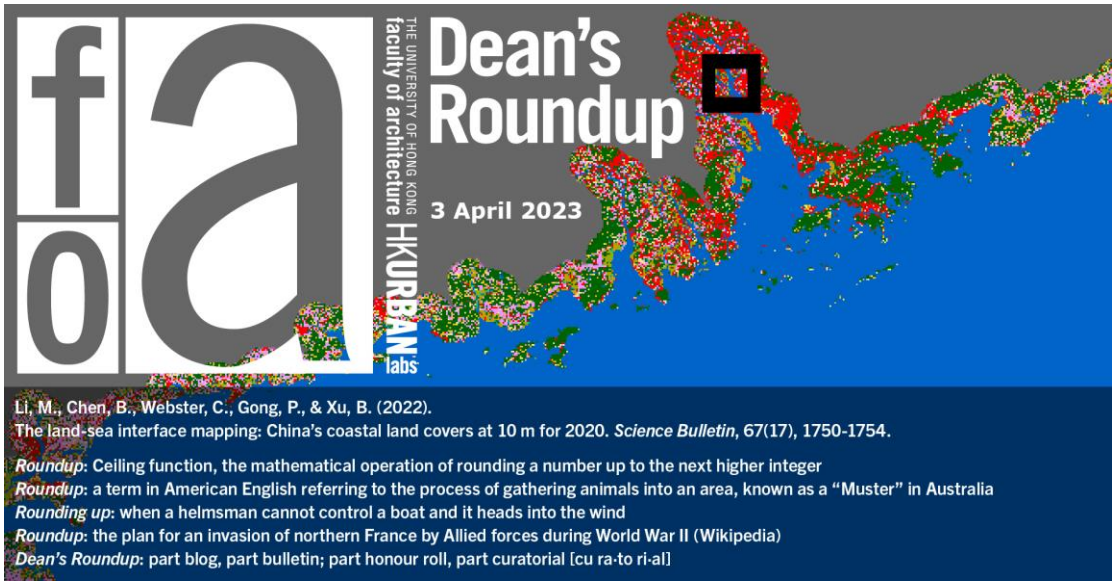


Conservation: the elite and the people

I spent a very enjoyable evening last week listening to a lecture by Dr Richard Engelhardt. Richard is a leading figure in heritage conservation, a former UNESCO officer, and an influential writer and teacher. FoA is fortunate to have his input as we build our conservation and heritage programme in exciting new directions. Something that Richard's lecture had in common with that of Montira Horayangura Unakul, a current heritage leader at UNESCO Asia-Pacific, who gave a lecture at FoA in February, was the linking of built environment conservation with natural environment. This was emphasised in both talks at the individual project level and in respect of conservation's contribution to more sustainable development. The relationships between a monumental building and its locality shape an entire landscape. Where the building is an ancient monument, landscape is often the appropriate scale at which to identify, measure, interpret, and conserve the heritage asset.

Using examples from UNESCO Asia-Pacific Awards for Cultural Heritage Conservation, Richard's talk emphasised the movement over the past 40 years from architectural preservation of monumental buildings to the conservation of vernacular architecture, intangible heritage and even to the conservation of future heritage. This discussion seemed to me to contain an intriguing irony, perhaps even a paradox.

Richard categorised the monumental conservation phase of the 1970s and 80s as conserving buildings of interest to Princes, Priests and Politicians. Then he added People, as the current emphasis.

Note that while the creator of a heritage asset may have been a Prince, Priest or Politician, the preservation of palaces, churches and forts appeals to the People. That's the irony part. Richard showed a slide of masses of Angkor Wat visitors using smart-phones to capture the rising sun. Many of the great 'parks of the people' in contemporary Europe were bequeathed by royalty, becoming

public property after the invention of Europe's welfare states, which required punitive taxation of the landed aristocracy that forced them to sell their land. On the other hand, as the interest of conservationists moves to the more vernacular, the smaller, more ordinary, more local, the total social value of the heritage asset measured, if it could be by willingness-to-pay, gets smaller[1]. The number of visitors is fewer.

Bringing in the research interest of our colleague Nikolas Ettel, who I was sitting next to in Richard's lecture and who is currently sharing an office with Richard, at the extreme, a so-called 'Thomasson' (left-over piece of built environment such as steps now going to no-where), may only be valued by just one person (Nik).

So here's the paradox, if it is one. Buildings built by and for the historical elite (princes, priests, politicians) are most valued by the contemporary people. Buildings built by and for the historical people are valued more highly by the contemporary cultural elite. Or to abstract even further:

	Monumental heritage	**Common heritage**
Built for	the few	the many
Valued by	the many	the few
Total social value (measured by number of visits or willingness-to-pay)	high	low

Richard's talk was delivered in Tai Kwun, Hong Kong Island's historical city-centre prison. The scale of this UNESCO prize-winning conservation project seems in many ways optimal in terms of my figure above. It is large enough in scale and prominent enough in terms of popular memory to attract more than just a very few. Number of visitors is important for conservation since it helps achieve ongoing conservation and continued maintenance and re-investment (an issue raised in the Q&A after Richard's talk). So, is there such a thing as an optimal size for a conservation project? Tai Kwun was built by the elite (government), for the few (prisoners). It is now of value to a rather larger few – those who enjoy its ambience. It would probably be true to say that many of these are from the elite. It works. It is not overcrowded. It is a beautiful city quarter adding cultural and $ value to its immediate neighbourhood and to the whole of Hong Kong (it is firmly on international visitors' must-see list). Its visitors generate revenue, which added to generous donor funding from the Hong Kong Jockey Club and others, keeps it professionally managed, adaptive

[1] Environmental and welfare economists measure intangible value either by surrogate measures of *revealed preference*, including number of visits and travel costs in the case of heritage and recreational assets, or by measures of *stated preference*, typically by willingness-to-pay questions in so-called contingent valuation studies. Standard pricing theory in economics measures total value for a shared good (collectively consumed) by summing over total willingness-to-pay; or when using the revealed preference method, by summing total number of visitors or expenses incurred.

and attractive. Hong Kong's conserved Western Market, on the other hand, is much smaller and not configured to generate a revenue flow to conserve and enhance it, or the surrounding streets. I suggest that whatever else may be going on with the Western Market conservation project, size may be a determining factor.

What about Nik's Thomassons or the multitude of small conservation projects that are needed to popularise conservation as a grassroots phenomenon, process and mindset? The chances of being funded are much slimmer than a larger project. And the chances of the conservation being sustained are much less. That, indeed, is why there are so few ancient vernacular and popular buildings left to admire in the contemporary world. Britain's 16th to 18th century built heritage largely comprises timber-framed and stone houses built for the elite (merchants, wealthy farmers and aristocracy). Its 11th to 15th century built heritage largely comprises castles and churches, again, built for the elite[2].

Britain's *oldy-worldy* pubs make a nice exception across this era. Interestingly, they are fine examples of how small-scale conservation can be very successfully achieved through private ownership. In fact, we could probably expand the theory-building by proposing that the most likely mechanisms for sustainable conservation are: public and PPP finance for conservation of large projects, and private finance for small projects.

In this context, the global movement, and enabling laws, aiming to conserve *future* heritage, and UNESCO Asia-Pacific Awards for Cultural Heritage Conservation's focus on privately organised conservation projects, are indeed enlightened.

FoA is committed to playing its part in training conservation elite to help the region retain more of its contemporary and historical assets that will grow in heritage value as the decades roll on, and which history shows are at high risk of being lost. That is one reason why HKU is pioneering a tighter linking of landscape, architecture, land development economics, and urban planning, in teaching and researching built environment heritage conservation.

Congratulations to those mentioned in the roll of honour below.

Chris Webster

Dean, FoA

[2] Elite in Richard's sense (*for* Priests), but note that while many of England's grand medieval cathedrals might have started as vanity projects in the drawing rooms of powerful Bishops, they became peoples' projects, with whole local and regional communities dedicating themselves to the construction over many decades or even centuries.

Faculty of Architecture

1. New colleagues

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

	Dr Ruijun Chen Post-doctoral Fellow Division of Landscape Architecture Dr Chen obtained his PhD in Architecture from National Cheng Kung University (2022), MSc in Building and Architecture Engineering from Politecnico di Milano (2018) and BE in Coastal Engineering from Changsha University of Science and Technology (2015). He is an accredited professional member (Architecture and Landscape) of the Low Carbon Building Alliance in Taiwan. His research interests include urban and building carbon emissions, building performance prediction and optimisation, multi-objective optimisation, machine learning applications, and thermal comfort. Under the supervision of Dr Chao Ren, Dr Chen carries out research for the Greater Bay Area urban carbon neutralisation project at the Sustainable High Density Cities Lab.
	Dr Xi Deng Post-doctoral Fellow Department of Architecture Dr Deng completed his PhD in Architecture at Cardiff University. Prior to that, he obtained a MSc degree in Architectural Engineering from Politecnico di Milano, and a BEng degree in Civil Engineering from Chongqing University. Before joining ARC, Dr Deng worked with Professor Philip John Jones OBE on built environment research projects, and he taught BA

	and MA design studios as a lecturer at Harbin Institute of Technology, where he also worked as the Assistant to the Head of the Department of Architecture. Dr Deng has rich experience in interdisciplinary research and engineering practice in the construction industry. His research interests include low-carbon design at multiple scales, large-scale architectural design, and aesthetics of building structures. Under the supervision of Dr Eric Schuldenfrei, Dr Deng works on the urban microclimate modelling research project ‘Spatial Exposure Notification’.
	Ms Man Si Phoebe Fan Assistant Lecturer Division of Landscape Architecture Ms Fan received her BA(AS) and MArch (with distinction) degrees from HKU. She is currently developing a new course in landscape representation and co-teaching a studio course for the BA(LS) programme. Before joining academia, she gained practical experience in boutique and corporate architectural offices in Hong Kong, involving in a range of projects and exhibitions that demonstrated her ability to apply both knowledge and skills in practice and design. She has prior experience as a Teaching and Research Assistant in both ARC and DLA. In addition, her involvement in the Career Discovery Summer Programme gave her valuable insights into the teaching and learning process, which has inspired her to pursue a career in academia. Her work focuses on drawing representation and explores the importance of our relationship with design as well as the way we draw and portray. One of the central themes in her teaching is the idea that drawing is more than a communication or documentation tool; it is also a way of thinking and exploring design ideas. She encourages students to experiment with different drawing techniques and media to broaden their ability to communicate ideas visually and expand their understanding of the design process in order to develop their own unique design language.

2. Hong Kong Institute of Surveyors (HKIS) Dissertation Awards 2022

- The following students have received the HKIS Dissertation Awards 2022. An awards presentation ceremony will be arranged this summer for the Awards and the HKIS Scholarship 2023.

Category	Award	Project Title	Student Name
Outstanding Final Year Dissertation Awards	Top Award (Building Surveying)	An Investigation of the Status Quo and Prospects of Concrete Recycling Practices in Hong Kong	CHAN Hiu Man (BSc Surveying Graduate 2022)
	Top Award (General Practice)	Factors Affecting Developer's Profit of Residential Development Projects in Hong Kong	WAN Yun Man (BSc Surveying Graduate 2022)
	Top Award (Planning and Development)	An Investigation of the Status Quo and Prospects of Concrete Recycling Practices in Hong Kong	HO Tsz Chun (BAUS Graduate 2022)
	Merit Award (Building Surveying)	An Empirical Study on the Effect of Dark Toilets and Pandemics on Residential Property Prices in Hong Kong	LAM Ching Nam (BSc Surveying Graduate 2022)
	Merit Award (General Practice)	Comparing the Impacts of Public-Sector-Led Redevelopments on Nearby Residential and Retail Property Values: An Empirical Analysis in Hong Kong	AU Tsz Ching (BSc Surveying Graduate 2022)
	Merit Award (Planning and Development)	Revitalization Scheme for Industrial Buildings in Hong Kong: Does it Harbour the Culture and Creative Industries?	LIANG Weifang (BSc Surveying Graduate 2022)

Category	Award	Project Title	Student Name
Outstanding Final Year Dissertation Awards	Finalist (Planning and Development)	A Study on the Effects of the Adoption of Rail Plus Property Model and the Planning of Transit-Oriented Development: from Social and Economic Perspective	CHUNG Cho Yee (BSc Surveying Graduate 2022)
		A Study on the Effects of the Adoption of Rail Plus Property Model and the Planning of Transit-Oriented Development: from Social and Economic Perspective	HUI Chin Ho (BAUS Graduate 2022)
	Finalist (Property and Facility Management)	The Effectiveness of Building Environmental Assessment Method (BEAM) Plus New Building on Occupants' Satisfaction of Green Public Rental Housings in Hong Kong	MAK Yuen Ling (BSc Surveying Graduate 2022)
		Linkage between ESG Ratings and Corporate Financial Performance of Hong Kong Listed Real Estate Stocks	YAM Tat Fai (BSc Surveying Graduate 2022)
	Finalist (Quantity Surveying)	A Study on the Effectiveness of Third Party Funding for Construction-related Arbitrations in Hong Kong	LAU Chung Yin Bryan (BSc Surveying Graduate 2022)
		A Study on Conflicts and Disputes arising in the Modular Integrated Construction Projects in Hong Kong	LI Tsz Tung (BSc Surveying Graduate 2022)

Category	Award	Project Title	Student Name
Dissertation / Thesis Awards for Postgraduate Students	Top Award (PhD)	An Investigation of Organizational Control in Design Consulting Projects: Behavioural Consequences and Motivational Mechanisms	Dr LI Yadi (REC)
	Finalist (PhD)	Freedom to Choose Contracting Party under Incomplete Contract: The Case of Airbnb	Dr HUO Da (REC)
		Impacts of Urban Rail Transit on Local Air Pollution: Evidence from Path Analysis of 104 Chinese Cities and Quasi-experiments in Shenzhen and Hong Kong	Dr OU Yifu (DUPAD)
		Governing Physician Mobility Against China's Uneven Development: A Labor Market Segmentation Perspective	Dr YAN Xiang (DUPAD)
	Finalist (Master's)	Impact of ways of measuring urban structure on land use diversity indicator from a hedonic modelling perspective: A Case Study in Hong Kong	FAN Zitian (MUD Graduate 2022)
		COVID-19 Impact on the Implicit Value of Open Space in High Density Cities: Evidence from the Hong Kong Housing Market	WANG Ruiyang (REC)

Department of Architecture

1. Guest Lectures

   - Two guest lectures were held in March 2023 at KB419 Lecture Theatre, Knowles Building, HKU:

Speaker: Dr Naoki Ikegaya, Associate Professor, Faculty of Engineering Sciences, Kyushu University, Japan
Topic: Experimental Determination of Indoor and Outdoor Airflow around Generic Block Arrays
Date: 20 March 2023
Time: 4:30pm – 6:00pm

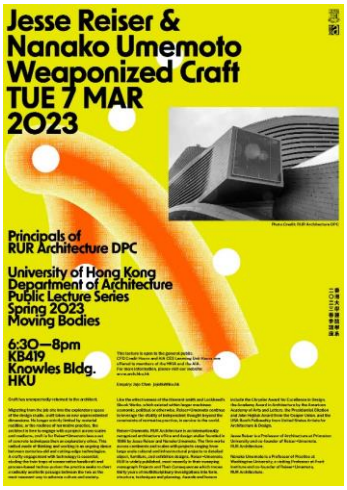
More Information

Speaker: Professor Zhiwen Luo, Chair in Architectural and Urban Science, Cardiff University
Topic: Multi-scale Modelling of Urban and Buildings for a Healthy Living
Date: 27 March 2023
Time: 4:30pm – 5:30pm

More Information

2. Spring 2023 Public Lecture Series – Moving Bodies

   - comprises the following lectures in March 2023, held at KB419 Lecture Theatre, Knowles Building, HKU:



Speakers: Jesse Reiser and Nanako Umemoto, Principals of RUR Architecture DPC
Topic: Weaponized Craft
Date: 7 March 2023
Time: 6:30pm – 8:00pm

More Information

Speaker: Yung Ho Chang 張永和, Founding Partner and Principal Architect of Atelier Feichang Jianzhu (FCJZ)
Topic: Form, Content, and Total Design
Date: 13 March 2023
Time: 6:30pm – 8:00pm

More Information

Speakers: Jennifer Lee and Pablo Castro, Principals of OBRA Architects, New York City
Topic: Trojan Horse, A Lecture
Date: 17 March 2023
Time: 6:30pm – 8:00pm

More Information

Speaker: Boonserm Premthada, Principal of Bangkok Project Studio
Topic: Non-Human Centered Architecture
Date: 22 March 2023
Time: 6:30pm – 8:00pm

More Information

Speaker: Roan Ching-yueh 阮慶岳, writer and critic, Taipei
Topic: 2 Short Films as a Moving Language
Date: 24 March 2023
Time: 6:30pm – 8:00pm

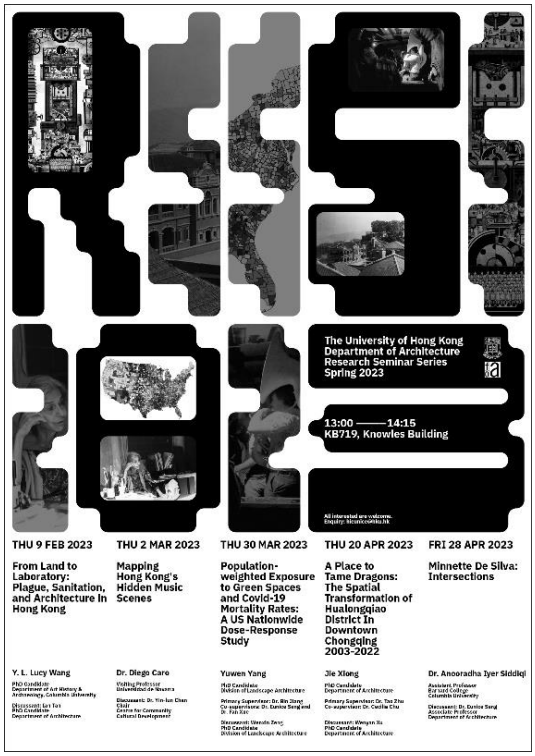
More Information

Speaker: Dietrich Neumann, Professor, Department of the History of Art and Architecture, Brown University
Topic: Mies in Motion
Date: 28 March 2023
Time: 6:30pm – 8:00pm

More Information

3. Spring 2023 Research Seminar Series

- comprises the following five seminars by research postgraduate students and visiting scholars from February to April 2023, at KB719 Lecture Theatre, Knowles Building, HKU:



<u>9 February 2023</u>

'From Land to Laboratory: Plague, Sanitation, and Architecture in Hong Kong', by Y. L. Lucy Wang, PhD Candidate, Department of Art History and Archaeology, Columbia University

Discussant: Ian Tan, PhD Candidate, ARC

<u>2 March 2023</u>

'Mapping Hong Kong's Hidden Music Scenes', by Dr Diego Caro, Visiting Professor, Universidad de Navarra

Discussant: Dr Yin-lun Chan, Chair, Centre for Community Cultural Development

<u>30 March 2023</u>

'Population-weighted Exposure to Green Spaces and Covid-19 Mortality Rates: A US Nationwide Dose-Response Study', by Yuwen Yang, PhD Candidate, DLA, HKU

Primary Supervisor: Dr Bin Jiang (DLA)
Co-supervisors: Dr Eunice Seng (ARC) and Dr Frank Xue (REC)

Discussant: Wenxin Zeng, PhD Candidate, DLA

20 April 2023

'A Place to Tame Dragons: The Spatial Transformation of Hualongqiao District In Downtown Chongqing 2003-2022' by Jie Xiong, PhD Candidate, ARC

Primary Supervisor: Dr Tao Zhu (ARC)
Co-supervisor: Dr Cecilia Chu (DLA)

Discussant: Wenyan Xu, PhD Candidate, ARC

28 April 2023

'Minnette De Silva: Intersections' by Dr Anooradha Iyer Siddiqi, Assistant Professor, Barnard College, Columbia University

Discussant: Dr Eunice Seng, Associate Professor, ARC

More information

4. Mr Christian Lange

- joined a panel discussion on sea preservation at the Prada Frames Hong Kong symposium, which was held at M+ on 22 March 2023.

Photo: wwd.com

Media Coverage

Division of Landscape Architecture

1. ‘The Hong Kong Island Coastal Trail: Community, Ecology, and Performative Landscape Visions’ Exhibition

Studio Instructors:
Bin Jiang
Michael Kokora
Chao Ren
Susanne Trumpf
Ivan Valin

Curators:
Susanne Trumpf
Madison Appleby

Community Partners:
Designing Hong Kong

Exhibition Period:
11 March – 10 April 2023

Venue:
S313, 3/F, Block A (Staunton), PMQ, Central, Hong Kong

***Description**: This exhibition responds to momentum within the city to realise a recreational circulation network around Hong Kong Island – The Hong Kong Coastal Trail – with a showcase of three years of work by master’s students in the Division of Landscape Architecture’s first year core design studio. The proposed pedestrian trail became a catalyst to imagine a more connected, more accessible, more equitable, more ecological, and healthier city. The studio focused on the relatively overlooked areas along the island’s less-developed southern and eastern coastlines, engaging in a diverse range of urban and natural landscapes. These coastal edge landscapes, densely layered with their own unique histories and human experiences, are here reconfigured around pedestrian-oriented, nature-centred, climate-adaptive planning and design initiatives. The exhibited works explore new ways to see, draw, access and model the landscapes of Hong Kong and propose a radical variety of imagined conditions around the city’s edge.*

More Information

2. ‘Trading Bays: Resilience Design Strategies for San Francisco Bay Area and China’s Greater Bay Area’ Exhibition

FoA’s Participants:
Natalia Echeverri (DLA)
Ashley Scott Kelly (DLA)
Ulrich Kirchhoff (ARC)
Weijen Wang (ARC)

Participants from College of Environmental Design, University of California Berkeley:
Renee Y. Chow
Maria Paz Gutierrez
Tomas McKay Alliende

Exhibition Period:
25 March – 10 April 2023

Venue: G/F Central Market, Hong Kong

Description*: As an increasingly mainstream criterion for sustainability, ‘resilience’ refers to the capacity for a system, whether urban or ecological, to function and rebound from disturbances. Trading Bays explores how architects, landscape architects and planners engage with the concept of ‘resilience’ in visioning the future by focusing on the San Francisco Bay Area and China’s Greater Bay Area.*

The exhibition showcases design and planning proposals generated by students and faculty members of HKU and UC Berkeley between 2018 and 2022 – a period in which both regions experienced significant shocks to their environmental, political and economic systems. Emphasising that resilient strategies must not be based on simplified notions of technical efficiency, exhibited projects simultaneously push the limits of our physical environments while testing our capacities to govern and regulate diverse urban, landscape and coastal systems.

A discussion forum with members from different sectors and the general public is scheduled during the exhibition.

More Information

3. Spring 2023 Public Lecture Series – Assembling Futures

   - comprises the following lectures in March 2023:

Speaker: Maan Barua, Department of Geography, University of Cambridge
Discussants: Sony Devabhaktuni (ARC) and Natalia Echeverri (DLA)
Topic: Infrastructure in a Minor Key
Date: 2 March 2023
Time: 6:30pm – 8:00pm
Mode: Zoom

More Information

Speaker: Peter Veenstra, Founding Partner and Senior Landscape Architect, LOLA
Discussants: Susanne Trumpf (DLA) and Jason Hilgefort (DLA and Director of LCC)
Topic: Triple A: Ancestor, Activist, Accelerator
Date: 14 March 2023
Time: 6:30pm – 8:00pm
Venue: KB419, Knowles Building, HKU

More Information

Speaker: Richard A. Engelhardt, Visiting Professor (DLA); former UNESCO Regional Advisor for Culture in Asia and the Pacific
Discussants: Ying Zhou (ARC) and Linda Shetabi (DLA)
Topic: Transformative Heritage Conservation in Hong Kong, Macao and Mainland China – 25 years of an Evolving Model
Date: 29 March 2023
Time: 7:00pm – 8:30pm
Venue: JC Cube, Tai Kwun, Hong Kong

More Information

About 'Assembling Futures': *The DLA Spring 2023 Public Lecture Series 'Assembling Futures' brings together distinguished academics and professionals in the fields of landscape architecture and heritage conservation to discuss recent works concerning environmental futures. Although landscape and heritage practices have long engaged with the regeneration of existing environments for future use, the precise relationships between such works and the future remain underexamined. The lectures in this series explore landscape architecture and heritage conservation as future-making practices that condition how future environments are managed, valued and imagined. By attending to how different projects reassemble the relationships between human and non-human agents and evolving socio-material engagements across different scales, the Lecture Series encourages critical reflections on the competing visions of building future worlds in the face of growing uncertainty and unfolding environment crises. This Lecture Series is co-organised by the Division of Landscape Architecture at HKU, Docomomo Hong Kong, and the Built Heritage Research Collaborative, one of the HKUrbanLabs at HKU Faculty of Architecture. It is free and open to the public.*

Department of Real Estate and Construction

1. Professor Kelvin Wong

   - was invited to be the guest speaker of the Smart Green Building Summit – Seizing Opportunities in Hong Kong's Smart Green Building Development, organised by InvestHK on 8 March 2023. His presentation topic was 'Green Building Economy'.

   - was interviewed by the Hong Kong Economic Journal Monthly 信報財經月刊 (#552, March 2023, pp.15-19) in its feature story '拆解樓市假陽春 把握出貨逃生門', where he shared his views on the local housing markets.


辣招無助遏抑樓價　撤辣可增經濟活動

自樓市近兩年下跌以來，「撤辣」呼聲不絕於耳，惟房屋局局長何永賢今年1月回應議員質詢時，仍堅稱辣招一直「行之有效」，現階段無須調整。香港大學房地產及建設系系主任黃紹基接受本刊訪問時卻直言，「辣招對遏抑樓價完全無幫助！」

辣招可分為兩類，一類是金管局的逆周期措施，如按揭成數限制，主要用以維持金融體系穩定；另一類則是「人人喊撤」的印花稅，主要用以控制樓價升幅，避免市場過熱。「前者我不反對，但印花稅是否真的控制到樓價？其實都好明顯咁得，否則樓價唔應該一路升啦。」自2010年第一招「額外印花稅」（SSD）出台，到2013年第三招「雙倍印花稅」，樓市一直穩步上升到2021，毫無受壓跡象。

黃紹基近年提事有關辣招的研究時發現，按揭成數對豪宅市場有輕微遏抑作用，但印花稅不論對任何市場的樓價均毫無作用，除了SSD對樓市大幅波動有穩定作用。SSD限制轉讓年期，原意是打擊短炒，但在學術角度，「炒家唔係慳人」。黃紹基認，理性炒家有一個正面作用，就是有助釐定資產價格，以及提供市場流通性。「理性的低買高賣，讓大家知道資產應該是什麼價錢。」

因此，對於常常過熱的樓市來說，黃紹基的研究發現SSD某程度上可以穩定波幅，而雙倍印花稅和買家印花稅則大可撤銷。「辣招阻礙買家之餘，太多規避空間。」以雙倍印花稅為例，主要為遏抑炒風，包括限制非首置人士買樓收租等行為，黃紹基對此稅成效存疑，「好多人借父母個名買，有啲人就轉咗層樓去老婆名下，自己就變成首置人士，連富商劉鑾雄都可以首置，其實個稅已無意思。」黃紹基直言，撤辣對樓市未必有即時正面影響，「加辣本身無助減低升幅，換言之撤辣都不會對樓市有大作用，就等於服用一款無效的藥，服後又可能有副作用，不如停藥罷喇。」

至於買家印花稅，仲量聯行香港主席曾煥平不吐不快，「如果希望國內資金再度入市，政府應該適時考慮撤辣。」曾說，撤辣可以增加經濟活動，「現在基本上斷晒，買多一間就要打15%稅，外地人一律打15%稅，七年後先可取回，用公司名就更不用說了，以上種種，對於樓市大額成交影響好大。」曾煥平熟知市場，他透露很多具大額購買力的國內富商，為求低調，傾向用公司名義入市，往往促成1億以上的豪宅成交，「此類成交對市場氣氛好有幫助。」他認為這類如五千萬元以上的成交並不影響民生，可以考慮放寬稅項，因為此類成交近年在香港已幾近絕跡。

樓衛利弊，不論學者還是業界人士都傾向撤辣，然而就現況而言，恐怕難償所願。何永賢局長上月言論，提到去年第三季負資產個案只得數百宗，遠不及沙士時期，話音剛落，金管局月底即公布去年第四季數據，原來負資產宗數已按季飆升22倍，創18年新高。

曾煥平甚感無奈，「（樓價）跌15%都未適宜撤辣，何時才算適合呢？等到屍橫遍野，全部變成銀主發先撤？」他深諳政府其實樂見樓價下行，惟即使撤辣，都不會推高樓市，「因為經濟唔好」。

2. Ar Yu Kasing

- was interviewed by RTHK's documentary progrmame 'Hong Kong United', in the episode of '漫遊築覺——皇后大道西的特色建築', in which he introduced the characteristics of the historic buildings on Queen's Road West. The interview came out on 2 March 2023 and is available online: https://www.rthk.hk/tv/dtt32/programme/hkunited/episode/861211

3. BA(Conservation) field trip in Penang

- Final-year students of BA(Conservation) have completed a field study at the UNESCO World Heritage Site in Penang, Malaysia, focusing on the cultural mapping of a few multi-cultural streets in George Town. During the field trip, the students received lectures from Ar Laurence Loh and Ms Janet Pillai, and met representatives from the Penang Heritage Trust to understand their work in preserving intangible cultural heritage. Through interviews with shop operators and residents, the students have gained a better understanding of the impact of COVID-19 in Penang, a city struggled in achieving sustainability and economic viability.

4. BSc(Surveying) Dissertation Interim Presentation

- was successfully held on 3 March 2023. Students were given the opportunity to present their research to the Panel Advisors, who are the industry partners of the Department and leading professionals in the field, before the submission of their final work. Students' research and presentations covered a wide range of topics, including Real Estate and Construction under the COVID-19 Pandemic, Urban Redevelopment, Housing Market, Sustainability in Real Estate and Construction, Real Estate Investment, Construction Innovation, Health, Safety, and Productivity in Construction and Human-Built Environment Interactions.

5. MSc(CPM) Guest Lecture

- invited Mr David Tang, Property and International Business Director of MTR, to give a talk on 'International Procurement: an MTR Case Study', on 8 March 2023:

  ***Abstract**: From its starting base in Hong Kong, MTR has taken on a range of railway-related projects and operations internationally. With more than 40,000 dedicated staff members, MTR carries over 13 million passenger journeys worldwide every weekday in Hong Kong, the United Kingdom, Sweden, Australia, Macao and the Mainland of China.*

Together, we Go Smart and Go Beyond. This guest lecture covered the practical experience and insights into the strategies for bringing MTR into the international market, including product and service positioning, risk management, etc. Mr Tang used MTR's successful experience in the operational and maintenance of the Elizabeth Line in the London Underground and the private-public partnership contract for the design, delivery and maintenance of the Sydney Metro's North West and City & Southwest Lines project to illustrate the unique challenges associated with exporting a very local metro and railway business into the international market. Mr Tang also shared MTR's successful 'rail plus property' development model and how MTR creates and manages dynamic communities around its network through seamless integration of rail, commercial and property development.

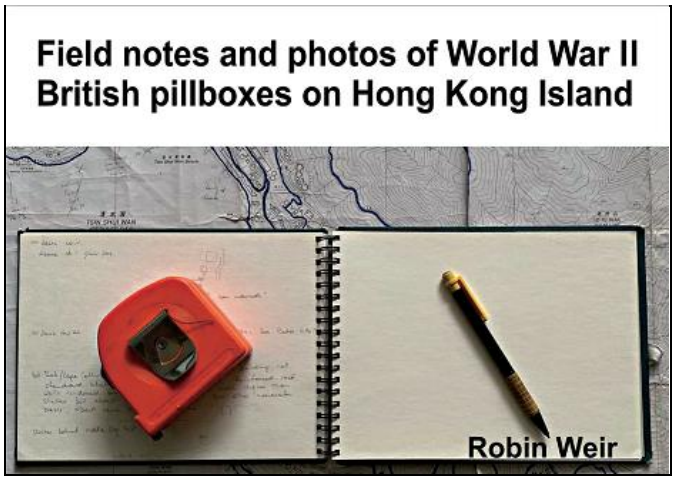
6. CEO Talk X MSc(DMBA) Info Session

- The new Master of Science in Digital Management of Built Assets [MSc(DMBA)] invited Ir Paul Evans, Executive Director and Chief Technology Officer of Gammon Construction Limited, to give a CEO talk on 'Smart & Connected Construction Site of the Future – A Contractor's Perspective', on 17 February 2023. The talk attracted a great interest from professionals and future leaders working in the field of Smart Built Environment.

***Abstract**: The use of BIM, GIS, digital twin, and other supporting innovative digital technologies is becoming increasingly common place on today's modern construction projects. Connected IoT devices and sensors, Artificial Intelligence, Virtual Reality, Augmented Reality, and the like are now used to supplement and enhance traditional construction processes to improve productivity, quality and safety. These technologies also have a positive impact on Sustainability and ESG. Paul's presentation touched on some real-life examples of how smart and connected technologies are being deployed across Gammon's construction projects to disrupt traditional work practices and act as a catalyst to improve safety, sustainability, and productivity.*

7. Honorary Professor Lawrence Lai

   - has co-authored with Adjunct Professor Stephen Davies and Teaching Assistant Mr Y. K. Tan the 'Foreword to Field Notes and Photos of Pillboxes on Hong Kong Island in the Era of World War II by Robin Weir' in *Surveying and Built Environment* Vol 32(1), for which Professor Lai is also the editor, published by the Hong Kong Institute of Surveyors in March 2023.



8. Dr Yadi Li (PhD 2021)

   - received the 'HKU Foundation Award for Outstanding Research Postgraduate Students 2020-21' under the HSSBS Faculty Group, comprising the Faculties of Architecture, Arts, Business and Economics, Education, Law and Social Sciences.

     The Award was established by the Graduate School in 2002 to complement the Li Ka Shing Prizes and give due recognition to research postgraduate students who have submitted a thesis of exceptional quality and demonstrated outstanding performance in other academic aspects. Not more than 10 students receive this award annually.

     More information

9. Dr Llewellyn Tang

- received the Hong Kong Institution of Engineers (HKIE) Grand Award 2023. The Award recognises the achievements and contributions of the engineering profession towards the development of Hong Kong. The winning entries cover three major categories, namely innovation, industrial and infrastructure.

Press Release

Department of Urban Planning and Design

1. Smart City Lab at Cyberport Phase 3

    - will be launched as part of the HKU Urban Systems Institute. The size of the Lab is around 3,300 square feet, with a capacity of over 30 workstations. It will involve more than 30 researchers from DUPAD and REC, led by multiple PIs doing Smart City related research. A soft opening reception was organised on site, on 27 February 2023.

2. RPg Research Seminar

- was held successfully on 27 February 2023 at the Lecture Theatre, 4/F, Knowles Building, where eight RPg students presented their research topics.

3. Visit of Professor Michele Acuto

- The Professor of Global Urban Politics and Associate Dean (Research) of the Faculty of Architecture, Building and Planning of The University of Melbourne was invited to visit the Department from 20 to 24 February 2023. During his visit, Professor Acuto delivered a presentation titled 'For a "Global Urban Imagination": Networking Cities, Connecting Urban Sciences', as part of the HKU-USF Distinguished Professor Public Lecture Series, at the Lecture Theatre, 4/F, Knowles Building, on 21 February 2023.

4. Collaboration with the China Academy of Urban Planning and Design (CAUPD)

- Professor Shenjing He, Dr Weifeng Li and Dr Tianren Yang were invited to present their research at CAUPD's headquarters in Beijing on 16 February 2023. Over 30 colleagues from the research and information centre of CAUPD joined the one-day sharing session.

- In their capacities of co-investigators, Dr Weifeng Li and Dr Tianren Yang joined a collaborative project meeting of the National Key Research and Development Programme of China, at CAUPD's Shanghai Branch on 17 February 2023. The participating organisations included CAUPD, Southeast University, Beijing Forestry University, Tongji University, Tsinghua University, Beijing Municipal Institute of City Planning & Design, and HKU.

5. Joint Graduation Design Studio on the Greater Bay Area 2023

- A delegation of over 120 students and teachers from Shenzhen University, Tongji University, South China University of Technology, Huaqiao University, Harbin Institute of Technology (Shenzhen), Hunan University, and City University of Hong Kong visited the MUP Strategic and Planning Studio on 16 February 2023, in both face-to-face and online modes. The visit was part of the 6th Joint Graduation Design Studio of the Greater Bay Area for these universities to work on the conceptual urban design for the Shenzhen-HK Science and Technology Innovation Cooperation Zone and Hong Kong Northern Metropolis.

  Professor Shenjing He, Head of DUPAD, gave a welcoming speech to the delegation. With the network of Dr Jianxiang Huang and Dr Jiangping Zhou, the MUP team was connected to the eight-university team led by Professor Yang Xiaochun of Shenzhen University and Dr Gianni Talamini of City University of Hong Kong to share their views on the project of the delegation, as well as issues about integrating Shenzhen and the Northern Metropolis. Apart from this, Professor Bo-sin Tang also gave a presentation on the MUP Studios and key issues of strategic spatial planning.

  Under the guidance of MUP studio teachers Mr Roger Tang, Ms Christina Lo and Professor Elvis Au, MUP students carried out stakeholder consultations together with the students of the delegation on their current studio project, which explores the opportunity of co-hosting the 2035 World Expo by Hong Kong and Shenzhen, and reported their findings. Dr Tianren Yang and RPg students Ms Lingkun Meng and Ms Shuyu Lei had also contributed to making the event a success, with the efficient support from the Department's general office staff.

6. HKU-THU Student and Teacher Exchange Programme

   - Professor Min Zhang from Tsinghua University (THU) was invited to deliver a guest lecture on 20 February 2023. The teaching team and students of URBP7008 Strategic & Community Planning Studio attended the event in person, with over 20 THU teachers and students joining online.

7. HKU-THU Research Symposium on Climate Change, Resilience and Decarbonization

   - was hosted by DUPAD on 11 January 2023, drawing participants from students and faculty members of both THU and HKU, including Professor Yi Jiang (Director of the XIN Center), Professor Yuan Shen (Associate Head of the Department of Electronic Engineering), and research students Mr Tianyu Fu, Ms Jingyi Wang, Mr Zhihong Lu, Ms Lana Chen, Mr Ruotong Yu, and Ms Yiwen Song from THU, and Dr Jianxiang Huang, Dr Cui Guo, Dr Tongping Hao, Mr Xu Tang, Mr Anvar Muhamedjanov, Ms Reka Tundokova, Ms Yunshu Gao, and Ms Xinyu Huang from HKU. The THU team was supported by Professor John D. Spengler and Dr Ramon Alberto Sanchez Pina of Harvard University through existing collaboration networks, while the HKU team was supported by Professor Shenjing He.

     In the Symposium, both sides shared research work carried out in the context of internationalisation, including the joint curriculum between THU and Harvard University on climate change, sustainable development and decarbonisation, and the ongoing knowledge exchange work conducted by HKU and the Welsh Government of the United Kingdom. They exchanged visions and developed plans for further academic collaboration.

8. Dr Jianxiang Huang

- led a team of students and teachers from the Master of Urban Design (MUD) programme to a fieldtrip in Singapore. The trip was an integral component of the MUDP1002 International Urban Design Studio, in which students work on a real-world urban design project in the Kallang River Corridor, one of the key urban redevelopment projects in Singapore.

  The team was hosted by the Singapore Urban Redevelopment Authority (URA), with which the MUD programme has been collaborating in teaching, learning and knowledge exchange for research impact. During the fieldtrip, Dr Huang was invited to deliver a lecture to the URA.

  The trip took place from 26 February to 3 March 2023. It was joined by studio instructors Mr Brian Jan, Ms Sunnie Lau and Ms Jutta Kehrer, TA-PhD students Mr Mingze Bai and Mr Jinglei Li, and 34 MUD students. During the week-long fieldtrip, the group visited the latest urban development projects in Singapore (Photo 1), as well as the design studio's chosen sites along the Kallang River, the longest river in Singapore. They set foot in the Kallang Industrial Park and the old Kallang Airport, Singapore's first airport built in 1937. They also visited and interacted with architects from WOHA, a leading design office based in Singapore. Furthermore, they conducted a one-day design charrette in collaboration with teachers and students from the Master of Arts in Urban Design Programme of the National University of Singapore (NUS). (Photos 2 and 3)

  The trip concluded with MUD students presenting their design work to the Singapore URA on the last day, which was highly regarded by the host (Photo 4). Students will take the findings back to their studio for the remaining of the semester, and their final review will be attended again by experts from the Singapore Authority, mimicking the real-world setting encountered by professional design practitioners.

Photo 1: MUD students and teachers at Marina One, a recently completed urban development complex with sustainable features.

Photo 2: Dr Jianxiang Huang working with HKU and NUS students during the joint design charrette

Photo 3: Dr Ye Zhang of NUS working with HKU and NUS students during the joint design charrette

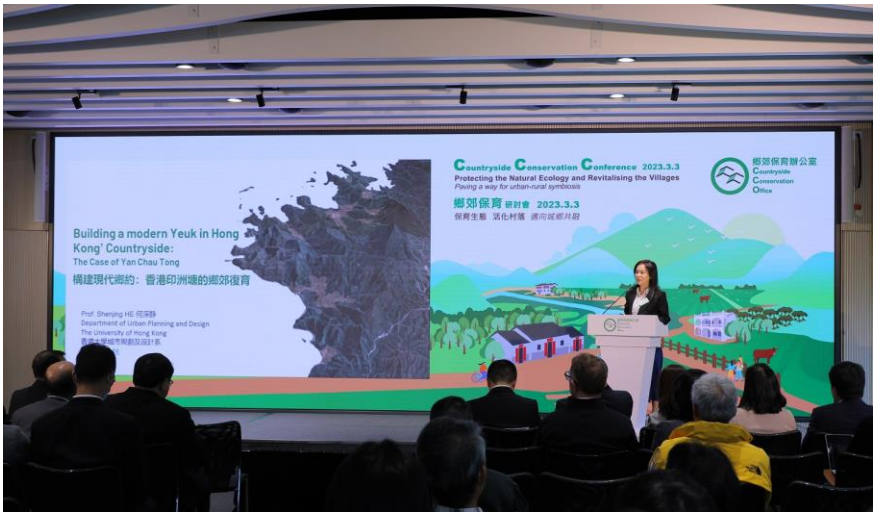
Photo 4: A group photo of MUD students and teachers at the Singapore URA, together with URA panel experts from the Department of Urban Planning and Design, the Department of Conservation, and the Department of Physical Planning

9. Professor Shenjing He

- was invited to speak at the Countryside Conservation Conference 2023, organised by the Countryside Conservation Office (CCO) of the Environment and Ecology Bureau in a hybrid format at the Zero Carbon Park on 3 March 2023. During the Conference, Professor He presented her research project entitled 'Building a Modern "Yeuk (Alliance)" in Hong Kong's Countryside'.

  Under the theme of 'Protecting the Natural Ecology and Revitalising the Villages: Paving a Way for Urban-Rural Symbiosis', the Conference gathered experts from Hong Kong, Mainland China and other parts of Asia, including government representatives, academics and professionals, to share their insights and exchange opinions on various topics of common concern, such as countryside revitalisation, restoration of built heritage, and nature and cultural conservation.

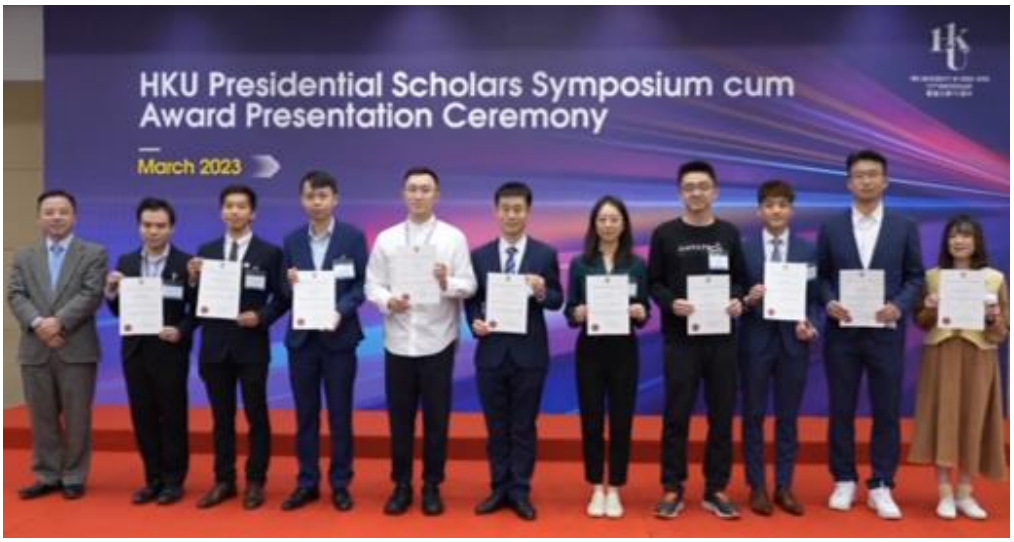
  Press Release



10. Mr Maosu Li (PhD Year 4 student)

- received the Research Postgraduate Student Innovation Award 2022/23 from Professor Xiang Zhang, President and Vice-Chancellor of HKU, at the HKU Presidential Scholars Symposium cum Award Presentation Ceremony on 7 March 2023. He is the only student from the Faculty of Architecture to receive the award established by the Graduate School and Technology Transfer Office of HKU, for his project titled 'Assessing Human-perceived Window View Openness in High-rise High-density Cities: An Automatic Machine Learning-based City Information Modelling Approach.' Maosu is a PhD candidate at DUPAD and iLab, supervised by Professor Anthony Yeh and Dr Frank Xue.

  The Award is granted on a fierce interdisciplinary competitive basis. Only 10 awards are made each year to research postgraduate students with the most exciting and innovative research ideas across the 10 Faculties of the University. The awardees will be the Principal Investigator (PI) of the proposed project and receive a research grant of HK$50,000.



Abstract: *High window view openness benefits urban dwellers' health and well-being, especially in high-rise, high-density cities. The benefits such as stress relief and mood restoration are further amplified for inhabitants in narrow and small rooms, especially in the post-Covid-19 era. However, the crowded cityscapes and vertical development of the urban environment lead to an imbalanced sharing of window view openness. Currently, there still exists no consensus on the definition of human-perceived window view openness in high-rise, high-density cities, and the assessment methods are limited to small-scale sites and inaccurate. Thus, an urban-scale accurate window view openness assessment is significant in examining the disparity of openness possession and providing quantified evidence for precise decision-making in the healthy high-rise, high-density urban development. The objectives of the proposed project include:*

i. To develop a human-perceived window view openness index using a hierarchy of window view openness characteristics.
ii. To propose an urban-scale assessment method for human-perceived window view openness using photorealistic CIM and Automatic Machine Learning (AutoML).
iii. To visualise urban-scale human-perceived window view openness using a 3D GIS platform for the evaluation, planning, and design of healthy high-rise, high-density urban development.

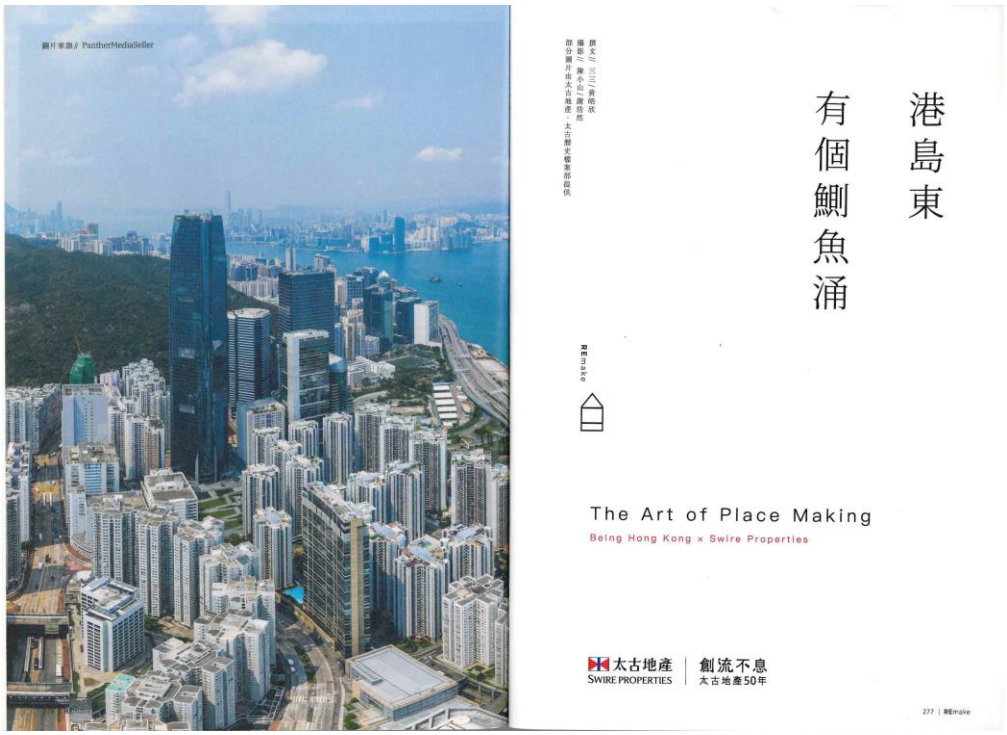
11. Ms Siwei Zhang (PhD student)

- received the Best Poster Presenter Award for her research titled 'Atmospheric Remote Sensing for Anthropogenic Methane Emissions in Urban Areas', supervised by Dr Jun Ma, at the HKU Presidential Scholars Symposium cum Award Presentation Ceremony on 7 March 2023.

Centre of Urban Studies and Urban Planning

1. Mr Alain Chiaradia

   - was featured in the article titled ‘The Art of Place Making – Being Hong Kong x Swire Properties’, in the Autumn 2022 issue ‘The Hong Kong Characters’ of *Being Hong Kong* —《就係香港》 magazine.



（Image@Swire Properties）

以太古坊為例，擁有海岸線又緊貼郊野公園是她的一大特色。但同時，區內瀰漫著一份多元的氛圍，不止有辦公樓，還有著原來的街道和舊社區，大型住宅區太古城又在步行距離內。「午飯時大家可以有不同選擇，不一定只有商場，氛圍很特別。」區內穿梭連接各幢商業大樓的天橋系統，與地面街道形成並行雙生的關係，更成為他帶領學生前往研究的對象。

八十年代開始發展起來的中環行人天橋系統，將人和車分開，後來又連接起半山行人電梯，在原來擠迫的街道之上增添另一層空間，成為一大特色。但Alain也發現，不少區內街道都以車為主，其實並不適宜步行。「太古坊有點像小型的中環，周邊還有街區，而楊廠街仍然是一條walkable的街道，在天橋和街道兩者間取得較好平衡。」而區內的太古公園在平日和周日有不同類型用家各自活動——上班族在平日午飯時間放空、家庭會帶著小孩子或老人家出來散步或玩耍，假期時則雲集了外傭族群——這種高度兼容性也不是隨處可見。

Alain形容，因為太古坊只有一個業主，可以整體去設計及管理；但中環的情況很不同，牽涉運輸、路政多個部門，「（天橋和街道）不是不可能相融，只是不容易，需要多個部門都同意配合才能成功，以前我在倫敦時，見到任何改變都需要花很長時間，甚至數十年。」而本港海濱公園內往往缺乏休閒咖啡座的狀況，則突顯了有關當局在管理機制上的問題，統統都可以改善，但就要視乎管理者的意志。

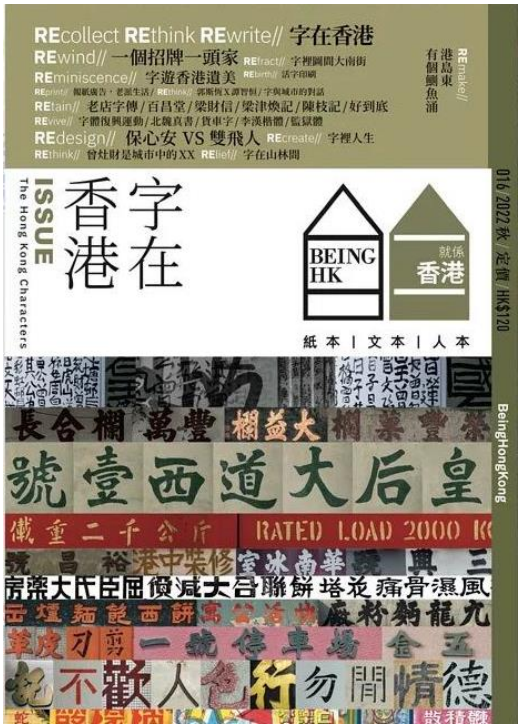
「我有個碩士學生正在研究人們怎樣使用海濱地方，記錄由早至晚、平日及周末的人流分別，這些數字我們都甚為缺乏，不太了解人們怎樣『行』。也不知道騎單車的人的數量，」他發覺，有關車輛的數據我們知得較多，但對行人和單車的數據卻甚少，都是很值得去研究。

綜合發展需要

2020年，在Alain的協助下，太古地產完成了一份社區營造效益報告，提出評估「社區影響」（social impact）的框架，又比較中環、灣仔、銅鑼灣及港島東四個商業社區的特質，其中環和銅鑼灣區的上班族人口都屬個性地羞過居民（逾九成），灣仔和港島東則分別為七三和六四之比；港島東的就業多元化雖比灣仔稍遜，卻比中環和銅鑼灣要高。若以「綠色」作為指標，港島東是四區中最接近郊野公園人口的社區。在香港這個以高密度見稱的城市，近距離短時間內可以有效率地進行不同形式的活動，是大部分香港人的生活方式，但關鍵在於街道網絡設計以及交通配套。「有時候人們會笑說：bad urban design may keep you healthy. 設計令道路變得更長，令人要走更多路。」他解釋，港鐵站在月台和出入口之間佈置較長的通道，以紓緩處大使用量帶來的擁迫，其實是好的權宜方法，即如太古坊各幢大樓之間以天橋系統連接，而每幢大廈亦有多於一個通往街道的出口，也沒有減少行人的選擇。

上：太古坊與郊野公園入口之是個了一條英皇道，是本港多個商業區中獨有的例子。

下：連接辦公樓之間的室內通道，與地面街道形成兩層活動空間。



2. Professor Rebecca Chiu and Dean Chris Webster

   - have published the following paper:

     Liu, Y., Guo, Y., Lu, S., Chan, O. F., Chui, C. H. K., Ho, H. C., Song, Y., Cheng, W., **Chiu, R. L. H.**, **Webster, C.**, & Lum, T. Y. S. (2023). Understanding the long-term effects of public open space on older adults' functional ability and mental health. *Building and Environment, 234*, 110126, ISSN 0360-1323. https://doi.org/10.1016/j.buildenv.2023.110126

     ***Abstract**: Little is known about how public open space (POS) environment quality and vitality influence older adults' functional ability and mental health over time. POS vitality refers to the capacity of POS to accommodate a variety of users and activities. We undertook a four-year longitudinal survey of 2081 older adults in Hong Kong to investigate longitudinal relationships between POS environment quality, POS vitality, functional ability and mental health. We applied environment quality evaluation and space use behavior observation to collect data on the environment quality and vitality of POSs within the 200-m buffer area of participants' residences. POS environment quality attributes included the number of leisure facility types, accessibility, shade, and bench quality. POS vitality attributes comprised the diversity of users and activities. We used the Chinese Lawton Instrumental Activities of Daily Living Scale to measure older adults' functional ability and the Geriatric Depression Scale (15-item) to evaluate mental health. We applied latent growth curve models to analyze the longitudinal associations. Accessibility to POS and social interactions among users in POS were related to better functional ability and mental health among older adults at baseline. The number of leisure facility types, and social interactions among users in POS led to a slower decline in functional ability over time. However, there were no significant associations between POS and mental health over time. These findings have theoretical implications for the healthy aging research framework and practical insights for planning policies using POS as an intervention tool to facilitate older adults' healthy aging.*

3. Dr Mandy Lau

   - has published the following paper:

     Lau, M. H. M. (2023). Residential Age Segregation: Evidence from a Rapidly Ageing Asian City. *Journal of Population Ageing*. https://doi.org/10.1007/s12062-023-09416-7

     ***Abstract:** The problem of residential age segregation has been relatively under-studied, since spatial separation of older and younger people tends to be normalized. Prior literature demonstrates that age*

segregated environments may be socially isolating, especially for older adults, which may have detrimental impacts on their physical and mental health. While there are some studies on residential age segregation in Western contexts, there is scarce literature on age segregation in Asian cities. This mixed methods study examines changing patterns of residential age segregation in Hong Kong, through analyzing a combination of secondary census data and qualitative, in-depth interview data. The findings reveal that the extent of age segregation has remained consistently low from 2006 to 2016, although age segregation appears to be more pronounced between young adults in their early 20s and older adults above 65. Furthermore, in-depth interviews with 26 older people reveal that older people perceive themselves as being socially separated from younger people, especially older people who remain in ageing housing estates in urban districts. The findings add to the growing international literature on generational divides in spatial inequalities, while highlighting the influence of local housing policies on age segregation. The paper concludes by considering the policy implications of the findings, and the practical interventions that might contribute to reducing social isolation experienced by older people.

4. Dr Tianren Yang

   - led the publication of a special issue entitled 'Urban Simulation and Prediction' of *Urban Planning International*, a top Chinese academic journal in the planning field.

5. Professor Anthony Yeh

- has published the following paper with PhD student Ms Si Qiao and graduate Dr Mengzhu Zhang (PhD 2021):

  Qiao, S., **Zhang, M.**, & **Yeh, A. G. O.** (2023). Mind the gender gap in ride-hailing from the demand side. *Journal of Transport Geography, 107*, 103531. https://doi.org/10.1016/j.jtrangeo.2023.103531

  ***Abstract**: Improving the transport system to enhance women's access to social opportunities and services has been a key initiative in mitigating gender inequality. Studies have examined women's different travel demands and experiences from men, and the mismatch between women's demands and transport services. However, little attention has been given to the gender gap in ride-hailing usage in the context of the fast development of platform economy-based new transportation services. Thus, this paper examines the nexus between gender and inequalities in ride-hailing from the demand side. Two key questions are explored: if ride-hailing serves women more/less, how does this gender difference in using ride-hailing occur? Does the emergence of ride-hailing mitigate or deteriorate the existing gender gap in capability to move? An innovative integration of big data and time-space geography approaches is developed to examine the multi-source data collected from Chengdu, China. The modelling results indicate that ride-hailing emerges as an affordable travel mode addressing women's demand for long-distance travel in the Chinese context of women's high labour participation and thus the existence of a considerable number of employed women with a sizeable daily activity space and a considerable income. The gender gap in capability to move is thus mitigated by ride-hailing at an aggregate level. This paper calls for a more nuanced and context-specific understanding of how ride-hailing may provide challenges and opportunities to gender equity in daily travel.*

- has published the following paper with PhD student Mr Maosu Li and Dr Fan Xue of REC and iLab:

  Li, M., **Xue, F.***, & **Yeh, A. G. O.** (2023). Bi-objective analytics of 3D visual-physical nature exposures in high-rise high-density cities for landscape and urban planning. *Landscape and Urban Planning, 233*, 104714. https://doi.org/10.1016/j.landurbplan.2023.104714

  ***Abstract**: Urban dwellers enjoy nature exposure in the neighborhood built environment through visual and physical ways, such as window views and outdoor activities. However, existing studies and analytics examine these pathways separately, leading to underinformed urban planning practices such as difficult prioritizing urban areas with both low-level nature exposures. The underinformation problem is particularly severe for high-rise, high-density cities that embrace high-level vertical diversity. This study aims to propose bi-objective analytics of 3D visual-physical nature exposures, for holistic – rather than separated –*

assessments. First, a floor-level Nature Exposure Index (NEI) is defined with visual and physical components. The visual component NEIv is assessed by window view imagery and deep transfer learning, while the physical component NEIp reflects the mean time from the floor to the nearest natural sites (e.g., nature parks and seaside) through the 3D pedestrian network. Then, bi-objective optimization-based analytics is designed for (i) identifying buildings and blocks with holistically low-level visual-physical nature exposures using NEI and (ii) examining probabilistic outputs and robustness of linear weighting schemes. A case study of 519 buildings showed that the NEI-enabled bi-objective analytics is automatic, effective, and inexpensive. Interviews with field experts confirmed that the analytics provides comprehensive evidence for a holistic identification of high-rise, high-density areas in need of nature exposure for landscape management and urban planning.

- has published the following paper:

  Yang, H., Luo, P., Li, C., Zhai, G., & **Yeh, A. G. O.** (2023). Nonlinear effects of fare discounts and built environment on ridesplitting adoption rates. *Transportation Research Part A: Policy and Practice, 169*, 103577. https://doi.org/10.1016/j.tra.2022.103577

  ***Abstract**: As a new mode of shared mobility that allows users to share the same trip (vehicle) with others at a low travel cost, ridesplitting reduces environmental pollution and eases traffic congestion. Although the relationship between the built environment and the ridesplitting adoption rates has been explored before, few studies investigated the effect of fare discounts on the ridesplitting adoption rate (proportion of ridesplitting trips to ride-hailing trips) while controlling for the origin and destination characteristics. Thus, we explored this topic by analyzing the ride-hailing trip data of Chicago from January to May 2019. The generalized additive model was used to investigate the nonlinear impacts of built environment variables (e.g., population density and employment density) and travel attributes (fare discount and median trip distance) on ridesplitting adoption rates. One notable finding is that the fare discount is most effective in improving ridesplitting adoption rates when its value is around 0.23. In addition, because the trip fare is rounded to the nearest $2.50, a sensitivity analysis was performed to make sure that the approximation had a limited impact on the study results. Finally, the origin–destination (OD) pairs with a high potential for improving the ridesplitting adoption rate were identified. These OD pairs are the trips related to the airports and the trips from the north to downtown. The findings can help transportation planners and government agencies identify the areas for ridesplitting improvement and provide guidelines for transportation network companies to set appropriate fare discounts for ridesplitting.*

6. Dr Zhan Zhao and Ms Yuebing Liang (PhD student)

- have published the following paper:

  Zhao, Z.,* & **Liang, Y.** (2023). A deep inverse reinforcement learning approach to route choice modeling with context-dependent rewards. *Transportation Research Part C: Emerging Technologies*, *149*, 104079. https://doi.org/10.1016/j.trc.2023.104079

  Abstract: *Route choice modeling is a fundamental task in transportation planning and demand forecasting. Classical methods generally adopt the discrete choice model (DCM) framework with linear utility functions and high-level route characteristics. While several recent studies have started to explore the applicability of deep learning for route choice modeling, they are all path-based with relatively simple model architectures and require choice set generation. Existing link-based models can capture the dynamic nature of link choices within the trip without the need for choice set generation, but still assume linear relationships and link-additive features. To address these issues, this study proposes a general deep inverse reinforcement learning (IRL) framework for link-based route choice modeling, which is capable of incorporating diverse features (of the state, action and trip context) and capturing complex relationships. Specifically, we adapt an adversarial IRL model to the route choice problem for efficient estimation of context-dependent reward functions without value iteration. Experiment results based on taxi GPS data from Shanghai, China validate the superior prediction performance of the proposed model over conventional DCMs and other imitation learning baselines, even for destinations unseen in the training data. Further analysis shows that the model exhibits competitive computational efficiency and reasonable interpretability. The proposed methodology provides a new direction for future development of route choice models. It is general and can be adaptable to other route choice problems across different modes and networks.*

7. Dr Jiangping Zhou and Dr Zhan Zhao

- have published the following paper with PDF Dr Jiali Zhou and PhD students Ms Mingzhi Zhou and Ms Shuyu Lei:

  Zhou, M., **Zhou, J.** *, **Zhou, J.**, **Lei, S.**, & **Zhao, Z.** (2023). Introducing social contacts into the node-place model: A case study of Hong Kong. *Journal of Transport Geography, 107*, 103532. https://doi.org/10.1016/j.jtrangeo.2023.103532

  Abstract: *The node-place model epitomizes metro stations as nodes in a city's transportation network and station areas as places accommodating activities in the city. According to this model, stations and station areas with balanced node and place contents/values contribute to harmony among human interactions, land uses, and (public)*

transportation services. The harmony is indispensable for civic engagement, quality of life, and well-being of urbanites. Most of the existing studies on the model, however, focus on transportation services and land uses. Little has been done on whether and how social contacts play an essential role in such harmony and are associated with node-place values. In this article, we therefore measure social contact in a city and introduce social contact as a third aspect to the node-place model. In particular, we introduce a method to identify group travel activities in the metro system, as a proxy for social contact, by using smartcard swipe records from Hong Kong's metro system in 2020. We then define and calculate place values, node values, and the intensity and density of social contacts by metro station or station area. We find that some stations with balanced and even stressed node-place values would have relatively low social contacts. The conventional node-place framework is not capable of capturing and evaluating realized social contacts of a metro station area. There exists a gap between realization of social contacts and the interaction potential facilitated by both node and place values of stations. Our new model allows us to better categorize different metro station areas according to their respective realized social contacts.

Healthy High Density Cities Lab

1. Ms Yvonne Lai, Ms Sarika Kumari, Dean Chris Webster and Dr Chinmoy Sarkar

- have published the following paper with Professor John Gallacher (Department of Psychiatry, University of Oxford):

Lai, K. Y., **Kumari, S.**, **Webster, C.**, Gallacher, J. E. J., & **Sarkar, C.** (2023). Neighbourhood residential density, urbanicity and incident dementia and Alzheimer's disease: A 12-year prospective cohort study from the UK Biobank. *Environmental Research*, *226*, 115627, ISSN 0013-9351. https://doi.org/10.1016/j.envres.2023.115627

Abstract:

Introduction
An increasing proportion of global population is exposed to urban densification in an aging society. However, little is known of the role of residential density and urbanicity on the risk of developing dementia including Alzheimer's disease. We examined long-term associations between residential density and urbanicity and risks of incident dementia and Alzheimer's disease.

Methods
This prospective cohort study included participants from the UK Biobank who lived at the same residential address, had no self-reported neurological conditions and without dementia at baseline. Residential density was measured as the number of dwelling units within 1-km street neighbourhood of participant's home address. A composite index of urbanicity was developed from neighbourhood-level z-standardized densities of housing, retail, public transport and street centrality. Hazard ratios were derived from Cox proportional hazard models adjusted for known risk factors.

Results
The analytic sample included 239,629 participants aged 38–72 years. During a median follow-up of 12.3 years (interquartile range 11.5–13.0 years), 2,176 participants developed dementia and 1,004 Alzheimer's disease. After adjustments for potential risk factors, each 1,000 units/Km^2 increment in residential density was associated with higher risks of dementia (hazard ratio [HR]=1.10, 95% confidence interval [CI]: 1.06-1.15) and Alzheimer's disease (HR=1.10, 95% CI: 1.04-1.16). Consistently, categorical models showed that living in neighbourhoods of higher residential density and urbanicity were associated with higher risks of dementia (HR = 1.30, 95% CI: 1.12–1.51 for the highest density quintile compared to the lowest and HR = 1.21, 95% CI: 1.05–1.39 for the highest urbanicity quintile relative to the lowest). The associations were more pronounced in female, age >65 years, and among participants of the low income and those being frail and having shorter leucocyte telomere length (LTL).

Conclusions

Higher residential density and urbanicity was found to be positively associated with elevated risks of dementia and Alzheimer's disease. Optimizing neighbourhood residential density maybe one of the upstream considerations for mitigating against neurodegenerative diseases.

iLab

1. iLab researchers

   - have published the following papers:

   (i) **Wu, L.**, **Lu, W.**, **Peng, Z.**, & **Webster, C.** (2023). A blockchain non-fungible token-enabled 'passport' for construction waste material cross-jurisdictional trading. *Automation in Construction*, *149*, 104783. https://doi.org/10.1016/j.autcon.2023.104783

   Abstract: *The waste material passport (WMP) has been proposed for construction waste material (CWM) cross-border trading to reduce information asymmetry between parties. However, a major concern is that such WMPs are not issued by authorities that can guarantee authentication. This research aims to develop a blockchain non-fungible token (NFT)-enabled WMP. By using design science research, we develop a framework to (1) digitize CWM into NFT-enabled passports via tokenization; (2) prevent duplicated issuance of passports with unique NFT identifiers; (3) enhance information transparency via blockchain distributed ledgers; (4) improve trading efficiency via its decentralized consensus; and (5) secure transaction records via its cryptographic algorithms. The framework is prototyped and simulated in a case study. The prototype is found feasible with satisfactory performance. It can serve as a reference for future endeavors in harnessing the power of blockchain NFTs, particularly for mobilizing blockchain NFT-enabled passports for various value-added applications in the circular economy.*

   (ii) Bao, Z., **Lu, W., Peng, Z.**, & Ng, S. T. (2023). Balancing economic development and construction waste management in emerging economies: A longitudinal case study of Shenzhen, China guided by the environmental Kuznets curve. *Journal of Cleaner Production*, *396* 136547. https://doi.org/10.1016/j.jclepro.2023.136547

   Abstract: *A common dilemma in emerging economies is how to balance economic development and environmental protection. This dilemma is particularly evident in the construction industry, which materializes housing and infrastructure for economic development while generating huge amou of construction waste, which, if not properly managed, could lead to serious environmental degradation. This study aims to explore useful strategies for balancing economic development and construction waste management (CWM) in emerging economies. It does so by adopting a mixed-method approach organized in a longitudinal case study of Shenzhen, China; an emerging economy that has successfully balanced the two goals. Firstly, based on quantitative*

data, an environmental Kuznets curve (EKC) is developed to indicate Shenzhen's dynamic evolvement of economic development and CWM over time. Then, qualitative research is conducted to understand the experiences behind Shenzhen's EKC evolvement. These experiences are distilled into: (1) strong economic support, (2) strong government interventions, (3) a thriving recycling market, (4) advanced recycling technologies, and (5) making use of major events as a catalyst. This study provides a useful reference for the dilemma of economic development and CWM in emerging economies and for deployment of proper strategies to address this dilemma.

(iii) **Lu, W.**, Long, W., & **Yuan, L.** (2023). A machine learning regression approach for pre-renovation construction waste auditing. *Journal of Cleaner Production*, *397*, 136596. https://doi.org/10.1016/j.jclepro.2023.136596

Abstract: *The activity from which construction waste arises includes new construction, renovation, and demolition. Renovation waste was traditionally considered as trivial but in recent years, it has gradually come into the focus of construction waste management (CWM). Waste auditing prior to renovation (termed 'pre-renovation auditing' or PRA) provides a departure point for good CWM. The core of PRA is accurately predicting renovation waste generation. Benefiting from a valuable dataset containing 351 building renovation projects in Hong Kong, this research aims to develop a robust renovation waste estimation approach. By using machine learning regression, a model containing several easy-to-access features was developed. By simply inputting the feature data (including renovation work type and cost; building type, year, height, and floor area; as well as floor height and the number of renovated floors) into the model, the renovation waste generated from the project can be reliably estimated. Validation experiments indicate that the method has a root mean squared error (RMSE) of 141.52, mean absolute error (MAE) of 79.69, and R-square of 0.83. Comparative experiments show that our method performs better than prevailing ones as reported in the literature. This study thus contributes a novel waste prediction model for pre-renovation waste auditing. With proper modifications, the model can be applied to other regions with different building and renovation features. Future research is recommended to further explore advanced waste estimation methods by integrating new technologies for finer CWM.*

(iv) **Liang, D.**, & **Xue, F.** (2023). Integrating automated machine learning and interpretability analysis in architecture, engineering and construction industry: A case of identifying failure modes of

reinforced concrete shear walls. *Computers in Industry, 147,* 103883*.* https://doi.org/10.1016/j.compind.2023.103883

Abstract: *Machine learning (ML) has been recognized by researchers in the architecture, engineering, and construction (AEC) industry but undermined in practice by (i) complex processes relying on data expertise and (ii) untrustworthy 'black box' models. As a result, ML results of complex non-linear AEC problems, such as the failure mechanism of reinforced concrete (RC) shear walls, are not comparable with empirical and mechanics-based models. This paper aims to integrate automated ML (AutoML) and interpretability analysis to study the failure mechanism of RC shear walls. In this study, we collected a dataset of 351 comprehensive samples for the failure mode identification of RC shear walls. First, the AutoML model trained using the dataset outperformed a set of conventional ML methods in terms of the F1 accuracy score. Then, three model-agnostic interpretability analysis methods confirmed the trustworthiness of the AutoML model. The contribution of this paper is threefold. First, AutoML sheds light on the automatic identification of failure modes of RC sheer walls. Second, the interpretability analysis can validate 'black-box' ML models against long-established domain knowledge in solving non-linear AEC problems. Third, for AEC industrial practitioners, the whole process is automatic, accurate, less reliant on data expertise, and interpretable.*

(v) **Wu, L.**, **Lu, W**., & **Chen, C.** (2023). Strengths and weaknesses of client-server and peer-to-peer network models in construction projects. *International Journal of Construction Management,* 1-15. https://doi.org/10.1080/15623599.2023.2185950

Abstract: *While client-server and peer-to-peer network models have both been explored as a means of transferring data, the literature is yet to thoroughly document their respective strengths and weaknesses, particularly in project settings. This study aims to address this knowledge gap by conducting a semi-hypothetical experiment to examine the strengths and weaknesses of both models, further laying the groundwork for project managers to strategize which model to use for different project scenarios. Both network models are used to facilitate the inspection data communication of a construction project. A questionnaire survey and in-depth interviews are then conducted with participants to solicit their evaluations of each network's strengths and weaknesses. We find that the client-server network outperforms the peer-to-peer network in some endogenous features such as response time, cost, and scalability, but the latter is superior in terms of security, traceability, and privacy. When it comes to exogenous factors, the client-server network is superior in ease of understanding, policy and industry support, skillset readiness, and*

economy of scale. However, the peer-to-peer network better fosters a collaborative culture. This research provides decision-making information for project managers involved in the selection of data communication networks.

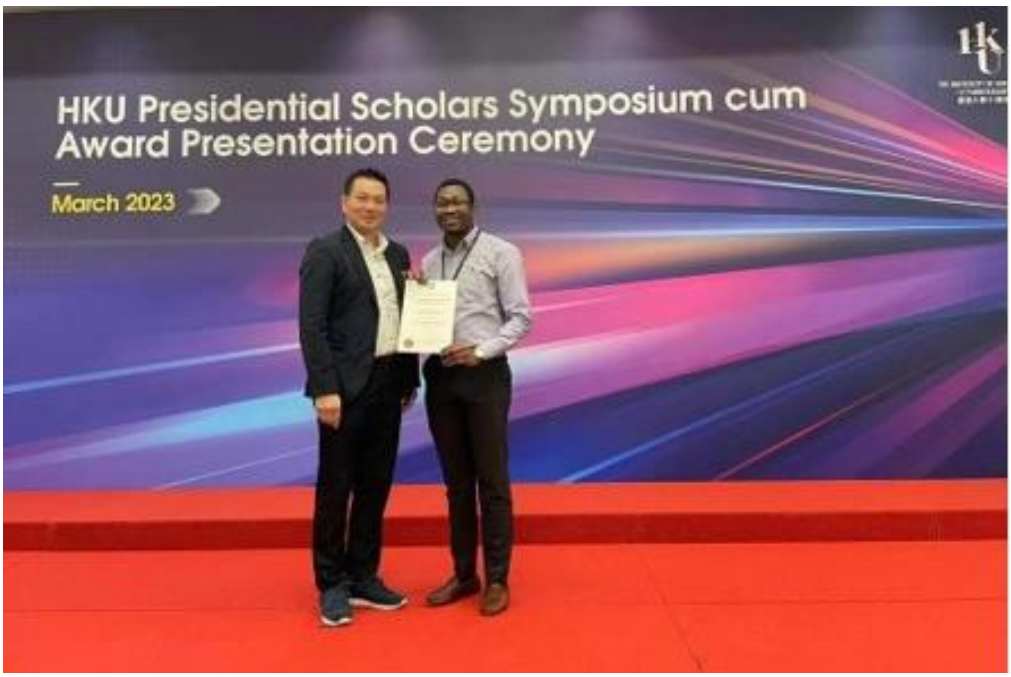
(vi) Xu, J., **Lou, J.**, **Lu, W.**, **Wu, L.**, & **Chen, C.** (2023). Ensuring construction material provenance using Internet of Things and blockchain: Learning from the food industry. *Journal of Industrial Information Integration, 33*, 100455. https://doi.org/10.1016/j.jii.2023.100455

Abstract: *Ensuring material provenance is widely considered a promising solution to the persistent issues related to material fraudulence in the construction industry. However, current strategies of managing construction logistics and supply chain perplex provenance tracing and tracking by adding too many intermediaries and using low technologies. By learning from the food industry which shares similar complexity, prolonged supply chain, and numerous stakeholders, this research aims to develop a framework deployable for material provenance tracing and tracking in the construction industry. It does so by mixing the uses of (a) cross-sectoral learning; (b) design science research; and (c) internet of things (IoT) and blockchain technology. The developed framework has four interconnected layers, namely the business layer with different stakeholders and activities, the IoT layer to collect the provenance footprints, the blockchain layer with a mainchain to store open provenance data and sidechains to store organizational private data, and the application layer to facilitate the management of quality, safety, payment, logistic and supply chain, and sustainability. The underpinning philosophy of the framework is to capture the IoT-driven provenance footprints and put them in custody in blockchain. The framework is further illustrated and refined by using a pilot construction project in Hong Kong, which was endeavored to track steel provenance from its adjacent Pearl River Delta, the so-called "World's Factory". The framework shows enormous prospects, e.g., adopting digital twins, lifecycle traceability, improved efficiency, and transparent operations, meanwhile facing challenges, e.g., under-developed regulations, scalability issues, and information leakage risks, which all call for future research.*

- received the ETNet Smart Living Partnership Award 2022 (Smart Building / Environment (EnviroTech) / Green Technology category), for their 'Remote e-Inspection System for Cross-border MiC Logistics' in collaboration with the Logistics and Supply Chain MultiTech R&D Centre. The award ceremony was held on 27 February 2023 in Cyberport, Hong Kong.

2. Benjamin Ababio (PhD student, REC)

- received the Best Poster Presenter Award for his research titled ‘Circular Procurement in the Construction Value Chain: Developing an Integrated Delivery Framework for Emerging Economies’, supervised by Professor Wilson Lu and Dr Frank Xue, at the HKU Presidential Scholars Symposium cum Award Presentation Ceremony on 7 March 2023.



3. Professor Wilson Lu

- was invited to give a talk, titled 'AI, Machine Learning, Computer Vision and Big Data Analytics for Construction', for Construction Industry Council's (CIC) signature Master Class on AI for Construction on 24 February 2023.

- was invited to attend the CIC Chairman's Lunch to discuss with a group of industrial leaders on 'How to Retrain and Nurture Talents' on 10 March 2023.

4. Vikrom Laovisutthichai (PhD student, REC, HKPFS)

    - joined the Department of the Built Environment, National University of Singapore, as a visiting student under the supervision of Professor Low Sui Pheng in January-March 2023. He participated in departmental research seminars, guest lectures, and international conferences on net-zero energy building (EMAK 11). He visited governmental offices, including the Housing and Development Board (HDB), public housing mock-up units, and the Urban Redevelopment Authority (URA), to gather data on modular building construction in Singapore. He also presented his research entitled 'Design for excellence (DfX) for high-rise modular buildings: A knowledge management-based framework from conception to completion', discussed with both practitioners and academics, and received valuable suggestions from professors and peers.

5. Visiting scholars

    - Professor Hanbin Luo from the Huazhong University of Science and Technology (HUST), accompanied by iLab alumnus Dr Ke Chen, currently Associate Professor at HUST, visited iLab and presented their research projects on 20 February 2023. We had fruitful discussions and exchanged ideas on further collaboration between the two schools.

Ronald Coase Centre for Property Rights Research

1. Professor KW Chau, Dr Lennon Choy and Prof Lawrence Lai

   - have published the following paper:

     Chau, K. W., **Choy, L. H. T.**, Chua, M. H., **Lai, L. W. C.**, & Yung, E. H. K. (2023). Pro profits or non-profits? A principal-agent model for analyzing public sector planning decisions and empirical results from planning applications in Hong Kong. *Cities*, *137*, 104291. https://doi.org/10.1016/j.cities.2023.104291

     Abstract: *This paper introduces a principal-agent analysis of the public sector decisions made by a non-democratic planning body under public scrutiny. The central idea is that divergence between the interests of the principal (citizens), whose objective is to maximize the total value of the land in Hong Kong, and the agent (planning approval authority), whose concern is about Approval Risk, which is the agent's risk of being accused of collusion or even bribery. This principal-agent analysis can be applied to any public-sector decision-making process in a society with the rule of law and freedom of speech. It was found by a logit analysis of 1440 sets of disaggregate data that planning applications by non-profit applicants for uses in Government/Institution/Community (GIC) zones were more likely to be approved than those by for-profit private organizations, in line with the idea of a lower perceived Approval Risk. Amongst the applications by private organizations, proposed high-value land uses were less likely to be approved than those proposed for low-value uses, probably because the former results in potentially higher economic gain for the applicants. The legislative change that took effect in July 2005 has allowed a wider public participation in the planning application process. This policy change was used in this study as a test condition for the effect on planning approvals of an increase in the principal's involvement in the decision-making process. It was found that the policy change did increase the success rate of planning applications made by private organizations, though the impact was mainly on the applications for low-value land uses only. The empirical result shows that the perceived Approval Risk for high-value land uses was too high to be affected by the policy change.*

Social Infrastructure for Equity and Wellbeing Lab

1. Professor Shenjing He

   - has published the following paper:

   (i) **Shan, L.**, **He, S.***, & **Wan, C.** (2023). Unraveling the dynamic Airbnb-gentrification interrelation before and after the COVID-19 Pandemic: Evidence from Beijing, China. *Cities*, *137*, 104270. https://doi.org/10.1016/j.cities.2023.104270

   Abstract: *Arising as an efficient and flexible model of the rental business amidst the rising asset economy, short-term-rental (STR) platforms such as Airbnb are prevalent globally and have induced neighborhood changes in many aspects. Debates on Airbnb-induced gentrification concern scholars and policymakers worldwide. Nonetheless, most existing studies consider it a unidirectional process, and the dynamic interactions and mutual influence between Airbnb and gentrification remain unexamined. To address this salient lacuna, this study unravels the changing dynamic of Airbnb-gentrification interactions in central Beijing during the COVID-19 pandemic. Through matching housing transaction records in the secondary market and Airbnb's data, we develop two indexes and employ a series of regression models, as well as difference-in-difference estimation to unravel the variegated Airbnb-gentrification patterns, their interrelation, and the impacts brought by the pandemic. Results reveal a general pattern of intensifying gentrification caused by clustering Airbnb. Meanwhile, in neighborhoods experiencing different stages of gentrification, heterogeneous outcomes of Airbnb development are unveiled concerning impacts on rentals and housing prices during the pandemic. Our findings provide a more nuanced understanding of the dynamic Airbnb-gentrification interrelation and add to the ongoing debates on "fifth-wave gentrification".*

   (ii) Luo, W., **Zhou, Y.**, Liu, Z., Kang, W., **He, S.**, Zhu, R., Li, R. & Huang, B. (2023). Cross-regional analysis of the association between human mobility and COVID-19 infection in Southeast Asia during the transitional period of "living with COVID-19", *Health & Place*, 103000. https://doi.org/10.1016/j.healthplace.2023.103000

   Abstract:

   Background
   In response to COVID-19, Southeast Asian (SEA) countries had imposed stringent lockdowns and restrictions to mitigate the pandemic ever since 2019. Because of a gradually boosting vaccination rate along with a strong demand for economic recovery, many governments have shifted the intervention strategy from

restrictions to "Living with COVID-19" where people gradually resumed their normal activities since the second half of the year 2021. Noticeably, timelines for enacting the loosened strategy varied across Southeast Asian countries, which resulted in different patterns of human mobility across space and time. This thus presents an opportunity to study the relationship between mobility and the number of infection cases across regions, which could provide support for ongoing interventions in terms of effectiveness.

Objective

This study aimed to investigate the association between human mobility and COVID-19 infections across space and time during the transition period of shifting strategies from restrictions to normal living in Southeast Asia. Our research results have significant implications for evidence-based policymaking at the present of the COVID-19 pandemic and other public health issues.

Methods

We aggregated weekly average human mobility data derived from the Facebook origin and destination Movement dataset. and weekly average new cases of COVID-19 at the district level from 01-Jun-2021 to 26-Dec-2021 (a total of 30 weeks). We mapped the spatiotemporal dynamics of human mobility and COVID-19 cases across countries in SEA. We further adopted the Geographically and Temporally Weighted Regression model to identify the spatiotemporal variations of the association between human mobility and COVID-19 infections over 30 weeks. Our model also controls for socioeconomic status, vaccination, and stringency of intervention to better identify the impact of human mobility on COVID-19 spread.

Results

The percentage of districts that presented a statistically significant association between human mobility and COVID-19 infections generally decreased from 96.15% in week 1 to 90.38% in week 30, indicating a gradual disconnection between human mobility and COVID-19 spread. Over the study period, the average coefficients in 7 SEA countries increased, decreased, and finally kept stable. The association between human mobility and COVID-19 spread also presents spatial heterogeneity where higher coefficients were mainly concentrated in districts of Indonesia from week 1 to week 10 (ranging from 0.336 to 0.826), while lower coefficients were mainly located in districts of Vietnam (ranging from 0.044 to 0.130). From week 10 to week 25, higher coefficients were mainly observed in Singapore, Malaysia, Brunei, north Indonesia, and several districts of the Philippines. Despite the association showing a general weakening trend over time, significant positive coefficients were observed in Singapore, Malaysia, western Indonesia, and the Philippines, with the relatively highest coefficients observed in the Philippines in week 30 (ranging from 0.101 to 0.139).

Conclusions
The loosening interventions in response to COVID-19 in SEA countries during the second half of 2021 led to diverse changes in human mobility over time, which may result in the COVID-19 infection dynamics. This study investigated the association between mobility and infections at the regional level during the special transitional period. Our study has important implications for public policy interventions, especially at the later stage of a public health crisis.

(iii) **He, S.**, & **Qian, J.** (2023). Police and Politics in Aesthetics-Based Urban Governance: Redevelopment and Grassroots Struggles in Enninglu, Guangzhou, China. *Antipode*. https://doi.org/10.1111/anti.12919

Abstract: *Rancière's theorisation of police, politics, and aesthetics offers an illustrative framework to understand urban (re)developments. While extant works have examined separately the art of governing through aesthetics and the political subjectivities of those having no part in the frame of visibility and intelligibility, this study argues that hegemonic aesthetic regime and bottom-up aesthetic practices can be mutually constitutive and reside in relationships of co-existence and mutual negotiation. Drawing on over a decade's investigation in Enninglu, a neighbourhood district in Guangzhou that underwent several rounds of political struggles related to redevelopment and conservation, we reveal how local residents negotiated aesthetic norms enacted by the state. Particular attention is paid to the interactions between the aesthetic regime imposed by the state and grassroots people reclaiming their own aesthetic sensibilities, culminating in a contingent, inconclusive, and "impure" space of politics. Both political subjectivities and aesthetic norms are redefined ongoingly in this process.*