

In this year's HKU information-day talk, FoA pitched its *purpose* more than its *programmes*. The mood of 2020 suggested it, but so did what I detect as a subtle but significant shift in FoA. I know not all will agree but I want to open discussion on a FoA *proposition* that has rather more attitude and that signals a common focus shared across departments. The following was written with contributions from Eric Schuldenfrei, Kristof Crolla and Janice Leung, and appears in our undergraduate brochure. Four of the subtle shifts it represents are: a greater eagerness in our 3 (soon to be 4) departments to collaborate, teach and identify across subject boundaries; embracing a technology-enabled built environmental future; the importance of design thinking plus analytical thinking in all of our teaching; and a greater emphasis in our design subjects, on architectural technology, function and performance, alongside our traditionally strong emphasis on architectural form, history and theory. The last of these is key to the first three since technologically-enabled architectural, landscape and urban design in pursuit of a more energy and carbon efficient, resilient and healthy urban future, need to be better integrated with the other built environment fields of study and practice.

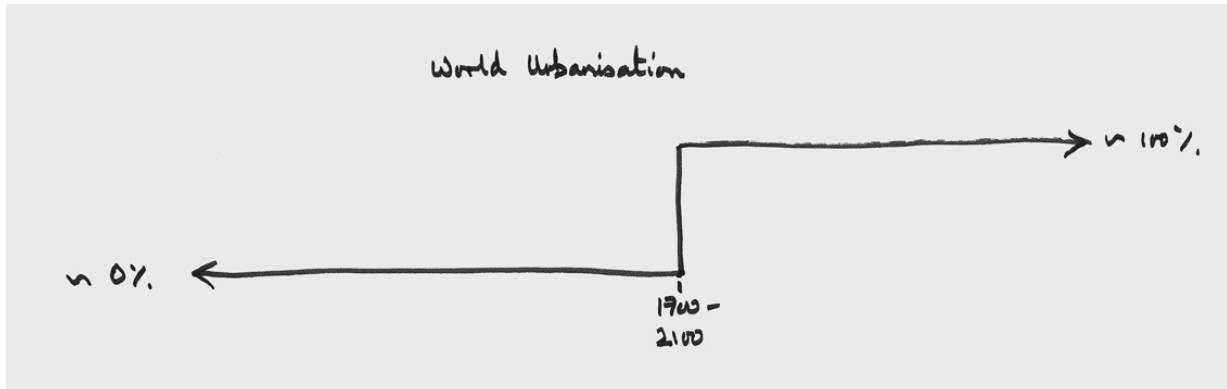
THE FUTURE IS HERE.

For students of the built environment there is no better location than here and no better time than now. Hong Kong is one of 11 urban cores that together comprise the world's first 100M city¹. Beyond that, half the world's population live within a five-hour flight of the city². Right on our doorstep, the biggest migration event in human history will complete over the next 20 or so years as another 300 million Chinese move from villages and small towns to cities. By comparison, the US population in 2020 is 331 million, meaning that China will need to construct human habitats – cities, buildings, public spaces and urban landscapes – equivalent to the US today within the next 20-25 years.

¹ Official population of the Pearl River Delta agglomeration, AKA Greater Bay Area, is about 60M, but its unofficial population is more likely approaching 100M.

² <https://www.brandhk.gov.hk/html/en/AboutHongKong/ConnectedHongKong.html>

Our planet is arriving at a poignant moment never experienced before. Some call it the rural-urban singularity moment: when all effectively becomes urban. Before the onset of the Industrial Revolution, the proportion of the global population living in cities was minimal. Over the past 250 years the proportion has been accelerating super-exponentially. By the first quarter of the 20th century it was still less than 15%, but by the last quarter of the current century it will be pushing above 80%. Between now and 2050 an average of around 1.5M people will be urbanised each week, producing a city the size of Hong Kong roughly every month³. For 50,000 years, modern humans lived at approximately 0% urbanisation. Within a short period of about 300 years that will have shifted to approximately 100% urbanisation.



Why does this matter? Why might it influence your choice of career? Our experience shows that among those intelligent enough to study to become a medical doctor, lawyer or financier, there are those who will want to choose instead to shape the cities of the future⁴.

Buildings account for 36% of global energy use and produce far more carbon emissions than any other sector. The built environment contributes to climate change through the urban heat island effect; exhausts fossil ground water sources deposited during the last ice-age; and pollutes rivers that cities and whole countries downstream depend upon. Yet, cities also create wealth and culture; provide health care and educational services that lift people out of poverty and subsistence. Buildings are and always have been at the very centre of human civilisation. But they will need to change if the human race is to survive and continue to thrive.

There is a reason why designers and makers of buildings have had a prominent social position throughout history, from the builders of ancient pyramids in the Nile Delta, to the Renaissance-inspired artist-architects from the 1400s, to the multi-skilled expert teams of surveyors, architects, engineers, planners, landscape-designers and construction project managers that currently shape our cities. Building, city planning, conservation and renewal, and city greening projects in the 21st century are more complex than they have ever been. Shaping our habitats to be environmentally sustainable places, healthy and healing places, economically vibrant and resilient places, socially safe, rich, diverse and harmonious places requires the brightest and most creative of minds.

European Renaissance society was ready for the rise of the so-called 'Renaissance Man', who merged science and engineering with a new depth of art into an era-making

³ <https://population.un.org/wpp/>

⁴ <https://www.arch.hku.hk/research/the-future-of-cities/>

cultural cocktail made possible by developments in the science of drawing, the physics of construction and the application of a distinctive spiritual and social vision. HKU Faculty of Architecture is on a trajectory to educate the equivalent for our era: the Singularity Person if you like, fusing art and vision and a deep sense of history, with technology- and data- driven analyses of contemporary human society, economy, ecology and built habitat. The sheer complexity of building and city planning projects in the age of mass-economy and mass technology means that a different kind of genius is required. We cannot create the geniuses who will build the kinds of cities and urbanised countryside we need in the future. But we provide them with the right kind of soil in which to grow. The Future is here. How will you shape it?

Over the coming months, we'll be discussing how to further focus our collective and individual endeavours. Alternative narratives welcome.

FoA's freshmen have been enjoying a new kind of cross-departmental learning experience through AFIC1001 Faculty Interdisciplinary Course. I invite you to browse some of their work posted outside the Faculty Office on the 4th floor of the Knowles Building: mind-maps that think through causal pathways from built environment to a set of currently perilous human health problems.

Thanks to colleagues and students mentioned below for your sterling contributions to FoA and HKU.

Professor Chris Webster
Dean, Faculty of Architecture

Teaching and other Achievements

DoA

1. Dr. Eric Schuldenfrei

- has accepted the nomination to be appointed by the Hong Kong Tourism Board (HKTb) as one of the Hong Kong Convention Ambassadors and to work with other respected business and community leaders in the city to promote Hong Kong as one of the world's leading MICE (Meetings, Incentives, Conventions and Exhibitions) destinations.

The **Hong Kong Convention Ambassador** programme is a new initiative launched by the Hong Kong Tourism Board to draw support from influential leaders from a range of sectors and attract global business and professional events to choose Hong Kong as their host destination, and help speed up the pace of recovery of our economy post the pandemic.



2. Guillaume Othenin-Girard

- has launched a pop-up exhibition on the theme of “Quarantine Drawings” at PMQ, together with Nga Ting Cheung, Yi Go, Ka Chun Lai, Hin Fung Sherman Lam, Jennifer Cheuk Wing Lam, Ruoxi Li, Yin Li, Kent Mundle, Xiao Tang, Ka Lee Tsang, Long Ting Yu and Rochelle Charis Yu. Details are as follows:

Date: 2 November (Monday) - 16 November (Monday) 2020
Time: 10:00am - 8:00pm
Venue: S314, 3/F, Block A, PMQ, 35 Aberdeen Road Street, Central, Hong Kong

QUARANTINE DRAWINGS

How can we think of an architecture of proximity – to mix ways of living together – which in times of pandemic becomes a threat to the domestic? To draw this phenomenon is not just to illustrate or repeat it. Rather, to draw as a form of (re)search is to assess architecture with measure and specificity through multiple scales. Doing so may guide us to connect the extraordinary circumstances of our ‘now’ with a fundamental condition of our collective experience.

The nature of this collective experience refuses abstraction and generalisation, but rather, demands attention. To abstract makes us forget not only the body, but the body situated in space, the individualised body caught up in tangible relationships that are not interchangeable, and not relativisable in the last instance. To draw attentively does not reduce the individual to a theoretical construct. To draw attentively is to measure specificities and engage with the concrete problems that a person faces as an individual living in a community of others.



REC

1. Professor Kelvin Wong

- has been appointed by the Research Grant Council (RGC) of Hong Kong to serve as a member of the Engineering Panel, with effect from 1 November 2020 to 31 October 2022.

2. Ms. Ren Ren, final-year PhD student supervised by Professor Kelvin Wong

- has won one of the three Best Presentation Awards in the first International Real Estate Society (IRES) Symposium for Doctoral Students which was held virtually on October 28-30, for her research titled “The boom-bust asymmetry of supply elasticity and property price changes: New evidence from within-city analysis”.

DLA

The recipients of the University’s 2020 Teaching Excellence Awards have been announced. This year, two of our faculty members in the Division of Landscape Architecture have received the Teaching Innovation Award:

1. Mr. Gavin S. Goates

- has received the Individual Award of the Teaching Innovation Award for “Continuing and Enhancing Field Trip Learning Experiences in the Online and Dual-Mode Teaching Environment”.

2. Mr. Mathew Pryor (Team Leader) and Miss Lynn Hanyuning Lin

- together with Dr. Tyrone T.O. Kwok of Technology-Enriched Learning Initiative have received the Team Award of the Teaching Innovation Award for “Digital Exhibition Space (DES)”.

Candidates, individuals or teams, for the Teaching Innovation Awards are expected to present evidence indicating a recent innovation in pedagogy and/or curriculum design that demonstrates evidence of impact and/or potential impact on curriculum design and/or student learning and of reflection on the sustainability of this innovation to be embedded in the curriculum to enhance student learning.

Research Achievements

Centre of Urban Studies and Urban Planning

1. Dr. Roger Chan

- invited Prof. Zhigang Li from Wuhan University to present a research seminar at DUPAD via Zoom on November 2, 2020. His seminar topic is “Sociospatial Transformation in the New Era of Urban China”.



2. Mr. Alain Chiaradia

- was invited by the School of Architecture, Tsinghua University, to give an online lecture via Tencent Meeting on October 28, 2020. The lecture topic is “Metropolitan Urbanism: The Formation and Evolution of Grand Paris Express – GPE & New Regional Development”.



清华大学建筑学院公共讲座系列

1948
清华大学建筑学院
SCHOOL OF ARCHITECTURE
TSINGHUA UNIVERSITY



Speaker: Alain JF Chiaradia
Associate Professor
The University of Hong Kong
香港大学建筑学院城市规划与设计副教授

Topic: Metropolitan Urbanism: The Formation and Evolution of Grand Paris Express – GPE & New Regional Development
《都市圈发展 大巴黎的形成与演变》课程
大巴黎轨道交通项目和地区发展

Biography:
Alain JF Chiaradia is Programme Director for the Master of Urban Design programme. He is Council Member of the Hong Kong Institute of Urban Design, Affiliate of Planners for Climate Action (UN-Habitat), an International Expert on the advisory scientific committee of Efficacity (a French R&D PPP), and a ULI Member. Alain has been Executive and Board Director of the urban design consultancy Space Syntax Ltd.

Alain research focuses on the development of network configurational analysis of urban morphology and urban movement system in 2D and 3D. He is the inventor of sDNA 2D and 3D. Alain brings systemic insights from professional urban design consultancies, educating urban designers and urban design research with expertise on complex high-density volumetric urban design.

Alain was educated in France, Italy and at the Architectural Association, London with degrees in the history of cities and economics. He is an urban designer and architect with 20 years' experience on placemaking and research on the values of urban design, advising national, regional, and local government, large developer, communities, and international urban design teams.

HOST: Liu Jian, Associate Professor
School of Architecture of Tsinghua University

Time: 8:00am-9:30am, Wednesday, 28 Oct. 2020

Join Tencent Meeting:
<https://meeting.tencent.com/s/SZxHkH0m3PL>
Meeting ID: 698 220 229
Dial-In: +867553655XXXX

欢迎参加

SATU PUBLIC LECTURE SERIES

- has published the following papers in a special issue of Architecture and Technique on urban development under the guidance of rail transit:

- (i) **Cui Min Yu, Alain Chiaradia** (2020). Volumetric Urban Design, an exploratory typology of multi-level pedestrian network in Hong Kong New Towns, Architecture and Technique, (26)9, pp. 40-45.

Abstract: *Driven by the MTR “Rail + Property” development model, Hong Kong’s new towns have established an urban development structure with rail stations as its core. In order to improve the efficiency of rail transportation and residents’ travel in a sub-tropical city prone to typhoon, the pedestrian transportation network in new towns has gradually shown a trend of extending from the same plane as motor vehicles to a hybrid three-dimensional pedestrian transportation network. An exploratory typology study compares different types of volumetric pedestrian networks in new towns of Hong Kong with a focus on Kwun Tong, Tsuen Wan, and Sha Tin. This study identifies macro-typological characteristics of the development process of pedestrian networks over time. The aim of the study is to explore the current relationship between the pedestrian system and urban development as well as to discuss the future development trends of pedestrian network in Hong Kong’s new towns.*

Keywords: new town; volumetric urbanism; TOD; Hong Kong; pedestrian network

- (ii) **Zhang Lingzhu, Alain Chiaradia** (2020), Evaluation of TOD performances using multi-source big-data – Hong Kong as a case study. Architecture and Technique, (26)9, pp. 85-89.

Abstract: *Using “Transit”, “Oriented” and “Development” dimensions of TOD, this paper measures the TOD performance of 95 MTR stations in the hyper dense city of Hong Kong. Using a multi-source big data approach, 15 dimensions have been selected and measured to quantify the degree of TOD performance. A hierarchical clustering classification method is used to classify the TOD areas into five TOD types which can inform urban planners, designers and policy makers’ decision making with comprehensive evaluation.*

Keywords: rail transit station area; TOD performance; Hong Kong; hyper dense

- (iii) **Alain Chiaradia, Stephen Jones Louie Sieh Fiona Waters** (2020), TOD, a tool for value assessment, a multi-scale value gradient map, Architecture and Technique, (26)9, pp. 90-95.

Abstract: *Transit Oriented Development is one of the most successful attempts made worldwide to achieve sustainable urban development through promotion of high-density public transport nodes. Meta reviews of the extensive literature indicate a paucity of studies on the interrelationship of values of urban design, place-making, community planning and a planning theory of TOD. The recent wider economic impact (WEI) of transport framework provides a plausible grounding for an urban design and planning theory of TOD that*

enables the integration of the concept of 'urban design value' developed in consultancy, policy-making and education. The aim of this paper is to propose a visual tool that captures spatial interactions and visualises multi-scale value impact of TOD to be taken discursively into account in urban planning, urban design and community planning practice.

Keywords: TOD; wider economic; impact; value in use; value in exchange; values in common

3. Dr. Derrick Ho

- is appointed as a guest editor for the special issue of "Climate Change, Aerosol Pollution and Public Health Risk in an Urban Context" of the journal [Frontiers in Climate](#).

Background: *Climate change and air pollution are two of the major problems threatening the urban populations. Recent studies show that climate change can interact with air pollution (e.g., air pollution is modulated by local weather conditions, and climate change can be directly and indirectly influenced by aerosol concentrations and properties). These environmental issues are not only destroying the Earth systems but also adversely influencing human health due to an unfavourable urban environment and high population density. Although half of the global population is living in urban areas, interactions between climate change, aerosol pollution and public health risk in an urban context have yet to be fully explored.*

Given the complexity of the issues linking climate change and aerosol pollution in an urban context, this special collection aims to discover the links between these issues and the public health, looking for high-impact articles related to the following topics in particular:

- 1) Advanced technologies to study the links between climate change, aerosol pollution and health risk;
- 2) Practical experiences to solve the environmental problems due to climate change and pollution;
- 3) Innovative framework to mitigate issues related to climate change, air pollution, and public health across cities.

The submissions should specifically and clearly emphasise the processes and strategies that can be used for climate risk management, urban mitigation, and health intervention. Topics of interest include:

- Urbanisation and climate change
 - Impacts of climate change on extreme weather events and air pollution
 - Climate-aerosol pollution interactions across the urban environment
 - Urban health impacts of extreme weather and climate
 - Urban health impacts of aerosol pollution
- is re-appointed his editorship with BMC Public Health as an editorial board member for the "Environmental Health" section.

- guided an undergraduate student, and co-published the following article as a corresponding author with this student, in “Annals of the American Association of Geographers”. This study reproduced the conceived spaces and lived spaces for foreign domestic workers in Hong Kong.

King Kim Mok, **Hung Chak Ho*** (2021). Finding a home away from home: an explorative study on the use of social space with the voices of foreign domestic workers in Hong Kong. Annals of the American Association of Geographers, DOI: 10.1080/24694452.2020.1813542 (forthcoming).

Abstract: *Being far away from friends and family, and sometimes facing hardships at work and in society, foreign domestic workers in Hong Kong have a strong need for access to social space to gather together and to empower each other. At the same time, social space can satisfy their needs for privacy, which has been stripped away from them due to the mandatory live-in rules in the employer’s home. In view of this, we devised an explorative case study to probe into the significance and usage patterns of social space by foreign domestic workers and reported our findings using their own statements and experiences. We found that the dual-functional social space had been an important physical attribute that aided the development of their social identity, and that they have achieved partial success in sharing—or taking over—the social space that was never intended for the sake of their well-being.*

- published the following article for the assessment of planned shelters for post-disaster displacement after severe floods in China.

Shuang Zhong, Minghu Pang, **Hung Chak Ho**, Edward Jegasothy, Susan Clayton, Zhe Wang, Cunrui Huang (2021). Assessing the effectiveness and pathways of planned shelters in protecting mental health of flood victims in China. Environmental Research Letters, DOI: <https://doi.org/10.1088/1748-9326/abc446>

Background: *Evacuation and sheltering are commonly used strategies for disaster risk reduction and climate change adaptation, but may negatively affect the mental health of internally displaced persons (IDPs). Recently, Chinese governments have developed planned settlements providing integrated and intensive health services and environmental interventions to reduce immediate disastrous impacts and support the mental health of IDPs.*

Methods: *Here we selected 69 planned shelters by stratified sampling to describe the implemented interventions conducted in Anhui Province of China after the 2016 severe floods, and we used standardised psychological scales to survey the intervention group (IDP who lived in these planned shelters) and the matched control group (victims living in their homes). Multivariable Logistic Regression was used to examine the association between social-demographic characteristics, flooding exposure, environmental conditions and the psychological diseases. Adjusted Odds Ratios (ORs) were calculated to compare their prevalence of psychological diseases, and to identify the influencing factors through comparing multiple interventions. Finally, the Structural Equation Modeling (SEM) was used to identify their influencing pathways.*

Results: Compared with the control group, the intervention group had a significantly lower risk of anxiety (OR=0.36; 95%CI: 0.18-0.71), depression (OR=0.36; 95%CI: 0.19-0.68) and post-traumatic stress disorder (OR=0.29; 95%CI: 0.15-0.56). Environmental interventions providing clean water, safe food, environmental hygiene, risk communication and sufficient accommodation had a protective effect (standardised indirect effect = -0.153, $p < 0.01$) on the risk of psychological problems, mediating the negative effect caused by displacement and sheltering.

Conclusions: How planned shelters were used to achieve better mental health outcomes in Anhui could inform other flood-prone areas to mitigate psychological vulnerability of IDPs.

- joined the Global Burden of Disease's team to co-publish a viewpoint article in The Lancet.

Murray et al. [GBD 2019 Viewpoint collaborators] (2020). Five insights from the Global Burden of Disease Study 2019. *The Lancet*, 396, 1135-1159. DOI: [https://doi.org/10.1016/S0140-6736\(20\)31404-5](https://doi.org/10.1016/S0140-6736(20)31404-5)

Abstract: The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019 provides a rules-based synthesis of the available evidence on levels and trends in health outcomes, a diverse set of risk factors, and health system responses. GBD 2019 covered 204 countries and territories, as well as first administrative level disaggregations for 22 countries, from 1990 to 2019. Because GBD is highly standardised and comprehensive, spanning both fatal and non-fatal outcomes, and uses a mutually exclusive and collectively exhaustive list of hierarchical disease and injury causes, the study provides a powerful basis for detailed and broad insights on global health trends and emerging challenges. GBD 2019 incorporates data from 281 586 sources and provides more than 3.5 billion estimates of health outcome and health system measures of interest for global, national, and subnational policy dialogue. All GBD estimates are publicly available and adhere to the Guidelines on Accurate and Transparent Health Estimate Reporting. From this vast amount of information, five key insights that are important for health, social, and economic development strategies have been distilled. These insights are subject to the many limitations outlined in each of the component GBD capstone papers.

- partners with the Hong Kong Jockey Club Disaster Preparedness and Response Institute (HKJCDPRI) and serves as a principal investigator for "Mental Health in a Post-disaster Urban Context: Planning, Design and Policy", a project funded by HKU's Knowledge Exchange (KE) Funding Scheme for Impact Projects.

Project Summary:

It is still an unknown as to how we will live (or survive) in the "post-COVID-19" Hong Kong. In what way we should develop urban plans and how we can build up urban resilience for post-disaster recovery are the critical questions that we should ask. Particularly, planning strategies to reduce mental health issues in a post-disaster urban context is yet to be investigated. Linking to Henri Lefebvre's idea of "production of space", this community project will provide placemaking workshops for participatory urban planning in various community-settings. Brainstorming and interacting with urban professionals, social service providers

and local residents, the placemaking workshops will illustrate and generate various ideas of “lived spaces” for urban resilience and mental health recovery. Through the workshops as well as public dissemination materials, knowledge of “resilient neighbourhood” will be provided to (and exchanged with) the general public and stakeholders.

4. Dr. Jianxiang Huang

- organised a sharing session for the Sustainability Lantau Office (SLO) of the Civil Engineering and Development Department (CEDD), HKSAR Government on October 30, 2020 in Room 829, Knowles Building, The University of Hong Kong. **Prof. Chris Webster**, Dean of Architecture, kicked off the session as Chair to present research ideas on smart, green, resilient and carbon neutral initiatives. With the online participation of Prof. Phillip Jones, Chairs of Architectural Science and Low Carbon Research Institute (LCRI), Cardiff University, UK, as well as the support of **Dr. Mengdi Guo, Dr. Derrick Ho and Ms. Tongping Hao**, we had fruitful exchanges with Mr. Terence Lam, Assistant Director (Technical) of CEDD; Mr. Fong Hok Shing, Michael, JP, Head of SLO; and a team of professional engineers and town planners from SLO. Among other matters discussed were a) FoA’s contributions to analysing and optimising various environmental, economic and other urban performance measures of the new island city and b) its shape.



5. Professor Bo Sin Tang

- has published the following journal paper:

Tang, B.S., Wong, S.W., Ho, W.K.O. and Wong, K.T. (2020). Urban land uses within walking catchment of metro stations in a transit-oriented city. Journal of Housing and the Built Environment, 35, 1303-1319. DOI: <https://doi.org/10.1007/s10901-020-09743-7>.

Abstract: *Investment in rapid transit infrastructure brings spatial changes in cities. Urban land uses compete to occupy precious, accessible locations around metro stations. This study explores the land use characteristics and spatial distribution of private development within a 500 m walking catchment of metro stations of Hong Kong between 1981 and 2017. It concludes that, while metro stations continued to be a magnet to commercial-office development, especially within and near traditional CBD districts, they have gradually spread to the outer industrial districts. Housing uses were being pushed and pulled out of the urban core. Proximity to a metro station has a strong, positive impact on both Business and Hospitality Land Uses, relative to housing and industrial development. Planning*

policies have played a strong role in influencing the land use selection of private developers on land within the station catchment areas, leading to a high inter-station differentiation of land use mixes. Relaxation of government regulations, coupled with market circumstances, caused a recent wave of new development of hotels and serviced apartments which out-competed commercial-offices in occupying prime locations near stations.

- was invited to give the following keynote speech on November 1, 2020:

Tang, B.S. (2020). Planning Intervention in Real Estate Market. Keynote Speech at The Planners and Real Estate Market Webinar, University of Moratuwa, Colombo, Sri Lanka, November 1, 2020.



Healthy High Density Cities Lab

1. Ms. Ka Yan (Yvonne) Lai, Dean Webster and Dr. Chinmoy Sarkar

- published a paper in collaboration with colleagues from the School of Public Health and School of Biomedical Sciences at HKU and the Department of Psychiatry at the University of Oxford, UK, in Science of the Total Environment:

Ka Yan Lai, Chinmoy Sarkar, Michael Y. Ni, Lydia W.T. Cheung, John Gallacher, Chris Webster (2020). Exposure to light at night (LAN) and risk of breast cancer: A systematic review and meta-analysis. Science of the Total Environment, 143159. DOI: <https://doi.org/10.1016/j.scitotenv.2020.143159>

Background: *With the unprecedented urbanisation, light pollution has emerged as a ubiquitous problem, and there has been accumulating evidence on the links between exposure to light at night (LAN) and breast cancer risk. We conducted a systematic review and meta-analysis of published studies on the associations between LAN exposure and breast cancer risk.*

Methods: *We included all observational human studies wherein the exposure variable was LAN measured in indoor and outdoor environments, and the outcome was breast cancer. We employed summary relative risks (SRR) for breast cancer by comparing highest versus lowest categories of LAN exposure*

within a random-effects model. The National Toxicology Program's (NTP) Office of Health Assessment and Translation (OHAT) risk of bias rating tool was adopted to assess the risk of bias in individual studies and the Grading of Recommendations Assessment, Development and Evaluation (GRADE) guideline was employed to assess confidence in the body of evidence.

Results: A total 14 studies comprising four cohorts (13,155 cases among 373,153 exposed subjects), nine case-control and one case-referent studies of female subjects (39,757 cases and 21,541 controls) across seven countries and published between 2001 and 2020 were included for review. Participants in the highest LAN exposure category were associated with higher risk of breast cancer in reference to those in the lowest (SRR: 1.12; 95% CI: 1.06–1.18; I² = 39% for outdoor LAN, and SRR: 1.13; 95%CI: 1.05–1.21; I² = 19% for indoor LAN). Pooled evidence identified relatively pronounced association of outdoor LAN exposure and breast cancer among women with estrogen receptor positive (ER+) tumor (SRR: 1.21; 95% CI: 1.04–1.40) and premenopausal status (SRR: 1.21; 95% CI: 1.06–1.37). The final rate of confidence in the body of evidence generated was graded as 'moderate' based on the GRADE guideline.

Discussion: LAN exposure was consistently associated with higher breast cancer risk, corroborating NTP's recommendations which anticipate excessive LAN as human carcinogen.

Keywords: light pollution; light at night; breast cancer; melatonin; meta-analysis

2. Dr. Chinmoy Sarkar

- published a paper in collaboration with colleagues at Tongji University, in Population, Space and Place:

Yang Xiao, Siyu Miao, **Chinmoy Sarkar** (2020). Social ties, spatial migration paradigm, and mental health among two generations of migrants in China. Population, Space and Place, e2389, DOI: <https://doi.org/10.1002/psp.2389>

Abstract: Despite emerging literature on the effects of cross-border ties on international immigration's mental health, research concerning China's internal migrants' mental health remains scarce. After 40 years of China's "one-child policy," new-generation migrants (born after 1980) have been found to have poorer mental health status. With smaller family structures, previous studies found that new-generation migrants were more likely to be affected by migration-related stresses, with social ties having mixed effects on their mental health. In this paper, we examine the effects of local ties (in host cities) and trans-local ties (in the migrants' original home locations) on China's rural and urban migrants' mental health by using a national-level survey data comprising N = 16,000 participants. We focus on whether these relationships vary among the four categories of migrants—grouped according to their place of origin and date of birth. The study results show that both local and trans-local "kinship" ties have positive effects on migrants' mental health, whereas participation in organisations or activities have negative effects. In addition, new-generation migrants are found to have relatively poor mental health, being more easily affected by trans-local kinship ties. Moreover, participation in local activities has more significant adverse influence

on interprovincial floating migrants, who have poorer mental health than the intraprovincial group. The study deciphers underlying negative health consequences attributed to the one-child policy and calls for intraprovincial mobility with local urbanisation. The study concludes that social integration of new-generation migrants can act as a protective intervention aimed at enhancing the mental capital of Chinese cities.

Keywords: mental health; new-generation migrants; one-child policy; social tie; spatial migration paradigm

iLab

1. Professor Wilson Lu

- received the Construction Industry Council (CIC) BIM achievement award 2020 with Prof. George Huang (Chair Professor, Dept. of IMSE, HKU), Dr. Ray Zhong (Assistant Professor, Dept. of IMSE, HKU), and Dr. David Leung (LSCM).



- was invited to give the following talks:

- i) “Digital Construction: Some Experiences from Hong Kong”, to the University of Reading, UK, on June 29, 2020.



- ii) “DfMA, BIM, and Blockchain for Cross-border Construction Logistics and Supply Chain Management: A Hong Kong Study”, to Louisiana State University, US, on October 29, 2020, as part of the Center of Leadership Development in Built Environment Sustainability (CLDBES) Program.

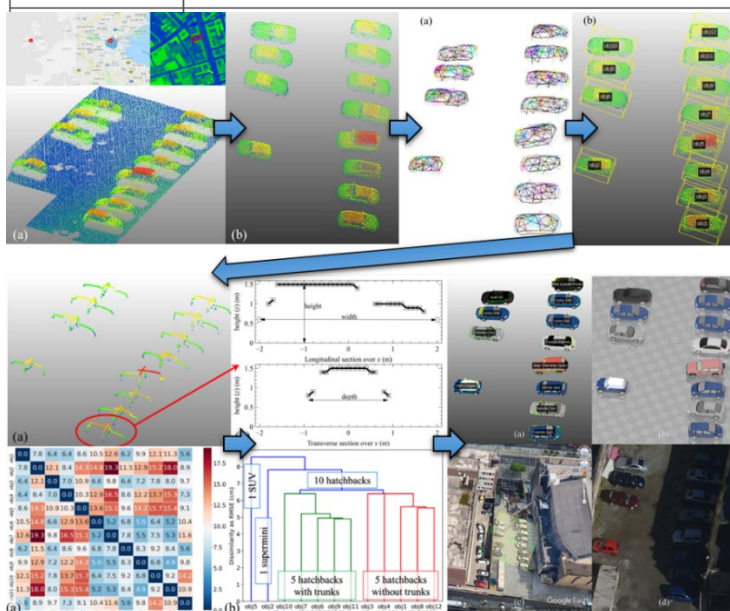


2. Dr. Frank Xue

- was invited to deliver an online talk, entitled “Blockchain for Smart Construction” in The joint 6th Summer School of Frontiers in Construction Management and Cloud Summer Camp of College Students in Civil Engineering, Huazhong University of Science and Technology, July 2020, Wuhan, China.
- presented a conference paper: **Xue, F.**, Guo, H., & **Lu, W.** (2020). Digital twinning construction objects: Lessons learned from pose estimation methods. In The Joint Conference ICCCB E and CIB W78 2020. DOI: <https://doi.org/10.46421/2706-6568.37.2020.paper023>
- received a Seed Fund for Basic Research for his project entitled “Matrix City: Big Data-driven Semantic Vector Modeling for Urban Computing”, at the amount of HK\$55,460.
- has written the following paper, which is selected as the Featured Article of a top journal, the ISPRS Journal of Photogrammetry and Remote Sensing (IF = 7.319, ranked 1/50 in Physical Geography, 5/200 in Multidisciplinary Geosciences, 3/30 in Remote Sensing, according to JCR 2019):

Xue, F., Lu, W., Chen, Z., & Webster, C. J. (2020). From LiDAR point cloud towards digital twin city: Clustering city objects based on Gestalt principles. ISPRS Journal of Photogrammetry and Remote Sensing, 167, 418-431. DOI: <https://doi.org/10.1016/j.isprsjprs.2020.07.020>

From LiDAR point cloud towards digital twin city:
Clustering city objects based on Gestalt principles
Fan Xue, Weisheng Lu, Zhe Chen, Christopher J. Webster
Vol. 167, Pages 418-431



3. Mr. Vikrom Laovisutthichai, PhD Fellowship student supervised by Professor Wilson Lu (Primary Supervisor) and Dr. Frank Xue (Co-Supervisor)
- was invited by the Faculty of Architecture, Chulalongkorn University, Thailand, to give a lecture on “Introduction to Architecture and Construction in China” on November 4, 2020.

4. Ms. Jinying Xu, PhD student supervised by Professor Wilson Lu (Primary supervisor) and Dr. L H Li (Co-Supervisor)
 - organised a workshop with two speakers, Dr. Eric Jing Du (Associate Professor) and Dr. Yangming Shi (Postdoctoral Research Fellow) from the Department of Civil and Coastal Engineering, Herbert Wertheim College of Engineering in the University of Florida, US, to deliver a workshop titled “Investigating Information Personality of Construction Workers Based on Virtual Reality Training Data” via an online Zoom meeting. There were more than 50 participants joining the workshop.



Sustainable High Density Cities Lab

1. Dr. Jianxiang Huang
 - spoke online at the 5th International Conference on Universal Village (IEEE UV2020), held during October 24-27 in Boston, MA, United States. He presented in two parallel sessions (1-A, and 9-A). His presentation topics were “A City is Not a Tree: Testing Christopher Alexander’s Theory Using New Urban Data” and “Characterising Public Perception of Urban Environmental Pollutions Using Geo-coded Twitter Data: A Case of the Greater Taipei Metropolitan Region”.

THE 5TH IEEE UV2020

OCTOBER 24-27 BOSTON USA

www.UniversalVillage.org

Due to the COVID-19 pandemic, IEEE UV2020 will be held as an online conference.

SESSION 1-A

Vision for Universal Village and UV Indices

DATE: Sunday, Oct 25
TIME: 20:00-24:00
**U.S. Eastern Standard Time*

MEET OUR SPEAKERS

Session Chair

Dr. YU Yifan
Professor in Urban Planning at Tongji University

Keynote Speaker

Prof. Dejing Dou
Head of Big Data Lab (BDL) and Business Intelligence Lab (BIL) at Baidu Research
Title: Joint Research on Big Data, Deep Learning, and Smart City

Prof. YANG Junyan
Tsinghua University, China
Title: From job-housing balance to diversity: evaluating the diversity of urban job-housing commuting and its influencing factors based on multi-source big data

HUANG Jianxiang
Assistant professor, University of Hong Kong
Title: A City is Not a Tree: Testing Christopher Alexander's Theory using New Urban Data

Li Jian
Associate professor, Tongji University
Title: The Monitoring Indices of Territorial Spatial Planning in China: A Perspective of Human Mobility

ZHOU Xingqiang
Assistant Professor, Tongji University
Title: City Diagnosis with the City Intelligence Quotient (CITY IQ) Evaluation System: Case study of Yangtze River City Cluster, China

LIU Liu
CityTech Co LTD
Title: Mapping with image: analysis based on urban visual context

SUN Ziwen
San Francisco University of Education
Title: The development model of digitally-integrated, intelligent, ecological and sustainable in the perspective of smart building



TOPICS

- Joint Research on Big Data, Deep Learning, and Smart City
- From jobs-housing balance to diversity: evaluating the diversity of urban job-housing commuting and its influencing factors based on multi-source big data
- A City is Not a Tree: Testing Christopher Alexander's Theory using New Urban Data
- The Monitoring Indices of Territorial Spatial Planning in China: A Perspective of Human Mobility

For sessions and more information, please see the UV website: <http://universalvillage.org>

THE 5TH IEEE UV2020

OCTOBER 24-27 BOSTON USA

www.UniversalVillage.org

Due to the COVID-19 pandemic, IEEE UV2020 will be held as an online conference.

SESSION 9-A

Urbanization and Smart Communities

DATE: Sunday, October 25
TIME: 8:00 pm--12:00 am
**U.S. Eastern Standard Time*

MEET OUR SPEAKERS

Keynote Speaker

Dr. JIANXIANG HUANG
Associate professor in the Department of Urban Planning and Design, Faculty of Architecture, the University of Hong Kong (HKU)

Keynote Speaker

Dr. Mengdi Guo
Fudan University

Keynote Speaker

Dr. Shan Jiang
The Ellen Fok Architect, JAC, and Green Future Assistant Professor in the Department of Urban and Environmental Policy and Planning, and the Adjunct Assistant Professor in the Department of Civil and Environmental Engineering at Tufts University



TOPICS

- After-School Tutoring, Household Substitution and Student Achievement: Experimental Evidence from Rural China
- Characterizing Public Perception of Urban Environmental Pollutions using Geo-coded Twitter Data: A Case of the Greater Taipei Metropolitan Region
- Critical Urban Data Science for Resilient Smart Urbanism

OVERVIEW

The ratio of city population will increase from 50% to 70% in the world. The rapid urbanization makes it hard for new residents to access city resources and public services and poses new challenges, including crowdedness, traffic, energy, pollution, individuals can form communities with common characteristics like interest, geography, experience, etc. Smart communities have special features and functions in the city.

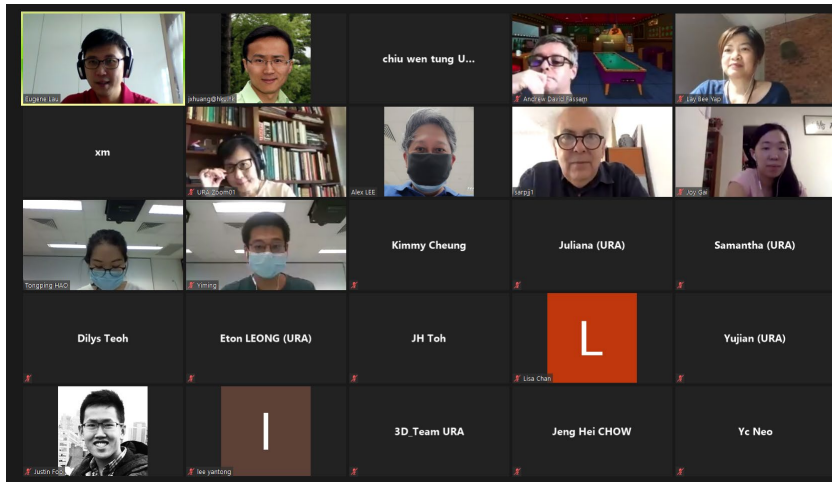
For sessions and more information, please see the UV website: <http://universalvillage.org>

THE 5TH INTERNATIONAL CONFERENCE ON UNIVERSAL VILLAGE
OCTOBER 24-27, 2020 | BOSTON MA USA

- was invited as a speaker at the Conference on Sustainable Planning and Development of the Guangdong-Hong Kong-Macau Greater Bay Area, jointly organised by Guangdong Territorial Spatial Planning Association and the Planning and Development Division of the Hong Kong Institute of Surveyors (廣東省國土空間規劃協會 與 香港測量師學會規劃及發展組 聯席會議:「粵港澳大灣區可持續規劃及發展」) on September 26, 2020. The Conference featured three other speakers: Director Xiangming Ma, Chief Urban Planner, Guangdong Urban Planning and Design Research Institute; Prof. Shifu Wang, Associate Dean, School of Architecture, South China University of Technology; and Prof. Alvin Yip, Programme Director of UNESCO Hong Kong Association, Visiting Professor and Vice Dean of City Design Innovation at Central Academy of Fine Arts in Beijing. Dr. Huang's presentation topic was "A Climate Change Perspective of Urban Environment and Health for the Greater Bay Area".



- spoke with Prof. Phil Jones at a sharing session organised by the Urban Redevelopment Authority of Singapore on July 23, 2020. Dr. Huang's presentation topic was "Numerical Simulation for Healthy and Sustainable High Density Cities". The meeting was attended by members of the SHDC lab and the Urban Redevelopment Authority, including Mr. Andrew David Fassam, Senior Director (Urban Planning); Mr. Eugene Lau, Deputy Director (Urban Design Technology); Ms. Siew Leng Fun, Chief Urban Designer; Ms. Lay Bee Yap, Group Director; Ms. Adele Tan, Group Director (Strategic Planning); and Mr. Chiu Wen Tung, Group Director (Research and Development), among others.



Virtual Reality Lab of Urban Environments & Human Health

1. Dr. Bin Jiang

- has been invited by The Global Platform for Sustainable Cities (GPSC) to present at the [GPSC Global Online Series](#) the research topic of "How Built Environment Influences Physical and Mental Well-being of Urban Residents", on Friday, October 30, 2020.

The Global Online Series, led by the World Bank Group, is organised by GPSC to focus on how cities can leverage the COVID-19 pandemic's unprecedented disruption to facilitate a green recovery and improve their long-term urban sustainability.



2. Dr. Bin Jiang and Dean Webster

- have co-authored the following paper, which has been accepted for publication:

Dorita H F Chang[#], Bin Jiang[#], Nicole H. L. Wong, Jing Jun Wong, Chris Webster*, Tatia M.C. Lee* (2020). The human posterior cingulate and the stress-response benefits of viewing green urban landscapes. NeuroImage. [Manuscript No.: NIMG-20-2167R1].

[#] Both authors contributed equally to this work

* Co-corresponding authors

NeuroImage (IF: 5.902) is a journal that publishes original research articles, papers on methods, models of brain function, as well as positions on contentious issues. The journal strives to incorporate theoretical and technological innovations and is committed to publishing the highest quality papers in both print and electronic media. The editors and the editorial board members come from highly diverse specialties, reflecting the fact that imaging neuroscience is a multi-disciplinary science.

Abstract: *The mechanistic and neural bases of why green environments drive positive mental health outcomes remain poorly understood. We show that viewing green urban landscapes that vary in terms of green-space density elicits corresponding changes in the activity of the human ventral posterior cingulate cortex that is correlated to behavioural stress-related responses. We further show that cingulate responses are engaged early in the processing cascade, influencing attentional and executive regions in a predominantly feedforward manner. Our data suggest a key role for this region in regulating (nature) dose-dependent changes in stress responses, potentially through its extensive connections to the prefrontal and hippocampal regions which in turn project towards the neuroendocrine system. As the posterior cingulate cortex is implicated in a variety of neurological diseases and disorders, these findings raise a therapeutic potential for natural environmental exposure, highlighting green-cover as a modifiable element that links to changes in limbic responses, and has health consequences for practitioners and city-planners alike.*

Keywords: *nature; green urban landscapes; stress; mental health; fMRI*