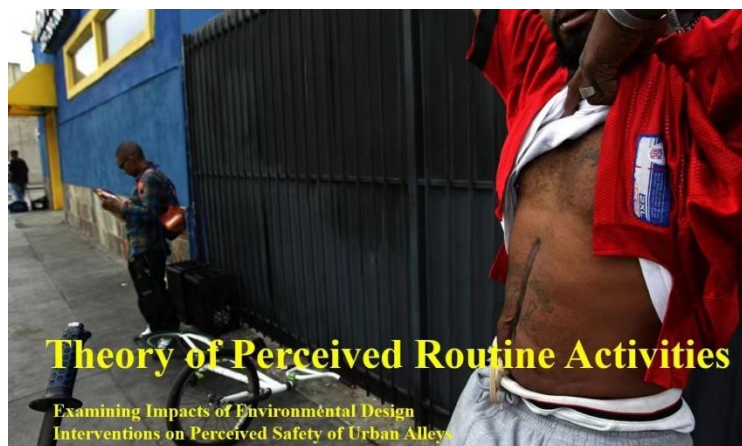
5. Dr Binley Chen

- co-chaired with Dr Hongsheng Zhang in the session of 'Earth Observations for Sustainable Urban Environment' at the [2022 International Forum on Big Data for Sustainable Development Goals](#), on 8 September 2022, in Beijing, China, where he also gave a talk titled 'Urban Greenspace Exposure and the Associated Inequality Issue'.



6. Dr Bin Jiang

- delivered a talk at the International Conference on Crime Geography and Crime Analysis (CGCA). The Conference was organised by the Commission of Geographical Modelling and Information Analysis (GM & IA), The Geographical Society of China. The lecture was moderated by Professor of Geography of the University of Cincinnati and the Co-Director of the Joint Center of GIS and Spatial Analysis, on 6 May 2022.



Bin JIANG

Associate Professor, The University of Hong Kong (HKU)
Director, Virtual Reality Lab of Urban Environments and Human Health (UEHH), HKU
Ph.D. University of Illinois at Urbana-Champaign, USA
Co-Chair, Research and Methods Track, Council of Educators in Landscape Architecture (USA)
Associate Director, Landscape Architecture Frontiers Journal



HKURBAN
The University of Hong Kong
Faculty of Architecture

UEHH
Urban Environments and Human Health

- was awarded one of the 2021 annual landscape architects of the year by the *Landscape Design Journal*, for which he had also gave a speech.



- hosted a forum and delivered a lecture titled 'How to write high-level academic papers in the design field' at the Landscape Architecture Frontiers Academic Salon for Young Scholars, on 20 May 2022.



Emerging Sources Citation Index (ESCI) 收录

中国科学引文数据库 (CSCD) 来源期刊 (扩展库)

7. Dr Chao Ren

- has been invited by the World Meteorological Organisation (WMO) to join the working group on Greenhouse Emission Monitoring, to develop related guidelines and development strategy for the WMO.



- was invited as a panel speaker to share her funding application experience with early career researchers in the session of 'Preparing Research Funding and Fellowship Proposals' of the Virtual Poster Conference of the International Association for Urban Climate on 30 August 2022.



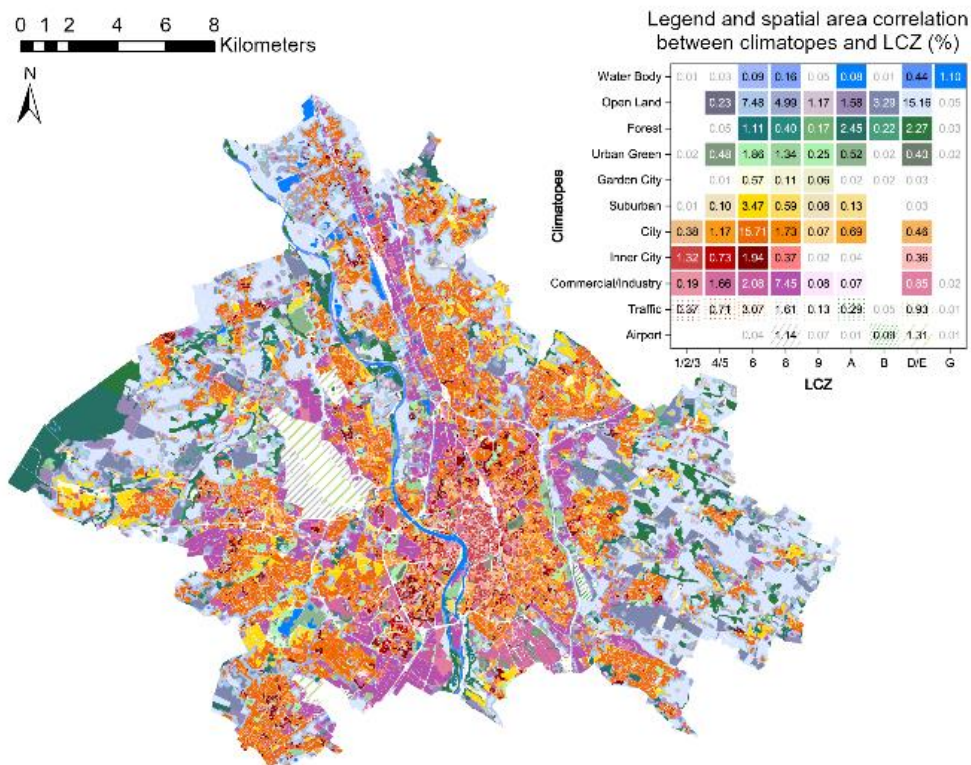
8. Dr Chao Ren and Dr Shi Yin (Post-doctoral Fellow)

- have published the following paper:

Yin, S., Ren, C., Zhang, X., Hidalgo, J., Schoetter, R., Kwok, Y. T., & Lau, K. K-L. (2022). Potential of Synthesizing Climatopes and Local Climate Zones for Urban Climatic Planning Recommendations: A Case Study in Toulouse, France. *Cybergeo: European Journal of Geography*. <https://doi.org/10.4000/cybergeo.39417>

Abstract: *The urban climatic map (UCMap) is an urban climate information tool for planning purpose commonly used in German-speaking countries while local climate zone (LCZ) scheme is developed to link the characteristics urban climate and urban morphology at the city level world widely. These two frameworks differ with each other on the aspect of data sources, classification standards, and planning implementation. This study explores the potential of integrating these two complementary frameworks to identify problematic hot spots and propose some generic urban planning recommendations according to current urban climate standards. To address this issue, the Toulouse Metropole area is taken as a case study; a hybrid Climatope-LCZ map is derived by synthesizing the classification of climatopes, based on the German standard (VDI 3787-Part 1), and LCZs at equivalent spatial positions. Furthermore, the simulated meteorological data about wind and thermal environments of Toulouse Metropole during typical summer season are*

introduced as evidence for analyzing the mutual benefits on urban climate study and application. According to the results, both the heterogeneous urban geometric characteristics and urban climatic issues within a climatope are well identified spatially by the corresponding composition of LCZ. Likewise, the differences of thermal stress between climatopes but in the same LCZ are also clearly illustrated. Lastly, a list of urban climatic planning recommendations for LCZs is proposed followed by the guidelines in VDI 3787-Part 1. This study proves that hybrid Climatope-LCZ map offers more detailed urban climate information to planners or decision-makers than classic urban climate map framework.



Hybrid Climatope-LCZ map and spatial area correlations between the climatopes and the LCZs. LCZ 1/2/3 is Compact Settings; LCZ 4/5 is Open High/Mid-rises; LCZ 6 is Open Low-rise; LCZ 8 is Large Low-rise; LCZ 9 is Sparsely Built; LCZ A is Dense Trees; LCZ B is Scattered Trees; LCZ D/E is Low Plants; LCZ G is Water.

Department of Real Estate and Construction

1. The Real Estate Society

- co-organised with the Hong Kong Institute of Surveyors a guest seminar on Environmental, Social, and Governance (ESG), presented by guest speaker, Mr Sam Crispin, Head of Sustainability & ESG, Asia Pacific, Savills, on 30 September 2022. The talk highlighted the framework, impact and significance of ESG in reshaping the global economy, especially in the Real Estate sector.



2. REC Research Seminar Series

- invited Professor Ming Xu of Tsinghua University's School of Environment to present his research on 'Carbon Neutrality and Life Cycle Thinking', on 14 September 2022 via Zoom.

More information: <https://www.arch.hku.hk/event/carbon-neutrality-and-life-cycle-thinking/>



THE UNIVERSITY OF HONG KONG 香港大學
faculty of architecture 建築學院
Department of Real Estate and Construction
房地產及建築系



REC Research Seminar Series

CARBON NEUTRALITY AND LIFE CYCLE THINKING



Scan to register



SPEAKER:
Prof Ming XU
Professor,
School of Environment
Tsinghua University

Sept 14, 2022 (WED)
9:30 ~ 11 am (HKT)

ABSTRACT
Carbon neutrality has become mainstream world. Many countries have established timeline to achieve carbon neutrality, mostly around 2050. Life cycle thinking considers the entire supply chain of a product when evaluating its environmental impacts including impacts on the climate caused by greenhouse (GHG) emissions, also known as carbon footprint. Specifically, life cycle thinking can help achieve carbon neutrality by 1) identifying critical processes with contributions to the carbon footprint to guide emission reduction, 2) assessing the true GHG emissions from processes of the product's supply chain to emission shift among these processes, and informing consumers to help make climate conscious purchase decisions.

Ming Xu is a Professor in School of Environment at Tsinghua University. Prior to joining Tsinghua, he was a Professor in School for Environment and Sustainability and a Professor in Department of Civil and Environmental Engineering at University of Michigan, Ann Arbor. He received the 2015 Robert A. Laudise Medal from International Society for Industrial Ecology (ISIE), the US National Science Foundation Faculty Early Career Development (CAREER) Award in 2016, and the Walter L. Huber Civil Engineering Research Prize from American Society of Civil Engineers (ASCE) in 2021. He serves on the Editorial Board of the journal Engineering for its Environment & Light and Textile Industries Engineering Section. He has been serving as the Editor-in-Chief of the journal Resources, Conservation & Recycling since 2015 (2021 Impact Factor: 13.716). He was elected President of International Society for Industrial Ecology for 2023-2024.



Department of Urban Planning and Design

1. Mr Alain Chiaradia

- has been nominated to the following posts:
 - (i) Fellow of the Hong Kong Institute of Urban Design
 - (ii) Vice President of the Hong Kong Institute of Urban Design
 - (iii) Founding Member of the GBA Urban Designer Alliance, supported by the following Founding Member Institutes:
 - Hong Kong Institute of Urban Design
 - CURB Center for Architecture and Urbanism – Macau
 - Guangzhou Urban Planning Association
 - Urban Planning Society of Shenzhen
 - Zuhai Planning Exploration and Design Industry Association

2. Dr Yulun Zhou

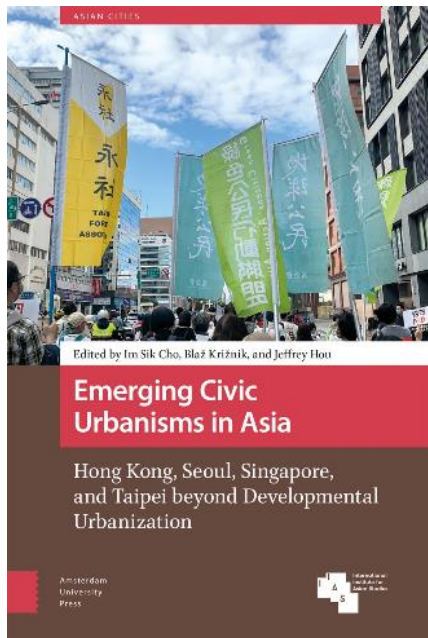
- has won First Prize in the National GIS Technology Advances Award (地理信息科技進步獎) from the China Association for GIS for his project in collaboration with Beijing Normal University, titled 'Brain-inspired Navigation in Geographical Spaces: Theory and Methods' (地理空間類腦智能導航理論與方法研究).



Architecture, Urbanism, and the Humanities Initiatives

1. Dr Cecilia Chu

- has published the following book chapter:



Chu, C. L., & Eraso, C. (2022). Beyond the Sunday Spectacle: Foreign Domestic Workers and Emergent Civic Urbanisms in Hong Kong. In I. S. Cho, B. Kriznik & J. Hou (Eds.), *Emerging Civic Urbanisms in Asia: Hong Kong, Seoul, Singapore, and Taipei beyond Developmental Urbanization* (pp. 245-266). Amsterdam University Press.

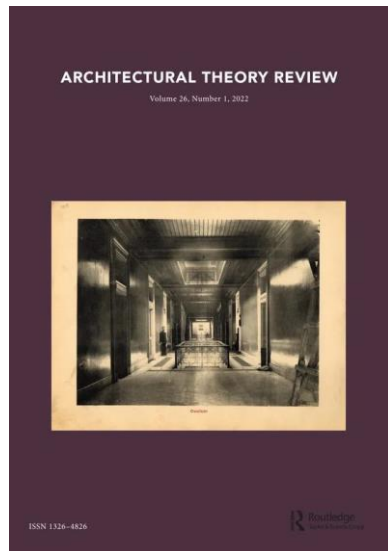
<https://www.aup.nl/en/book/9789463728546/emerging-civic-urbanisms-in-asia>

Abstract: *This chapter explores practices of civic urbanisms in East Asia by examining the self-organised collective activities of foreign domestic workers in Hong Kong. The investigation focuses on the ‘beauty-styling’ events that enlist the participation of a large number of Filipino and Indonesian women on Sundays and public holidays. By analysing the operation of these events and motivations of their organisers and participants, the chapter offers a critical interpretation of the ideas of ‘urban commoning’ and ‘bottom-up urbanism’ and consider how such activities have contributed to the shaping of individual and collective aspirations of marginalized diasporic communities.*

2. Mr Sony Devabhaktuni

- has published the following papers:

- (i) **Devabhaktuni, S.** (2022). Speculation's Spatial Terms: Imminence and Inevitability in Amaravati. *Architectural Theory Review*, 26(1), 147-168. <https://doi.org/10.1080/13264826.2022.2089185>



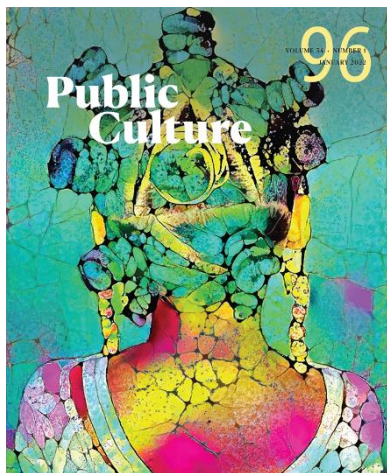
Abstract: *This paper considers the interruption of Amaravati, a project for a new state capital in southern India. I argue that the terms and conditions of Amaravati's financing had specific spatial consequences at multiple scales. The discussion traces the deterritorialization of an agrarian landscape into speculative real estate through so-called "land pooling." It considers the new technologies and modes of governance that facilitated this speculation and catalyzed an "all-over, all-at-once" infrastructural strategy that organized construction work synchronously on scattered sites spread across 217 square kilometers of land. The expedited construction of government housing blocks—using monolithic in situ casting techniques—further supported the financialized terms of development, emphasizing the imminence and inevitability of the future capital as a means of securing private investment from around the world. As Amaravati's ultimate demise suggests, the abstractions of contemporary global finance can be grasped through a close reading of their architectural manifestations.*

- (ii) **Devabhaktuni, S., Mansbridge, J., & Sentler, S.** (2021). When Zoom Roomed the World: Performing Network Culture's Enclosures. *Global Performance Studies*, 4(2). <https://doi.org/10.33303/gpsv4n2a6>

Abstract: *As non-essential labor, the performing arts took shelter in Zoom, using the platform to remain productive as creative laborers. The platform answered a need to sustain creative practices and ensure work would remain vital, if not "essential." We consider Zoom's impact on the performing arts within the context of theories of network culture. We argue that Zoom's*

increasing capacity to capture and quantify collaborative exchanges comprises an important technological extension of network culture's abstractions. To develop this inquiry, we look at three performances that experiment with the platform: a three-part work titled *End Meeting for All* by UK theatre company *Forced Entertainment*; the performance lecture *Is this Gutai?* by the Taiwanese artist *River Lin*; and the Zoom workshop *The F/OL|D as Somatic/Artistic Practice* by *Susan Sentler* and *Glenna Batson*. These works slip between performative genres and affective registers while challenging Zoom and its protocols. Through their play with Zoom, they reveal how intimate engagements with technological infrastructures provide shape, meaning, and access to the networks that sustain us. We offer provocations for thinking through these interactions, while recognizing that Zoom's functionality continues to expand, enveloping additional aspects of communication in the name of user experience.

- (iii) **Devabhaktuni, S., & Mansbridge, J. (2022).** Democracy's Dislocations: Spaces of Protest and the People of Hong Kong. *Public Culture*, 34(1 (96)): 99-121. <https://doi.org/10.1215/08992363-9435470>



Abstract: This article examines the 2019 Hong Kong protests from the perspective of urban space and the city's historical founding as a colonial entrepôt. Specifically, it explores how the protests destabilized both the urban fabric of the city and the political and economic agreements that have defined the city's governance since handover. The analysis of the protests, and of the history leading up to them, is informed by writings on democracy and space by Chantal Mouffe and Doreen Massey, and considers the work of activists, researchers, and journalists whose voices have often been out of step with the movement and with international media narratives that have defined it. The article provides historical and theoretical insight into the role of both collaboration and conflict in the formation of the city's political identity and points to possibilities for engaging with the still-open question of the meanings and practices of democracy in Hong Kong.

Built Heritage Research Collaborative

1. Dr Cecilia Chu

- shared her insights on the histories of housing, social inequality and heritage conservation in Hong Kong in an interview with [Ming Pao Daily](#), based on her new book [Building Colonial Hong Kong: Speculative Development and Segregation in the City](#) (Routledge, 2022).

Read more:

https://www.dropbox.com/s/z6tcfk91uk3lrg8/220814_MingPao_clipping.pdf?dl=0



- has been invited to be a member of the Advisory Board of Docomomo International. She is one of the two new members representing the organisation's Asian and African regional chapters.

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international

2. Dr Cecilia Chu and Dr Ying Zhou

- attended the Docomomo Council Meeting at the 17th International Docomomo Conference on 8 September 2022.



Centre of Urban Studies and Urban Planning

1. Symposium on Countryside Conservation and Rural Revitalization

- was successfully organised by the HKU Centre of Urban Studies and Urban Planning (CUSUP) and a Countryside Conservation Funding Scheme (CCFS) project team led by Professor Shenjing He, on 27 August 2022.

The Symposium brought together many experts in the field of rural research and rural revitalisation from Mainland China and Hong Kong. It was chaired by Professor Bo-sin Tang, Director of CUSUP, HKU. Over 500 participants joined in physically or virtually, including government officials, scholars, urban planners, members from the tourism industry, and local villagers.



2. Mr Alain Chiaradia

- has co-authored the following award-winning paper (Second Prize, 2021 Landscape Architecture Award):

Zhang, L. Z., **Chiaradia, A.***, Cui, M. Y., **Zeng, W. X.** (2022). Between the In-between: A Design Study of 'Cool Network' based on 3D Accessibility, *Landscape Architecture*, 29(6), 109-114 (in Chinese). <https://doi.org/10.14085/j.fjyl.2022.06.0109.06>

Abstract: *Some major cities have formulated relevant policies and planning strategies targeting at urban heat island effect. However, such policies and strategies seldom consider public space visiting behavior, citizen walking behavior and three-dimensional (3D) characteristic of high-density cities. Taking the small public spaces in the Central and Western District and Wan Chai District in Hong Kong as an extreme case study of volumetric urban design, this research uses 3D spatial design network analysis (3D sDNA) to measure the accessibility and traffic potential of public spaces based on a cognitive pathfinding mechanism. Additionally, using unsupervised machine learning, the research investigates the relationships between such factors as size, location visibility and design quality of the public spaces, finding that the design quality of such public spaces improves with the increase of their area and visibility. In combination with small public spaces, urban ventilation and daily routes most frequently used by pedestrians, the research outlines a design sketch for a proposed "cool network" in Wan Chai, with a view to enabling the "cool network" to serve all age groups with different occupations therein. Through both quantitative and qualitative discussions, the research explores the complexity of accessibility for pedestrians proposing a behavior led space design intervention method, to increase both the usage frequency and the user groups diversity of public spaces while providing a powerful support for planning and design practice regarding public spaces in high-density cities.*

Keywords: *landscape architecture; small public space; spatial design network analysis (sDNA); 3D accessibility; continuous public space network; 'cool network'; volumetric city; Hong Kong*

Funding: *Young Scientists Fund of the National Natural Science Foundation of China (No.52008297); Strategies for Enhancing Walkability in Hong Kong via Smart Policies, a project funded by the Strategic Public Policy Research Funding Scheme of the Hong Kong SAR Government (No. SPPR S2017.A7.004.17S); Shanghai Pujiang Program (No. 21PJC114).*

3. Mr Kazi Kabir (PhD Year 4 student)

- has co-authored the following papers:

- (i) Khan, M. A., Hasan, K., & **Kabir, K. H.** (2022). Determinants of households' livelihood vulnerability due to climate induced disaster in southwest coastal region of Bangladesh. *Progress in Disaster Science*, 15, 100243, ISSN 2590-0617. <https://doi.org/10.1016/j.pdisas.2022.100243>

Abstract: Climate-related disasters have a severe impact on the livelihoods of people in south-western coastal Bangladesh, and the adaptive capacity is linked to this. However, this subject has not received any thorough attention. This study therefore identified the adaptive capacity indicators that affect the livelihood vulnerability to climate-induced disasters in the three unions (Dakshin Dedkashi, Bagali, and Koyra) of Koyra Upazila (sub-district) in the Khulna district (a climate-vulnerable southwest coastal region) of Bangladesh. We surveyed 300 households from the three unions using an interview schedule. The data were analyzed by using an ordered logistic regression. Gender and education of household heads, presence of dependents, family members working in different communities, crop growing, agricultural activities as the primary source of income, access to support from relatives or friends, access to local government services, and membership in community-based social organizations were identified as the significant indicators of adaptive capacity that determine vulnerability in this study. A partnership between government agencies and the community might lead to new perspectives on climate risk mitigation measures; the cost-effective adoption of innovative adaptation solutions; and social inclusion and empowerment in terms of livelihood opportunities.

- (ii) **Kabir, K. H.**, Khan, M. A., Hasan, K., & Aftab, S. (2022). Driving forces of adaptation decision and strategies to climate-related events: Case on farming households in South–West coastal Bangladesh. *Journal of Environmental Assessment Policy and Management*, 2250019. <https://doi.org/10.1142/S1464333222500193>

Abstract: This research aimed to identify the factors that influence farming households' decisions on adaptation strategies and the highest priority strategy in South-Western coastal Bangladesh. Seven unions in Koyra Upazila were surveyed, and 60 households were interviewed from each union. The binary logit and multinomial logit models were used to analyse the data. The findings indicate that 58.6% of farming households adopted climate-related adaptation strategies, with seasonal migration being the most top priority. Similarly, the data suggested that years of education of the household heads, number of household members, land tenure, farming experience, climatic event risk perception, and farmer-to-farmer extension influenced both farming households' adaptation decisions and the likelihood of choosing the highest priority adaptation strategies. Public–private partnerships (PPPs) can integrate funds, knowledge, and power structures. It can also balance expenses, liabilities, and opportunities. So, the development of PPPs may promote suitable adaptation strategies.

4. Professor Anthony Yeh

- was invited to give a keynote speech on 'Smart City and Urban Development' at the [Open Ceremony and Plenary Session of the 5th World Planning Schools Congress and the 16th Asian Planning Schools Association Congress \(5th WPSC - 16th APSA Congress\)](#), which was held at Bali, Indonesia, on 30 August 2022. The theme of this year's Congress is *Planning a Global Village: Inclusion, Innovation, and Disruption*.

The 5th WPSC – 16th APSA Congress, held in hybrid mode, attracted around 800 participants from more than 80 countries. The 1st WPSC Congress was held in Tongji University, Shanghai, back in 2001, which led to the founding of the 5-year WPSC Congress series and the formation of the [Global Planning Education Association Network \(GPEAN\)](#).

In the APSA Council Meeting held at the 5th WPSC – 16th APSA Congress, DUPAD won the bid to organise the 18th APSA Congress in Hong Kong in 2026, following the one to be held in Bangkok, Thailand, in 2024. Professor Shenjing He was elected as an Executive Committee Member of APSA for 2022-2024.


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to be discussed regarding "Planning a Global Village: Inclusion, Innovation and Disruption". This session will invite international distinguished speakers (**scholars, practitioners, leaders**) to deliver inspiring and thought-provoking speech related to the theme to global audience lead by a moderator. This session is to highlight the topics that need to be addressed for the whole program of "WPSC-APSA Joint Congress 2022".

General Rundown

Denpasar, Indonesia (GMT +8)	DAY 1 Tuesday, 30 August 2022
08.00-16.30	C1 - Plenary Session
08.00-08.30	Registration and Opening
08.30-09.00	Opening remarks: ASPH-GPEAN-APSA-Governor of Bali
09.00-09.30	Opening speech: Ministry of Agrarian and Spatial Planning/National Land Agency Republic of Indonesia
09.30-09.45	Coffee break and Photo session
09.45-10.00	Intro from Moderator
10.00-10.40	Keynote 1 Prof. Saskia Sassen (Columbia University)
10.40-11.20	Keynote 2 Prof. Anthony Yeh (Hong Kong University)
11.20-12.00	Q&A Discussion
12.00-13.00	Lunch break
13.00-14.40	Special Session : GPEAN Key Messages
14.40-15.00	Coffee break
15.00-16.00	Announcement of The International Students Competition Award
16.00-16.30	Wrap up Day 1

C 2 – PARALLEL SESSION

Traditionally, planning has been conceived as means for achieving and guiding a better future. Planning is understood as a 'prescriptive' field that provides us with clear and detailed means and ways of achieving our dreams, goals, and objectives. The power of planning is believed to be its promise to bring about an improved condition and a better future. Recent trends, however, indicate the dramatic and significant shift from the traditional approach of seeing things for granted to 'disruptive innovation'. It splintered into many aspects of individuals and communities, including planning and design. Not only does disruptive innovation become a cornerstone in current academic discourses, but it also calls for new approaches in observing, critiquing, and analyzing our contemporary issues and problems. As such, disruptive innovation deconstructs our traditional comfort planning notions and practices and engages us in a new unprecedented era and territory. Coupled with the trends toward inclusivity, understanding, connecting, and planning our global village, the idea that we are interconnected through the use of new media technologies has become more exciting. Several questions could arise from these situations and challenges: what are the roles of space, time, and culture in this global village under the era of inclusion and disruption? How does planning comprehend and conceive this unprecedented era? Can planning still able to provide helpful directions to course the future of our global village? The joint 5th WPSC congress and 16th APSA congress in 2022 use these ideas as the backdrop for critically examining the effects of disruptive innovation and inclusion in planning and design. At the same time, the congress also considers topics related to globalization and how it stimulates creative disruption.




WPSC – APSA Joint Congress 2022
Planning a Global Village: Inclusion, Innovation and Disruption







PROGRAM
BOOK

WPSC-APSA
CONGRESS
2022

Bali, Indonesia

- was invited to deliver a speech on 'The Northern Metropolis – Pudong of Hong Kong in the New Era of Development', at the HKIS Annual Conference 2022 – Northern Metropolis: A New Era of Hong Kong towards Sustainability, Resilience and Growth, on 17 September 2022.



HKIS Annual Conference 2022

Northern Metropolis:

A New Era of Hong Kong towards Sustainability, Resilience and Growth

17 September 2022 (Saturday)
9:00am – 4:00pm | Webinar

Themed "Northern Metropolis: A New Era of Hong Kong towards Sustainability, Resilience and Growth", the Annual Conference will deliberate on the sustainable development of Northern Metropolis towards forward-looking strategic planning, enabling Hong Kong to evolve into a resilient city with new engine of growth.

THE HONG KONG INSTITUTE OF
SURVEYORS
香港測量師學會

Register Now

CPD
6 HOURS

Time	Programme
09:00 – 09:05	Welcome Speech By CHAN Kai Kuen President The Hong Kong Institute of Surveyors
09:05 – 09:30	Opening Keynote Speech by Guest of Honour (pre-recorded video) The Honourable PANG CHAN Mo Po, GBS, SBS, JP The Chief Executive HKSAR Government
09:30 – 09:40	Opening Keynote Speech by Guest of Honour Overview of the Strategic Planning of Northern Metropolis Ms. LAM Bernadette, JP Secretary for Development Development Bureau, HKSAR Government
09:40 – 09:45	Group Photo with Guest of Honour
Session One	
09:45 – 10:20	Housing Developments for Sustainable Living Mr. CHAN Kai Lok, MBE, SBS, JP 2nd Deputy Secretary for the Environment HKSAR Government
10:20 – 10:30	Opportunities for Developing Senior Housing & Gerontechnology Testing Hub at the Northern Metropolis Dr. LAM Cheong Chiu, SBS, JP Member of the Executive Council, HKSAR Government
10:30 – 10:50	Sustainability – A Crucial Factor for the Success of the Proposed Northern Metropolis Development By Hon TSE Wai Chuen, Tony, SBS, JP Member of the Legislative Council 2nd Deputy Secretary for Planning and Lands HKSAR Government
10:50 – 11:10	Discussion Panel Moderator: Sir CHUI Kam-kin President The Hong Kong Institute of Surveyors
Souvenir Presentation to Speakers and Moderator	
Session Two	
11:10 – 11:30	The Long-Planned New Northern Metropolis By Mr. Patrick CHAN, Secretary for the Environment HKSAR Government
11:30 – 12:30	The Northern Metropolis – Pudong of Hong Kong in the New Era of Development Presented by Mr. Anthony Q.Q. Yeh, Director of Strategic Planning and Development The Hong Kong Institute of Surveyors
12:30 – 12:40	Innovation Processing for Speedy Development By Mr. Chan Hong Director of Planning and Development HKSAR Government

Time	Programme
12:40 – 12:45	Discussion Panel Moderator: Sir CHEUNG Man Ta, Arthur Chairman, Planning Department The Hong Kong Police and Fire Services
12:45 – 12:50	Souvenir Presentation to Speakers and Moderator
12:50 – 12:55	Souvenir Presentation to Speakers
Session Three	
12:55 – 13:05	Implementation of New Development Areas – Pioneer of Northern Metropolis Mr. LAI Chi Wai, Andrew Director of Lands Lands Department, HKSAR Government
13:05 – 13:30	The Northern Metropolis: Vision and challenges Hon LAU Kwok Fan, MBE, JP Vice-Chairman of the Urban Planning and Development Committee HKSAR Government
13:30 – 13:50	Northern Metropolis: A Happy Ending, A Happy Beginning Mr. YUEN Man Yuen, SBS, JP Director MY Way and Associates Ltd.
13:50 – 15:00	Hong Kong – Shenzhen Cross-Boundary Strategic Spatial Framework Update: The Northern Metropolis Development Strategy By Mr. FONG Hoi Shing, Michael, JP Director of City and Planning HKSAR Government
15:00 – 15:45	Discussion Panel Moderator: Sir TSE Ho Yung, Paul Chairman, Planning Department The Hong Kong Police and Fire Services
15:45 – 16:00	Souvenir Presentation to Speakers and Moderator
16:00 – 16:05	Closing Remarks By Mr. Francis LAM, Chairman Annual Conference Organising Committee The Hong Kong Institute of Surveyors
16:05	End of Conference

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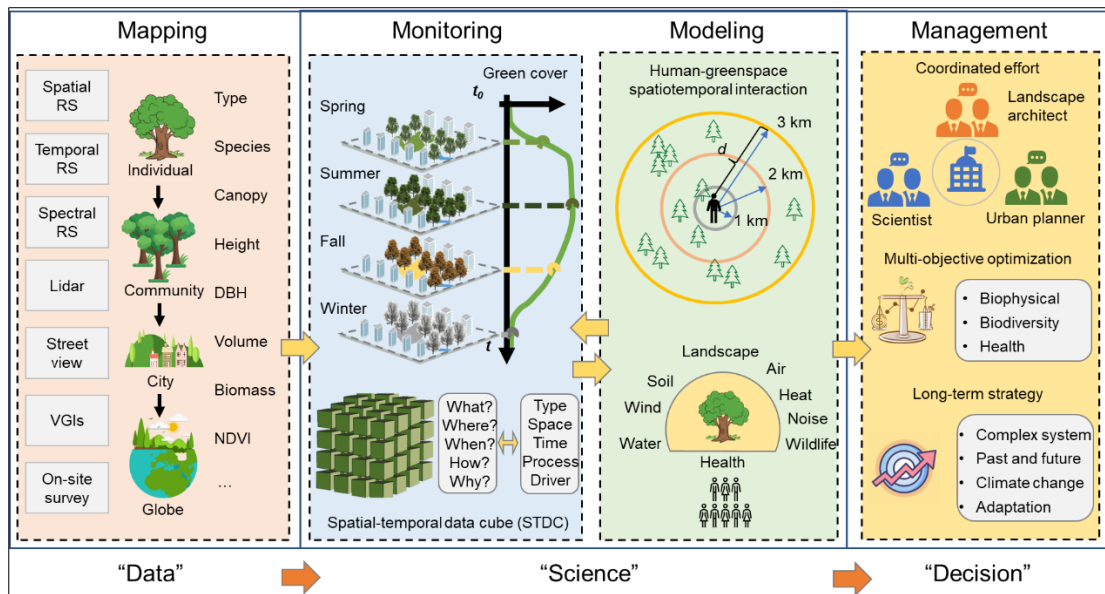
Future Urbanity & Sustainable Environment Lab

1. Dr Binley Chen and Dean Chris Webster

- have the following paper accepted for publication:

Chen, B., & Webster, C. (2022). Eight Reflections on Quantitative Urban Greenspace Studies: A Mapping-Monitoring-Modeling-Management (4M) Perspective. *Landscape Architecture Frontiers*.

Abstract: *Greenspace is an important component in the urban environment, providing considerable ecosystem services to our socio-economic-cultural activities and protecting human health. Metrics designed to capture greenspace provision, supply and demand, measuring availability, accessibility, and visibility have been widely adopted to gauge progress toward achieving sustainable development goals from local to regional scales. In this article, we offer eight reflections on quantitative urban greenspace studies for mapping, monitoring, modelling, and management (4M) practices in landscape design, planning, and management. The article's objective is to stimulate fresh and innovative thinking in the conversion of data to interventions. Eight points are made: 1) Greenspace mapping should be characterized in a multi-attribute conceptual model, including quantity, quality, type, and structure; 2) greenspace mapping sources, methods and uses vary by definitions, approaches, and scales; 3) phenology modifies seasonal quality and quantity of urban greenspace; 4) spatial and temporal greenspace data cubes will help to realize the goal of near real-time monitoring of urban greenspace change; 5) greenspace coverage reveals greenspace supply, but greenspace exposure can capture effective demand via modelling human-greenspace supply-demand relationships; 6) greenspace exposure measures should account for spatial, temporal, and social differences; 7) greening optimization by landscape architects and environmental planners should consider both biophysical, biodiversity, and health benefits; and 8) urban greenspace management should be strategized with a long-term view. Finally, we advocate data-science-decision support systems that can help guide and promote 4M practices of urban greenspace. These points of reflection have broad implications for research, practice and theory of urban green landscape design, planning, and management, and altogether constitute a set of principles that can guide scientists, policy makers, and practitioners toward strategizing optimal 4M of urban greenspace.*



Conceptual diagram of data-science-decision support systems to guide and promote 4M practices of urban greenspace.

1. Professor Wilson Lu

- was interviewed by the [South China Morning Post \(SCMP\)](#) (David Ren, 26 July 2022) in its Business article on Hong Kong property, titled 'Soaring construction costs may discourage Hong Kong's developers from bidding aggressively for land', where he shared his views on the escalating construction costs in Hong Kong.

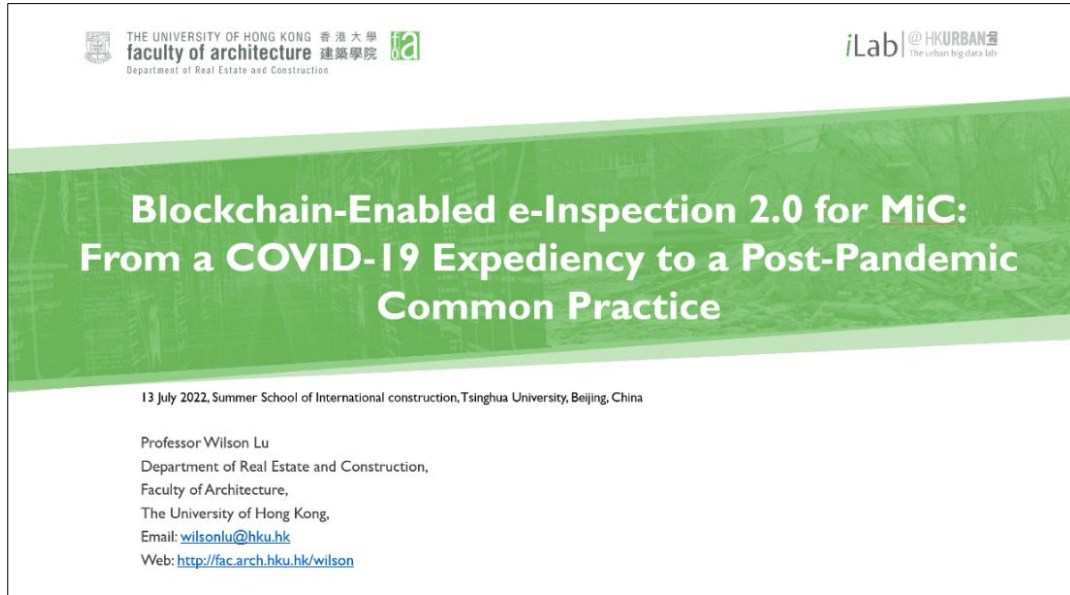


- delivered a keynote speech, titled 'Boosting Construction Waste Material Sharing in the Guangdong-Hong Kong-Macao Bay Area', at the International Conference on National Spatial Planning and Advanced Urban Development, on 18-19 June 2022, in Hangzhou, China.



Professor Wilson Lu (呂偉生)
Department of Real Estate and Construction
Faculty of Architecture
The University of Hong Kong
Pokfulam, Hong Kong,
Email: wilsonlu@hku.hk

- gave an invited talk, titled 'Blockchain-Enabled e-Inspection 2.0 for MiC: From the COVID-19 Expediency to a Post-Pandemic Common Practice', to:
 - (i) Summer School of International Construction, Tsinghua University, Beijing, on 13 July 2022:



- (ii) [Hong Kong Alliance of Built Asset and Environment Information Management Association](#) (HKABAEIMA), and shared on the panel 'Digital Twins for Smart City' at Zero Carbon Building (ZCB), Hong Kong, on 14 July 2022:



- gave a keynote speech, titled 'Developing a Waste Trade Organisation (WTO) to Boost Construction Waste Material Sharing in the Guangdong-Hong Kong-Macao Bay Area', at the [2022 International Conference on Resource Sustainability](#) (icRS 2022), on 1 August 2022.



- gave an invited talk, titled 'Trading/Sharing Construction Waste Materials Towards a Carbon Neutral Greater Bay Area (GBA)', at the [2022 Academic Symposium on Carbon Neutrality and Smart and Healthy City](#), jointly organised by the National Natural Science Foundation of China (NSFC) and Hong Kong Polytechnic University, on 29 August 2022.



2. Ms Yijie Wu (PhD Year 2 student, REC), Mr Maosu Li (PhD Year 3 student, REC & DUPAD) and Dr Frank Xue

- won the first runner-up in the '3D BIM Track' category, and the second runner-up in the '2D CAD Track' category of the Scan-to-BIM Challenge at the Computer Vision and Pattern Recognition (CVPR) Conference, on 19 June 2022, New Orleans, Louisiana, USA.

Their award-winning scan-to-BIM method is titled 'Floor Layer-based Kernels and Pillars of Points (FLKPP)'.



3. Published and accepted papers by iLab researchers:

- (i) Mr Frank Ato Ghansah (HKPF, REC), Dr Junjie Chen (RAP, REC) and Professor Wilson Lu

- have published the following paper:

Ghansah, F. A., Chen, J.J., & Lu, W.S. (2022). Developing a user perception model for smart living: A partial least squares structural equation modelling approach. *Building and Environment*, 222, 109399, ISSN 0360-1323. <https://doi.org/10.1016/j.buildenv.2022.109399>

Abstract: Smart living is highly advocated to improve the quality of life by involving original and innovative solutions. This trend has been jointly driven by policymakers and domain specialists such as urban planners, property developers, and computer engineers. However, little attention has been paid to understanding the perception of the actual users, whose opinions should have been considered in the design and development of smart living systems. To address the gap, this study aims to investigate the user perceptions towards smart living by adopting an exploratory sequential quantitative research method. A user perception model is proposed based on a comprehensive literature review. Using smart student residence as an example scenario, 221 valid data was obtained through open-ended questionnaires, which were then analysed using a partial least squares structural equation modelling approach. This approach analysed the

complex relationship among the identified latent dimensions in realising smart living based on the users' perceptions. The finding demonstrated four significant dimensions to consider in realising smart living: system-to-user conditions, system-to-system conformity conditions, safety and service-related conditions, and tracking and monitoring-related conditions. The proposed model explained 78.3% of the variance in realising smart living for the users considered in the study's context. The study makes a unique contribution to the knowledge body by proposing a model to understand smart living from users' perspectives. It reflects the increasing clamour to incorporate user perspectives into the design of smart living systems. The developed model could serve as a decision-support tool to fulfil users' expectations of smart living.

(ii) Mr Jinfeng Lou (PhD Year 3 student, REC) and Professor Wilson Lu

- have published the following paper:

Lou, J.F., & Lu, W.S. (2022). Construction information authentication and integrity using blockchain-oriented watermarking techniques. *Automation in Construction*, 143, 104570, ISSN 0926-5805. <https://doi.org/10.1016/j.autcon.2022.104570>

Abstract: *Information authentication and integrity (IAI) plays a critical role in construction digital transformation. Blockchain technology can prevent information from fabrication and falsification but cannot guarantee IAI before it enters the on-chain world. To cover the void, this paper describes a blockchain-oriented deployment framework to secure IAI for construction by formulating watermarks from the 5W1H (Who?, What?, Where?, Where?, Why?, How?) and hiding them in digital content. It does so by conducting a literature review and industrial stakeholder engagements, based on which the design requirements are derived and a framework with seven modules is further developed. By deploying it in a modular construction project, the framework demonstrates its capability to guide the formation and embedding of watermarks, accurately detect and localize the integrity damage, and recover the full authentication data even after some degree of tampering. Future studies are encouraged to deploy the framework with various blockchain systems in construction applications.*

(iii) Mr Ziyu Peng (PhD Year 2 student, REC; HKU-PS), Professor Wilson Lu and Dean Chris Webster

- have published the following paper:

Peng, Z., Lu, W.S., & Webster, C. (2022). If invisible carbon waste can be traded, why not visible construction waste? Establishing the construction waste trading 'missing market'. *Resources, Conservation and Recycling*, 187, 106607, ISSN 0921-3449. <https://doi.org/10.1016/j.resconrec.2022.106607>

Abstract: *Of all the solid waste produced by the world's rapidly urbanising regions, a significant proportion flows from construction activities. While construction waste permit trading could incentivise both reduction and recycling, there are no known examples of such trading. Meanwhile, trading carbon permits has been successfully mainstreamed. Drawing on Coase Theorem, our research specifies a cap-and-trade construction waste trading scheme. We investigate various emissions trading schemes to propose and elaborate a preparation-implementation-evolution-review roadmap. In the first step, we decide a waste cap based on social optimum and a benchmarking method to allocate permits. Second, we establish a market that minimises transaction costs. Third, we set up a reward scheme to subsidise low-waste behaviours so that, in the fourth step, the cap can be decreased through regular reviews. Two major risks are identified, namely price volatility and fly-tipping, in response to which we propose a market stability reserve and deposit-refund system, respectively.*

(iv) Mr Liupengfei Wu (PhD Year 2 student, REC), Dr Xiao Li (former PDF, HKU; current RAP, HKPU), Mr Rui Zhao (MPhil Year 2 student, REC), Professor Wilson Lu, Dr Jinying Xu (REC PhD graduate, current Research Fellow of Cambridge University) and Dr Frank Xue

- have published the following paper:

Wu, L., Li, X., Zhao, R., Lu, W.S., Xu, J.Y., & Xue, F. (2022). A blockchain-based model with an incentive mechanism for cross-border logistics supervision and data sharing in modular construction. *Journal of Cleaner Production*, 133460, ISSN 0959-6526. <https://doi.org/10.1016/j.jclepro.2022.133460>

Abstract: *Sustainability in cross-border logistics requires issues such as fragmented management to be addressed. Particular challenges arise in cross-border logistics in modular construction (CLMC) because supervision is inefficient, primarily due to continued use of paper-based documentation. Researchers have developed digital platforms that integrate accurate prefabricated module location information but their centralized operation creates information security issues such as tampering. Blockchain technology can overcome this limitation but relies on user participation. This study, therefore, develops a blockchain-based supervision (BBS) model with incentives for application in CLMC. The BBS model is developed using a design science research approach to enhance supervision of CLMC and motivate users to share data promptly, and then a prototype system is developed and evaluated in a CLMC case. The results show that the system brings a positive change in product accountability ($df=8$, $t=0.6601$, $p=0.528$) compared with current paper-based recording process ($df=8$, $t=0.0035$, $p=0.997$), and a positive change in data traceability ($df=8$, $t=1.468$, $p=0.180$) compared with existing process ($df=8$, $t=0.042$, $p=0.967$). In addition, this study obtains higher scores (552) than others in evaluating the incentive mechanisms. The security analysis is also discussed through data*

immutability, non-repudiation, authentication, and authorization. The findings of this study pave the way for a tamper-proof, incentive-enabled supervision mechanism in modular construction.

- (v) Dr Jinying Xu (REC PhD graduate, current Research Fellow of Cambridge University), Professor Wilson Lu, Mr Liupengfei Wu (PhD Year 2 student, REC), Mr Jinfeng Lou (PhD Year 3 student, REC) and Dr Xiao Li (former PDF, HKU; current RAP, HKPU)

- have published the following paper:

Xu, J.Y., Lu, W.S., Wu, L., Lou, J.F., & Li, X. (2022). Balancing privacy and occupational safety and health in construction: A blockchain-enabled P-OSH deployment framework, *Safety Science*, 154, 105860, ISSN 0925-7535. <https://doi.org/10.1016/j.ssci.2022.105860>

Abstract: *It is an unfortunate fact that, in pursuing occupational safety and health (OSH), privacy as a core value is often traded away. Blockchain technology has unexplored potential in tackling this dilemma through its cryptography, decentralization, and consensus mechanisms. This research aims to develop a blockchain-enabled framework to balance privacy protection and advancement of OSH management by focusing on the construction industry. It does so by adopting design science research as the overall methodology, under which specific methods such as literature review, industrial engagement, brainstorming, cross-sectoral learning, case study, and prototyping and experiment are organized. Underpinning the framework is the principle that personal privacy data should be encrypted, classified, and safeguarded in decentralized repositories while non-sensitive safety behavior data should be readily accessible to enable OSH management. Based on the principle, a blockchain-enabled privacy protection and OSH deployment framework named P-OSH is proposed. Its functional layers and protocols are elaborated. Through a series of prototyping and experiments in a modular construction project case study, it is found out that the framework, with proper deployment, can be developed into an operable P-OSH system to minimize the risk of infringing workers' privacy without undermining OSH management. The major contributions of this research are: (a) highlighting the importance of privacy protection while pursuing protection while pursuing OSH excellence; (b) devising an information channeling mechanism; and (c) developing a deployable P-OSH framework. The research lays a steppingstone for further studies and practical explorations that apply blockchain technology in OSH management without sacrificing privacy.*

(vi) Dr Junjie Chen (RAP, REC), Professor Wilson Lu and Mr Jinfeng Lou (PhD Year 3 student, REC)

- have the following paper accepted for publication:

Chen, J.J., Lu, W.S., & Lou, J.F. (2022). Automatic concrete defect detection and reconstruction by aligning aerial images onto semantic-rich BIM. *Computer-Aided Civil and Infrastructure Engineering*. Accepted.

Abstract: Concrete defect information is of vital importance to building maintenance. Increasingly, computer vision has been explored for automated concrete defect detection. However, existing studies suffer from the challenging issue of false positives. In addition, 3D reconstruction of the defects to pinpoint their positions and geometries has not been sufficiently explored. To address these limitations, this study proposes a novel computational approach to detecting and reconstructing concrete defects from geotagged aerial images. A bundle registration algorithm is devised to align a batch of aerial photographs with a building information model (BIM). The registration enables the retrieval of material semantics in BIM to determine the regions of interest for defect detection. It helps rectify camera poses of the aerial images, enabling precise defect reconstruction. Experiments demonstrate the effectiveness of the approach, which significantly reduced the false discovery rate from 70.8% to 56.8%, resulting in an intersection over union (IoU) 6.4% higher than that of the traditional method. Geometry of the defects was successfully reconstructed in 3D world space. This study opens a new avenue to advance the field of defect detection by exploiting the rich information from BIM. The approach can be deployed at scale, supporting urban renovation, numerical simulation, and other smart applications.

(vii) Mr Vikrom Laovisutthichai (PhD Year 4 student, REC; HKPF) and Professor Wilson Lu

- have the following paper accepted for publication:

Laovisutthichai, V., & Lu, W.S. (2022). Design for manufacture and assembly (DfMA) in architectural design meetings: From a case study to knowledge-to-action framework. *Smart and Sustainable Built Environment*. Accepted.

Abstract: Design for manufacture and assembly (DfMA) challenges architects in managing diverse knowledge across different professional domains. Little research, if any, has documented DfMA as a knowledge-intensive activity happening in real-life cases. This research aims to investigate DfMA knowledge acquisition, sharing, and implementation in real-life practice and develop DfMA knowledge-to-action framework for architects. It does so by 1) conducting observations in design meetings, documentary analysis, and interviews, 2) thematic analysis through knowledge management (KM) perspectives, and 3) based on this profound

understanding, enriching the prior understanding of design as a double diamond process. Through the lens of KM, DfMA is not merely a double but multiple diamond process, involving the iteration of making absencing interdisciplinary knowledge available, deciphering tacit knowledge explicit, and embedding the knowledge in a design that well considers various criteria, the downstream manufacturing, logistics, and assembly in particular. To execute multi-faceted knowledge acquisitions and implementations in DfMA, architects should balance their roles as humble learners, team coordinators, creative leaders, and democratic negotiators. This research reveals the DfMA implementation process, activities, and dilemmas from real-world design meetings. The DfMA knowledge-to-action framework developed in this study, along with practice examples and lessons learned, can facilitate architects to play new roles. Future research is recommended to fine-tune the framework by having other stakeholders' perspectives, refining it with additional cases, and developing assistive tools for designers based on the framework.

(viii) Mr Ziyu Peng (PhD Year 2 student, REC; HKU-PS), Professor Wilson Lu and Dean Chris Webster

- have the following paper accepted for publication:

Peng, Z., Lu, W.S., & Webster, C. (2022). Understanding the effects of construction waste cap-and-trade scheme: An agent-based modeling study of Hong Kong. *Journal of Cleaner Production*. Accepted.

Abstract: *Solid waste arising from construction is a worldwide concern. Prevailing policy tools for minimizing construction waste generation are mainly taxation-based, while few studies have investigated a carbon trading-inspired construction waste cap-and-trade scheme. To examine the effects of such a scheme, we deploy agent-based modeling to simulate a waste cap-and-trade market by focusing on Hong Kong. Firstly, we develop a conceptual model with three agent groups: the government, firms, and markets. Then, learning from carbon trading, we model agents' behaviors in the context of common construction practices. Lastly, we simulate three scenarios of construction growth using Hong Kong as a case study. We find that the cap-and-trade scheme contains construction waste generation within an annual reduction rate of 5.8%, and saves land loss and landfill operation costs of HK\$37.4×10⁶ on average yearly. While the scheme increases the waste containment financial burden on firms more than twofold, from HK\$83.9/ton to HK\$233.0/ton on average, we propose that the government's annual revenue of HK\$172.9×10³ from auctioning permits can be used to reward low-waste construction. This is among the first studies to examine the policy effectiveness of a construction waste cap-and-trade scheme using modeling methods. Although the study is contextualized in Hong Kong, it, with proper adjustments, can be applied to other regions.*

(ix) Mr Liang Yuan (PhD Year 3 student, REC), Professor Wilson Lu, Dr Frank Xue and Mr Maosu Li (PhD Year 3 student, REC & DUPAD)

- have the following paper accepted for publication:

Yuan, L., Lu, W.S., Xue, F., & Li, M. (2022). A building feature-based regression method for quantifying urban material stocks. *Journal of Industrial Ecology*. Accepted.

Abstract: *Urban material stock (UMS) represents an elegant thinking by perceiving cities as a repository of construction materials that can be reused in the future, rather than a burdensome generator of construction and demolition waste. Many studies have attempted to quantify UMS but they often fall short in accuracy, primarily owing to the lack of proper quantification methods or good data available at a micro level. This research aims to develop a simple but satisfactory model for UMS quantification by focusing on individual buildings. Generally, it is a 'bottom-up' approach that uses building features to approximate the material stocks of individual buildings. The research benefits from a set of valuable, 'post-mortem' ground truth data related to 71 buildings that have been demolished in Hong Kong. By comparing a series of machine learning-based models, a multiple linear regression model with six building features, namely building type, building year, height, perimeter, total floor area, and total floor number, is found to yield a satisfactory estimate of building material stocks with a mean absolute percentage error of 9.1%, root-mean-square error of 474.13, and R-square of 0.93. The major contribution of this research is to predict a building's material stock based on several easy-to-obtain building features. The methodology of machine learning regression is novel. The model provides a useful reference for quantifying UMS in other regions. Future explorations are recommended to calibrate the model when data in these regions is available.*

Ronald Coase Centre for Property Rights Research

1. Professor Lawrence Lai, Professor Stephen Davies, Dr Lennon Choy and Professor K.W. Chau

- have published the following paper:

Lai, L. W. C., Davies, S. N. G., Choy, L. H. T., & Chau, K. W. (2022). Land Planning, Property Rights and Management of Built Heritage: Some Hong Kong Observations of Colonial Military Buildings. *Land*, 11(9), 1516.

<https://doi.org/10.3390/land11091516>

Abstract: *There has been much confusion in property rights inquiry into real (immovable) property (i.e., land) between open access and common property, and between public property and common property because that is often also open access. This paper argues that the property rights and access control are two distinct dimensions of land resource management. Access control involves the exercise of exclusionary power relevant to the management of the immovable property (property management) for its optimal use. A review of the literature shows that definitions of property management tend to be too narrow but point towards the need to articulate issues within the property rights paradigm. As a contribution to sustainable resource use as a dimension of land planning, this paper points out and discusses the probable sources of the confusion between land property rights and property management. A “Land Property Rights and Management Matrix” (LPRMM) is developed as a theoretical tool for clarifying the confusion and the relationships amongst relevant concepts. The LPRMM is theoretically informed by Barzel’s not entirely correct distinction between legal (de jure) and economic (de facto) rights and enriched by relevant literature on property rights and property management. Practical use of the LPRMM is illustrated by its application to analyze the issues pertaining to the actual resource-use phenomena in colonial military buildings erected on both private and public land in Hong Kong. The results show that heritage buildings on land under public ownership as private property can be neglected or intensively managed. The LPRMM is not only a useful theoretical tool for precisely assessing the actual affairs of resource use but also a practical tool for identifying issues of property management in its widest sense. The LPRMM offered is a proper interpretation of Barzel’s distinction between legal and economic rights and contributes to systematically re-interpreting property management as town planning writ large in terms of de jure property rights and de facto access.*

Keywords: town planning; property management; property rights; access restrictions; built heritage



Social Infrastructure for Equity and Wellbeing Lab

1. Professor Shenjing He

- has published the following papers:

- (i) Cai, R., & He, S. (2022). Enacting urban entrepreneurialism through neighbourhood governance: A comparative study of Shanghai and Guangzhou, China. *Journal of Urban Affairs*, 1-16. <https://doi.org/10.1080/07352166.2022.2082299>

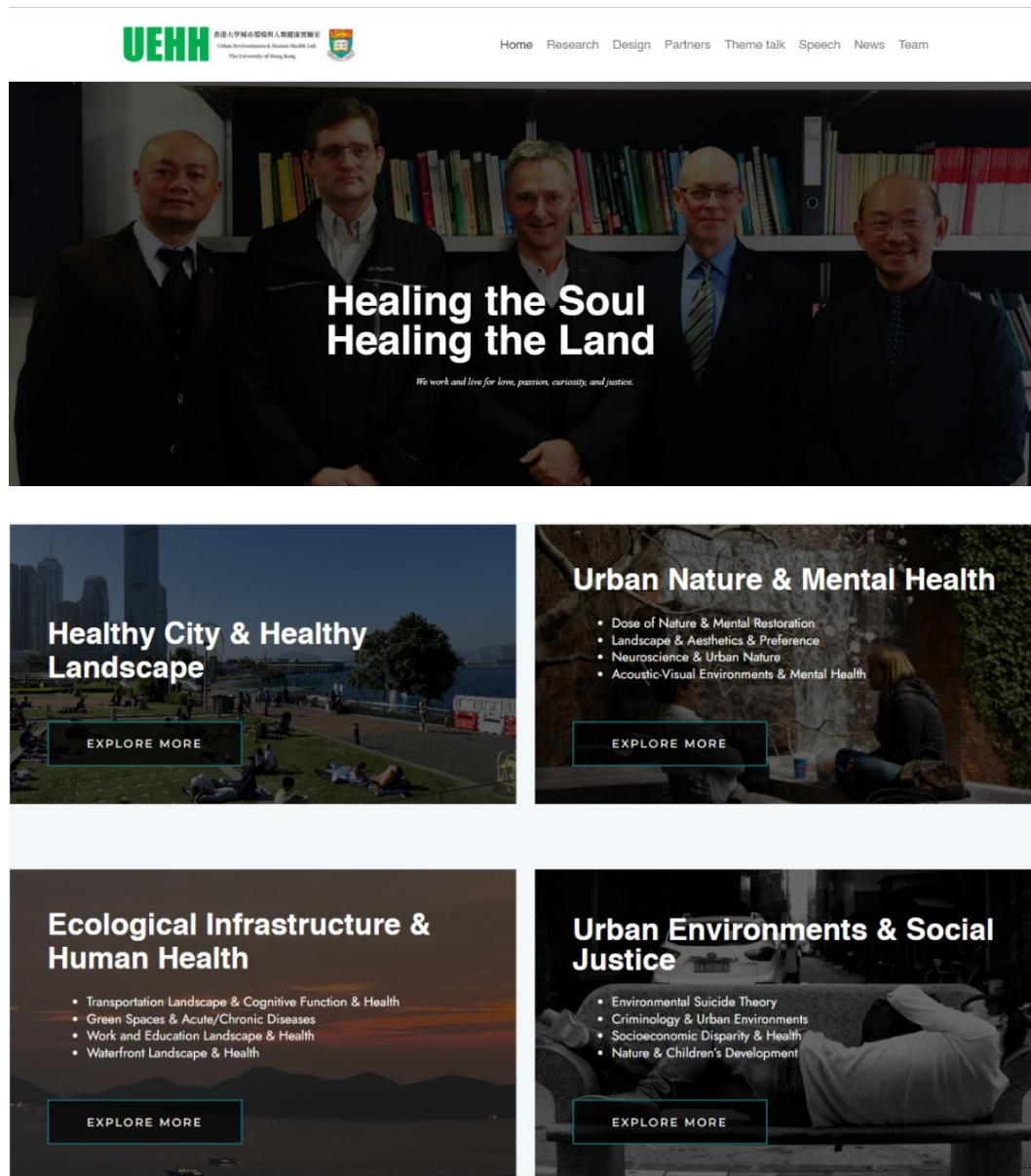
Abstract: Under the concurrence of economic liberalization and political domination in post-reform China, a new mode of urban governance emerged, involving market and societal forces under the orchestration of state entrepreneurialism. However, empirical analysis investigating governance practices in urban neighborhoods through the lens of entrepreneurial urbanism is still lacking. Drawing on comparative case studies of Shanghai and Guangzhou, this study focuses on the coproduction of consensus-oriented neighborhood governance under the influence of state entrepreneurialism and the entrepreneurial society, and develops a typology of homeowner associations (HOAs). This study enriches the concept of state entrepreneurialism by revealing how HOAs are exploited strategically as a societal instrument to achieve extra-economic governance goals in post-reform China. Our examination of civic engagement suggests a rethinking of the ambiguous manifestation of “politics” and its relevance to the entrepreneurial nature of neighborhood governance in Chinese cities. Our research foregrounds the necessity and importance of studying urban governance at the neighborhood scale.

- (ii) Sun, Y., Ng, M. K., Chao, T. Y. S., He, S., & Mok, S. H. (2022). The impact of place attachment on well-being for older people in high-density urban environment: a qualitative study. *Journal of Aging & Social Policy*, 1-21. <https://doi.org/10.1080/08959420.2022.2111168>

Abstract: Aging in place has become a popular social policy worldwide. This paper argues that well-being is an important outcome of aging in place, upon which older people develop autonomy and environmental proactivity. The temporal dimension of aging in place highlights development of place attachment, which includes place identity and place dependence. The study explores how older people, who live in high-density urban environments, make sense of well-being and place attachment by articulating their daily lives. Community dwelling older people aged 65 and above, who came from neighborhoods with high aging population and residential density but high and low median household incomes, were invited for focus group discussions. Multifaceted meanings of well-being include various dimensions that cover individual-collective and material-spiritual (psychological) construct. Meanings of place attachment include values of, bonding ties to, and memories about places. Three pathways are identified linking place attachment and multifaceted well-being. The study finds that social welfare and material richness are not the only determinants of well-being. Fulfillment of higher psychological needs, such as positive evaluation of life and self-actualization, should be emphasized by which older people can make the most of their life in old age.

Urban Environments & Human Health Lab

1. The Urban Environments and Human Health Lab launched its official website at <https://uehh.hku.hk/>



2. Ms Yuwen Yang (PhD Year 4 student, DLA, advised by Dr Bin Jiang & Dr Eunice Seng) and Dr Bin Jiang

- have the following published paper:

Yang, Y., Lu, Y., & Jiang, B.* (2022). Population-weighted exposure to green spaces tied to lower COVID-19 mortality rates: A nationwide dose-response study in the USA. *Science of The Total Environment*, 851(2), 158333, ISSN 0048-9697. <https://doi.org/10.1016/j.scitotenv.2022.158333>

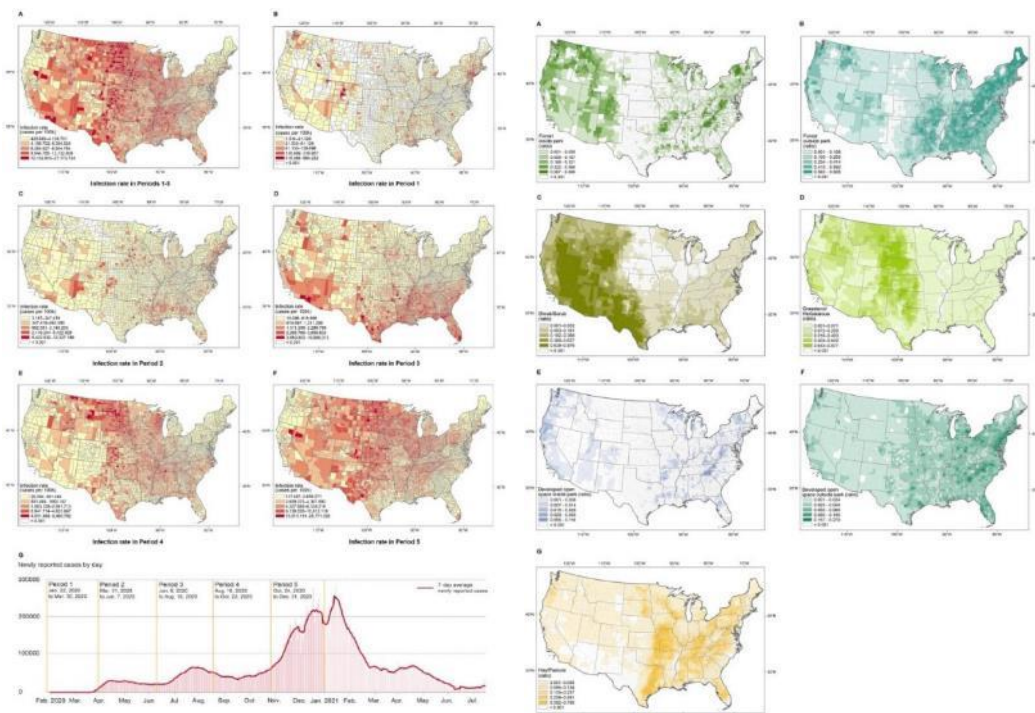
Abstract: *The COVID-19 pandemic has caused a huge loss of human life globally. However, few studies investigated the link between exposure to green space and risk of COVID-19 mortality rate, while also distinguishing the effects of various types of green space, considering the spatial distribution of human population and green space, and identifying the optimal buffer distances of nearby green space. It is critical and pressing to fill this significant knowledge gap to protect and promote billions of people's health and life across the world. This study adopts a negative binomial generalized linear mixed-effects model to examine the association between the ratios of various types of green space, population-weighted exposure to those various types of green space, and COVID-19 mortality rates across 3025 counties in the USA, adjusted for sociodemographic, pre-existing chronic disease, policy and regulation, behavioral, and environmental factors. The findings show that greater exposure to forest was associated with lower COVID-19 mortality rates, while developed open space had mixed associations with COVID-19 mortality rates. Forest outside park had the largest effect size across all buffer distances, followed by forest inside park. The optimal exposure buffer distance was 1 km for forest outside park, with per one-unit of increase in exposure associated with a 9.9 % decrease in COVID-19 mortality rates (95 % confidence interval (CI): 6.9 %–12.8 %). The optimal exposure buffer distance of forest inside park was 400 m, with per one-unit of increase in exposure associated with a 4.7 % decrease in mortality rates (95 % CI: 2.4 %–6.9 %). The results suggest that greater exposure to green spaces, especially to nearby forests, may mitigate the risk of COVID-19 mortality. Although findings of an ecological study cannot be directly used to guide medical interventions, this study may pave a critical new way for future research and practice across multiple disciplines.*

3. Dr Bin Jiang, Ms Yuwen Yang (PhD Year 4 student, DLA, advised by Dr Bin Jiang & Dr Eunice Seng), Ms Xueming Liu (PhD Year 2 student, DLA, advised by Dr Bin Jiang, Dr Eric Schuldenfrei & Professor Wilson Lu), Dr Binley Chen and Dean Chris Webster

- have published the following paper:

Jiang, B., Yang, Y., Chen, L., Liu, X., Wu, X., Chen, B., Webster, C., Sullivan, W. C., Larsen, L., Wang, J., & Lu, Yi. (2022). Green spaces, especially nearby forest, may reduce the SARS-CoV-2 infection rate: A nationwide study in the United States. *Landscape and Urban Planning*, 228, 104583, ISSN 0169-2046. <https://doi.org/10.1016/j.landurbplan.2022.104583>

Abstract: The coronavirus pandemic is an ongoing global crisis that has profoundly harmed public health. Although studies found exposure to green spaces can provide multiple health benefits, the relationship between exposure to green spaces and the SARSCoV-2 infection rate is unclear. This is a critical knowledge gap for research and practice. In this study, we examined the relationship between total green space, seven types of green space, and a year of SARS-CoV-2 infection data across 3,108 counties in the contiguous United States, after controlling for spatial autocorrelation and multiple types of covariates. First, we examined the association between total green space and SARS-CoV-2 infection rate. Next, we examined the association between different types of green space and SARS-CoV-2 infection rate. Then, we examined forest–infection rate association across five time periods and five urbanicity levels. Lastly, we examined the association between infection rate and population-weighted exposure to forest at varying buffer distances (100m to 4km). We found that total green space was negative associated with the SARS-CoV-2 infection rate. Furthermore, two forest variables (forest outside park and forest inside park) had the strongest negative association with the infection rate, while open space variables had mixed associations with the infection rate. Forest outside park was more effective than forest inside park. The optimal buffer distances associated with lowest infection rate are within 1,200m for forest outside park and within 600m for forest inside park. Altogether, the findings suggest that green spaces, especially nearby forest, may significantly mitigate risk of SARS-CoV-2 infection.



4. Ms Lan Luo (PhD Year 4 student, DLA, advised by Dr Bin Jiang & Dr Beisi Jia) and Dr Bin Jiang

- have the following published paper:

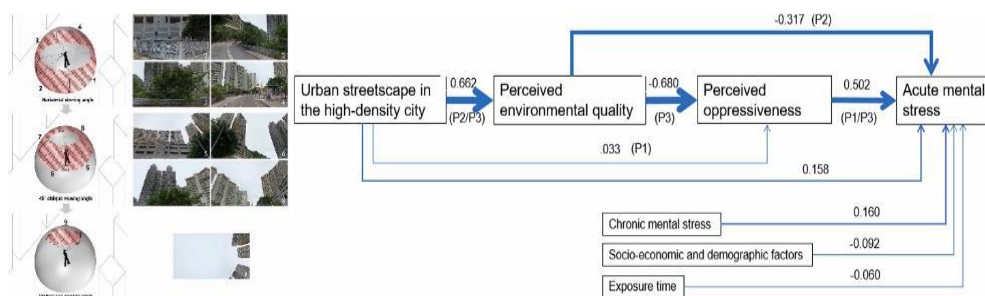
Luo, L., & Jiang, B.* (2022). From oppressiveness to stress: A development of Stress Reduction Theory in the context of contemporary high-density city. *Journal of Environmental Psychology*, 101883, ISSN 0272-4944. <https://doi.org/10.1016/j.jenvp.2022.101883>

Abstract: Due to intense urbanization in the last decade, high-density city has become a major type of human habitat globally. In those cities, oppressiveness has been recognized as a dominating environmental perception. Stress Reduction Theory is a leading theory that explains the relationship between environmental exposure and mental stress. However, the theory missed that perceived oppressiveness may substantially explain impacts of environmental exposure on mental stress in the context of high-density city. This study aimed to address that significant theoretical deficiency. A new pathways model was proposed to investigate whether and to what extent environmental exposure impacts mental stress through perceived oppressiveness.

To test this pathways model, we conducted an online photo-based experiment with Hong Kong city residents. Firstly, we used a grid method to randomly choose 90 street spots in the city area. We created one GIF image by integrating nine Google Street photos to cover the full 360° viewshed for each spot. The percentage of all streetscape elements for each GIF image was measured. Then, 1396 participants were randomly assigned to view three of 90 GIF images. After viewing each image, participants reported perceived oppressiveness, perceived environmental quality, and acute mental stress responses. Lastly, participants reported their socioeconomic, demographic, and other background information.

We identified three pathways linking streetscapes to mental stress response. After controlling for covariates, perceived oppressiveness was the major mediator to link streetscapes and mental stress, explaining 50.2% of relationship. Tree canopy and sky had the greatest association with lower level of stress through perceived oppressiveness, while vehicles and billboards had the greatest association with higher level of stress through perceived oppressiveness.

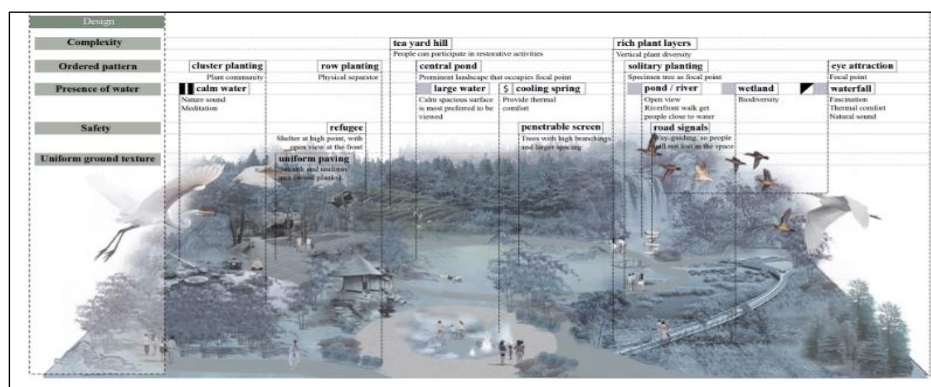
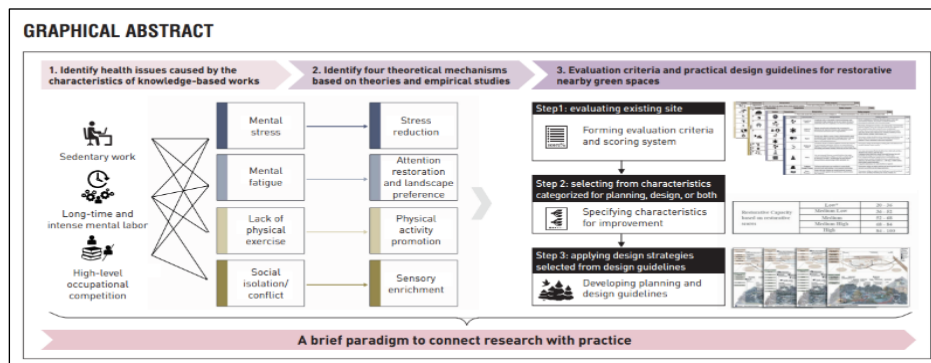
This new pathway model confirms the major role of perceived oppressiveness in interpreting the impact of urban streetscapes on mental stress in the high-density cities. The results suggest an update of Stress Reduction Theory is feasible and necessary.



5. Ms Xueling Hu (MLA 2021), Ms Xueming Liu (PhD Year 2 student, DLA, advised by Dr Bin Jiang, Dr Eric Schuldenfrei & Professor Wilson Lu), Ms Jiali Li (PhD Year 2 student, DLA, advised by Dr Bin Jiang, Dr Bin Chen & Dr Beisi Jia), and Dr Bin Jiang
- have published the following paper:

Hu, X., Liu, X., Li, J., & Jiang, B.* (2022). Creating Restorative Nearby Green Spaces for Knowledge Workers: Theoretical Mechanisms, Site Evaluation Criteria, and Design Guidelines. *Landscape Architecture Frontiers*, 10(2), 9-35. <https://journal.hep.com.cn/laf/EN/10.15302/J-LAF-1-020063>

Abstract: Knowledge workers drive social and economic development in contemporary cities but often exhibit poor psychological and physical health because of sedentary work, long-term and intense mental labor, and high-level occupational competition. Thus, providing high-quality restorative green spaces in knowledge workers' proximity to promote their health and well-being has become an important and pressing need. Although the multiple health benefits of proximity to green spaces have been highlighted, the existing planning and design practices are not well supported by scientific theories and evidence. This study interprets the health benefits of proximity to green spaces in work environments considering four theoretical mechanisms: stress reduction, attention restoration and landscape preference, physical activity promotion, and sensory enrichment through an integrative literature review. Next, the paper identifies the key environmental characteristics of green spaces that can enhance the health and well-being of knowledge workers. In addition, it develops a set of criteria for evaluating the restorative capacity of existing sites and a set of guidelines to design restorative nearby green spaces, and proposes a simple paradigm to connect interdisciplinary research and practice.



6. Dr Bin Jiang

- has published the following papers:

- (i) Suppakittpaisarn, P., Lu, Y., **Jiang, B.**, & Slavenas, M. (2022). How do computers see landscapes? Comparisons of eye-level greenery assessments between computer and human perceptions. *Landscape and Urban Planning*, 227, 104547, ISSN 0169-2046. <https://doi.org/10.1016/j.landurbplan.2022.104547>

Abstract: *Landscape architects and planners have been assessing eye-level vegetation to develop evidence-based designs, including the relationships between urban nature and human health. Measuring eye-level vegetation was often subjective and time-consuming in the past. Recent advances in computer vision have made it feasible to automatically measure eye-level greenery at a large scale. However, researchers still know little about the agreements of recent machine-based methods with human perception. The research gap may lead to inaccurate or even misleading findings that may prevent effective design and planning.*

This study tested the agreements between eye-level greenery detected by two machine-based methods (Brown Dog Green Index Extractor (BDGI) and PSP-Net) and human perception (manual selection via Photoshop Histogram). These two machine-based tools were selected because of their distinctive mechanisms: color detection and semantic segmentation. Cronbach's alpha, correlation test, and Bland-Altman's Plots were used to test agreements. Then, logistic regressions were used to find relationships between shades and vegetation density and the disagreement odds. Both tools closely agreed with human assessment in predicting eye-level greenery, with BDGI slightly closer to human. Vegetation density, but not percentage of shade, predicted the higher disagreement odds between PSP-Net and others. This finding will help advancing computer-based assessment of urban nature and contribute to our knowledge in assessing and linking eye-level greenery with potential outcomes such as physical and mental health and other design assessments.

- (ii) Zhang, Q., Lee, J., **Jiang, B.**, & Kim, G. (2022). Revitalization of the Waterfront Park Based on Industrial Heritage Using Post-Occupancy Evaluation – A Case Study of Shanghai (China). *International Journal of Environmental Research and Public Health*, 19(15), 9107. <https://doi.org/10.3390/ijerph19159107>

Abstract: *With the rapid development of urban construction, the waterfront industrial heritage park has played an active role in shaping the city's image, regional economic development and environmental improvement, and the continuation of the city's waterfront history. The waterfront park based on industrial heritage using post-occupancy evaluation will help improve the sustainable management, maintenance, and design level of the project in the future. However, there is insufficient research on the waterfront industrial heritage park using post-occupancy evaluation. This paper takes Shanghai Houtan Park and Xuhui Binjiang Park, the representative industrial heritage*

parks in China, as the research objects. Through field investigation and nearly 200 questionnaires and interviews regarding user behavior, the importance of design elements (place characteristics, natural environmental characteristics, usability characteristics, and administrative characteristics) and the correlation of satisfaction help us to understand the use of the two parks and analyze and organize the survey data, carrying out the analysis of the questionnaire results using frequency analysis, IPA analysis, t-test, variance analysis, and multiple regression analysis. The research results include: (1) Both parks are mainly used by people in their twenties and forties, and the trail received the highest utilization rate as the main facility, while the visitor center in charge of guiding functions had the lowest utilization rate. (2) While Houtan Park received high satisfaction with natural environmental characteristics, it was found that Xu Hui Binjiang Park had relatively high satisfaction with the place and usability characteristics. (3) The natural environmental characteristics of Houtan Park have a positive impact on overall satisfaction and return visit satisfaction. Site characteristics and utilization characteristics of Xuhui Binjiang Industrial Park have a positive impact on overall satisfaction, while usability characteristics have a positive impact on return visit satisfaction. Finally, according to the questions and suggestions raised by users, an optimization strategy is proposed for the renewal of the park, and it is hoped that it can provide suggestions for the reconstruction and design of similar Chinese waterfront industrial heritage parks.