Urban violence

Over recent months we've had Dean's Roundups on *urban ugliness* and *urban beauty*. This time it's *urban violence*.

The world seems to have become a more violent place lately. First there was geopolitics and then the Oscars. The Hollywood altercation reminds us that violence is not just physical. Was the joke any less violating than the slap? The media discussion has tended to revolve around the balance and proportionality of the two. It was a hand slap not a fist, implying moderation and symbolism more than intention to damage.

The best explanation for swearing as a universal cultural phenomenon is that it is *verbal violence.* All societies need a verbal substitute to destructive physical violence. Swearing is like organised sport in that sense. Words that are powerful at communicating offence and able to immediately shock, emerge in a language over time. It is significant that in most languages, swear words originate as references either to religion or animalistic human behaviour. They offend our sense of being civilised animals and our sense of being more than animals. When they carry a direct personal attack, they are that much more powerful. Each new generation tends to evolve its own vocabulary for verbal violence as the effectiveness of weapons inherited from parents is dulled by familiarity and acceptability.

Intention is important in society's attitude to violence. Defensive physical violence is ok, offensive physical violence is not. The world applauds when western European governments send rockets to Ukraine to be used against elite tank regiments and hapless Kazak conscripts but raises its hands in horror at Russia's shelling of Ukrainian troops and civilians. Some silently cheered at Will Smith's angry heckling of the Oscar comedian's gratuitous use of Smith's wife's health condition to gain a cheap laugh.

Psychoanalysts tell us that a single criticism or put-down can have the effect of cursing a child's whole life. Will the ban on parents slapping children, now in operation in Scotland, Wales, Scandinavian countries and elsewhere, mean that parents tend to resort to more verbal violence as a disciplinary method for defining behavioural boundaries, with potentially longer-term damaging effects?

What about urban violence? Not violence on the streets, but violence *of* the streets or *by* the streets. Do urban environments alienate, brutalise, harm and offend? That's an empirical and philosophical research question as well as a challenge to architects and urban planners and designers. If so, in what ways? What are the extreme case examples we can learn from, generalise from and study further? Is there defensive and offensive violent city fabric? The world tends to love castles – possibly the most extreme form of architecture with a defensive purpose. The world is not always impressed with architectural forms that take the offensive against established cultural norms and forms. Brutal architecture from the early days of 20th century modernism being the obvious case. As I'm sure I've said in a Dean's Roundup before, the only building I've been in that has really sent a chill down my spine is Shanghai's *1933* (I have not visited what's left of the Nazi death camps). The carefully thought-out architecture that enticed cattle, by steadily rising wide ramps, to use the last of their own living energy as part of the grand slaughter machine (walk up four floors yourself, then we can use gravity to dispose of your entrails and blood, and hang your carcass out to dry above roof level) is truly chilling. But some such modernist monsters we come to love, like the medieval castle's crenelations. 1933 is now a creative industry cluster and culture and arts centre. Perhaps architecture has to be offensive to progress?

Paris's low-income suburbs, much of Moscow's inner and outer city, certain English new towns and almost the entire former Yugoslavia, show that designed cities can have depressing and brutalising effects on their peoples. Some, possibly many, of China's social housing projects arising from the Mainland's ambitious, well-meant and otherwise impressive housing-security policy, are following the European mistake of concentrating poverty and disadvantage in large planned estates too far from urban centres to be positively integrated into the life blood of the city. The ones I have visited have all been nicely designed, landscaped and to some extent serviced – it is their planned location and potential for ghettoisation that have a more brutal edge.

If avant-garde architects and planners have led the charge of offensive violence by design over the past century, where was the defensive violence in response? Or have the passive urbanites, particularly the urban poor who were the most subject to brutalising architectural vision, had no power or platform to fight back?

What about the massification of low/no-design suburban estates in various forms of retrospective, rationalised-traditional, post-modern (and parallel-to-modernist) pastiche house designs? Neo-Georgian, mock-Tudor and Prince Charles-style neo-village houses now litter what was prime agricultural land around all major UK cities. These were built by a mass house-building industry,

by template and at inhumane and unnecessary densities. They sold like hotcakes to the rising numbers of propertied lower middle classes who had been emancipated by general post-war prosperity, aided and abetted by Prime Minister Margaret Thatcher's and then centrist New Labour's social reforms. These homes were not even built by architects using pattern books – pattern books generated the distinctive Victorian architecture a century earlier, which was also pastiche but had originality and quality. Perhaps the alliance between the nouveau suburbanising masses and the mass house-building industry (with the complicity of urban planners) was something of a defensive retort. Many of those buying what we English still fondly and snobbishly refer to as 'Barratt boxes' (Sir Lawrie Barratt being an early pioneer in mass private housing on green-field sites), will have been brought up in, or had family members living in, brutalist council housing estates. The simple choice of 'Georgian, Tudor, Village or neo-Victorian' appealed. The same dynamic is at work among the nouveau middle-classes in Shanghai and Shenzhen, buying their first 'commodity home' having been brought up in a *danwei* 5-floor walk-up or village house. They can choose from a more global palette than the conservative Brits, including Tuscany, Parisian, Californian and many others. Mass off-the-peg estate-built house design isn't intentionally defensive, but the massification of neo-traditional is certainly a market-mediated popular expression of 'the kind of homes we really want to live in'. It is not as violating of human needs, aspirations and sensitivities as the modernist's over-designed, over-planned and over-condescending residential architecture. But it does violence to the land, ecology, landscape and rural way of life.

Back to intention. Arrogance, as we have seen in Ukraine's plight, is often the partner of violence. Perhaps arrogance in design breeds violence *of* or *by* the streets. *I* assert *my* views, agenda and preferences on others. Arrogance goes hand in hand with both elitism and violence.

Are community designers like our Joshua Bolchover, John Lin, Donn Holohan and Juan Du the saints in this story, aiming to lift low-income families from the violence of utilitarianism and subsistence urban and rural living? Perhaps those working on walkable cities and active transport are also saints, on a pacifying mission against the violence of vehicular traffic. In a road traffic accident, machines are violent to vulnerable humans and emissions from those machines violate our respiratory health and our planet.

The moral of the story? I'm not completely sure, but interesting questions include: what kinds of design or designing or planning minimise violation of others? Do we sometimes have to be violent in the short term in pursuit of longer-term benefits (eviction of insanitary slums)? Which is similar to the parental smacking question. Discuss.

Congratulations to all those listed below.

Chris
Dean, FoA

Department of Architecture

1. Dr Kristof Crolla

   - has been awarded a Teaching Development Grant (TDG) by the HKU Teaching and Learning Quality Committee (TLQC) for the following project:

     Project title: *Development of a Database of E-Learning Tutorials for Flipped-Classroom Teaching of Augmented/Virtual Reality Tools and Techniques for Architecture Design and Production* (Project No. 879)

     Amount of grant: HK$300,000

     Project duration: 12 months

2. Ms Tianying Li and Mr Haotian Zhang

   - participated in a panel discussion themed 'Forests of Errors and Glitches' at the SEA Annual Conference 2022, organised by the School of Environment and Architecture, Mumbai, on 12 March 2022, to present their ongoing research on digital representation, particularly 3D scanning. The video recording can be viewed at: https://www.youtube.com/watch?v=F9SuqEyREzg.
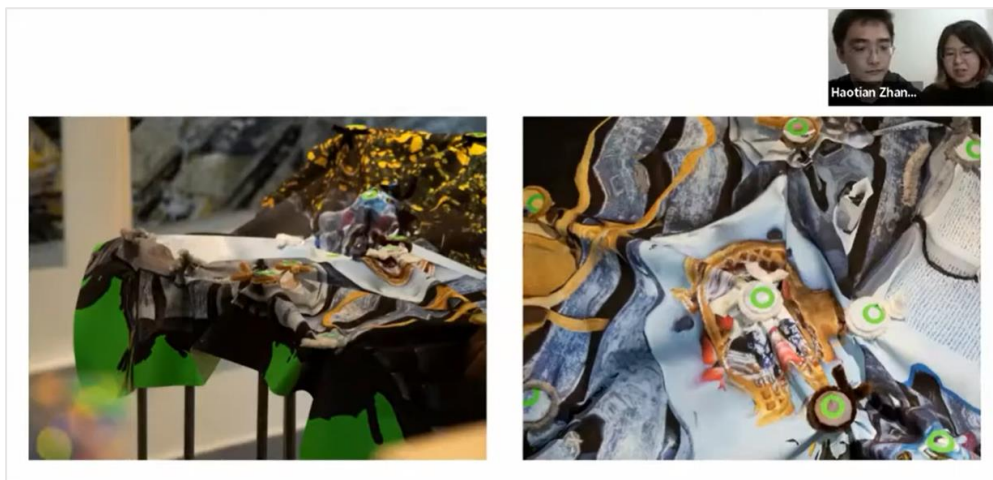
- curated an exhibition titled ['Image Recycling'](#) for the HKU Architecture Gallery at PMQ, to explore the aesthetic potential of point cloud and the methods to alter it without diminishing the realistic quality. The exhibition catalogue is available at: https://drive.google.com/file/d/1cnr-HVmaUxz3nxZFB2WuUl411IyMrCEH/view?usp=sharing.

Division of Landscape Architecture

1. Mr Nikolas Ettel

   - achieved the status of Fellow of Advance HE (FHEA) on 4 March 2022, in recognition of his attainment against the UK Professional Standards Framework for teaching and learning support in higher education. He has become a mentor and reviewer for the HKU Advance HE Fellowship Scheme, to support colleagues in their Fellowship applications and to review applications within the University.

2. Dr Chao Ren

   - has been invited by the World Meteorological Organization to become a core member of the Management Committee of the Global Heat Health Information Network for the period of 2022-2024, in recognition of her expertise and active contributions in the domain of extreme heat and human health.

   - has published the following paper:

   Zhang, C., Wang, Q., Chan, P. W., **Ren, C.**, & Li, Y. (2022). The effect of background wind on summertime daily maximum air temperature in Kowloon, Hong Kong. *Building and Environment*, *210*, 108693. https://doi.org/10.1016/j.buildenv.2021.108693

   Abstract: *The increased intensity of extreme weather events (e.g., heatwaves) that is predicted to occur due to global climate change could significantly impact human health, biodiversity, and infrastructure integrity in cities. As one of the most densely constructed cities in the world, Hong Kong has been experiencing increasingly intense heatwaves in recent years. However, the city presents a challenging site for studying urban climate due to its complex topography. Using*

observed weather data for clear summer (June to August) days from 2000 to 2020, we examine the relationship between background wind and daily maximum temperature in Kowloon, Hong Kong, and investigate how this relationship is affected by geographical location, land cover, and topography. We reveal the distribution of near-surface wind fields under calm weather conditions, which provides a basis for the analysis of relationship between background wind and maximum temperature in urban areas under windy conditions. We find that the maximum surface air temperature in coastal regions is significantly influenced by the background wind direction. For weather stations located in the Kowloon Peninsula, a larger background wind speed is associated with a faster increase in daily maximum temperature when the background temperature rises. We find that the mountain warming effect is influential in areas at the foot of a mountain, even though the maximum terrain height is only approximately 500 m a.s.l. These findings on the daily maximum temperature behaviour under different background wind conditions provide a possible way to predict extreme high-temperature patterns in different regions of Hong Kong.

3. Dr Jing Xie and Dr Chao Ren

   - have published the following paper:

     Wang, Z., Li, Y.*, Song, J., Wang, K., **Xie, J.**, Chan, P. W., **Ren, C.**, & Di Sabatino, S. (2022). Modelling and optimizing tree planning for urban climate in a subtropical high-density city. *Urban Climate*, *43*, 101141. https://doi.org/10.1016/j.uclim.2022.101141

***Abstract:** Urban trees affect urban climate via three processes: shading effect, evapotranspiration and wind resistance. However, large differences existed in the performance of different tree species and planting patterns. To quantify the effects of trees, we extended a heat-moisture coupled model by adding a new vegetation sub-model. The results showed that tree species with a higher leaf area index (LAI) and larger crown had a better capability of transferring sensible heat to latent heat. Sparsely planted trees provided a better cooling effect than densely planting pattern. The effect of trees was examined in urban areas with different densities. The effect of trees on urban wind environment depends on the building density of urban area. The large drag force posed by a high building density weakened the drag force of trees; thus, the negative effect of trees on urban ventilation was diminished in the high-density urban area. The negative effect of trees was also discussed from the perspective of urban moisture. This study demonstrates the need of strategic tree planting in terms of urban climate and provides insights into the creation of an urban greenery plan.*

4. Dr Jing Xie, Dr Chao Ren, Ms Xinwei Li and Mr Lamuel Chi Hay Chung

  - have published the following paper:

  Abstract: *City development experiences scale expansion from urban to rural regions and built-up intensification across urban domains. This study adopts the local climate zone (LCZ) scheme to investigate urban-rural urbanization gradients from a three-dimensional perspective. A time series of LCZ maps were developed over the last two decades, i.e., 1999, 2009, and 2019, using Earth observation data and machine-learning classification based on Google Earth Engine. Spatiotemporal changes of urbanization gradients and urban forms were captured by measuring the Euclidean distance of built-up LCZ types from compact high-rise patterns of 2019. Results showed that cities in the study region experienced pronounced spatial coverage expansion and compact and high-rise intensification between 1999 and 2019. This phenomenon was especially noticeable in zones close to compact high-rise patterns and periods from 1999 to 2009. In 2019, the GBA region showed central and sprawl urban forms; however, urban forms differed among the eleven cities. A city with more build-up LCZ areas or closer to the Pearl River estuary tended to present central and compact urban forms. In contrast, a city with less build-up LCZ areas or far from the estuary trended to show decentralized and sprawl urban forms. Our findings indicate that the urbanization-gradient derived from LCZ in mega-urban and urban areas is an effective indicator for characterizing urbanization development given the unique role of LCZ presented to differentiate urban expansion and intensification, as well as urban forms. LCZ scheme shows the potentiality in identifying urban central zones and measuring the urbanization gradient in mega-urban urban areas. Besides, the LCZ scheme provides a unique perspective to investigate the urban form of cities which exhibited polycentric structures.*

Department of Real Estate and Construction

1. Professor Lawrence Lai

   - shared his views on conserving the 'boundary marker stones' in Hong Kong, in an interview with the *Hong Kong Economic Journal* published on
     31 March 2022:

學者喻為活博物館　具教育價值

港大房地產及建設系的導師與學生，2015年實地考察時，在港島東西灣山尋獲刻有「B.O. No.4」的界石，雖有殘缺，但根據測量地圖，仍可判斷為英國軍需處（Board of Ordnance）1843至44年間設立，多名學者建議列為「一級歷史文物」，該系教授黎偉聰【圖】當時有份草擬提交政府的詳細報告，可是至今未列為文物。

指屬土地界線演變證據

黎直言政府對界石態度一向「唔係幾好」，不少在城市發展中消失；他認為界石是「活嘅博物館」，極具教育價值，「以前冇GPS，冇測量衛星定位，要靠呢啲石頭咁樣嚟整（劃界）。」現存界石是香港開埠以來土地界線演變的證據。

黎以維城界石為例，當年在界線以上的山頂區，華人不能置業，「當你回憶、講學或行山，話界下一代聽，你指住嗰啲（界石）就話到界人聽，以前中國人冇得喺呢度買屋啊。」文物比一紙文件更大機會保存，對了解產權及物權十分重要，「毀咗個標記，憑空諗好難㗎喎」。

不過，黎對政府開始製作文物地點名單感欣喜，「唔可以話遲，總要有個開始」，他又建議將來更新測量圖，重新標示界石，避免更多因工程等原因消失。

Department of Urban Planning and Design

1. Professor Anthony Yeh

    -   has launched a pilot project on Automatic Vaccine Pass App for HKU Car Entrances.

        To help combat COVID-19, Professor Yeh and his research team* at DUPAD, HKUrbanLabs, and Institute of Transport Studies (ITS) have developed a HKU Automatic Vaccine Pass App (HKUAutoCarPass), available on both Android and Apple mobile phones, for HKU staff to enter the car entrances on campus. With the new system, users are only required to show their Vaccine Pass on the App to the security guard, instead of having to tap the Green Reader with their HKU ID card. In addition to being more convenient and efficient, as there is no contact with the security guard and Green Reader at the car entrances, it also minimises the risk of viral transmission. This App is not using GPS, so it does not know or keep track on when and where the user is using the App. All the checking is done locally in the mobile phone of the user.

        [Click here to watch the demo video](#)

Auto Pass : Automatic Car Entrance Pass
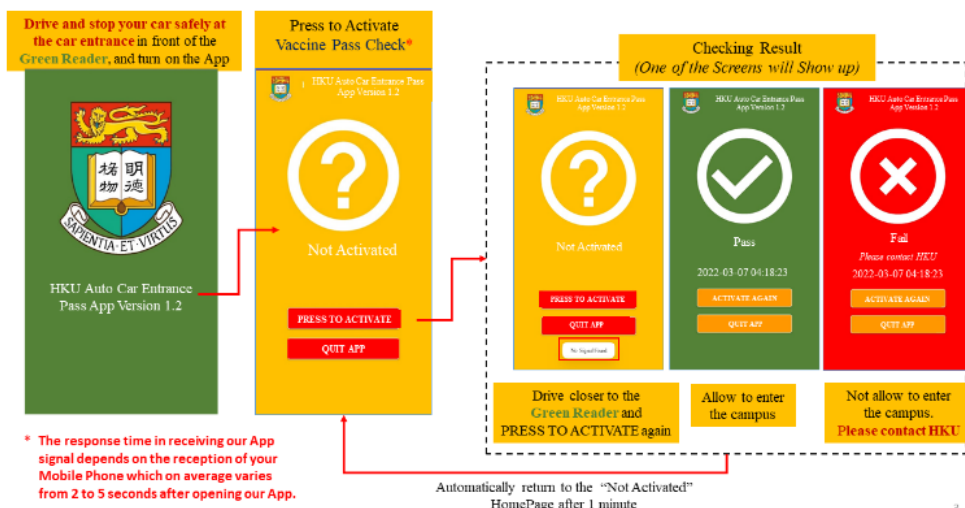
In line with the latest government policy, the University has required a Vaccine Pass for campus access starting from 28 February 2022 (https://covid19.hku.hk/control/hku-vaccine-pass/). HKU staff and students have to upload their vaccination records through the HKU Portal or HKU App and tap their HKU ID cards on the Green Reader at campus entrances for access to the campus. This App will save the trouble of driving users to stick their hands outside the car window or hand over their ID cards to the security guard to tap on the Green Reader at HKU car entrances. The App was officially launched as a pilot project on 12 March 2022.

Although the App is only used for HKU car entrances at the moment, it can be extended to pedestrian entrances for staff and students on a voluntary basis. This system can also be used as an alternative automatic method of LeaveHomeSafe, the official contact tracing app developed by the Hong Kong government, without having to scan QR codes before entering restaurants, shopping malls, supermarkets, and buildings. It can be used in public transport too, such as taxis, minibuses, and double-decker buses. This App was developed based on the patents of Professor Yeh and the related work of his Technology Start-up Support Scheme for Universities (TSSSU) supported start-up, AiCity Technology. It is funded by the Chan To-Haan Endowed Professorship Fund of the University of Hong Kong, Innovation and Technology Fund's (ITF) Public Sector Trial Scheme (PSTS), and Guangdong-Hong Kong-Macao Joint Laboratory on Smart Cities of the Guangdong New Innovative Strategic Research Fund (Project No.: 2020B1212030009).

*HKUAutoCarPass Research Team:

Post-doctoral Fellow: Dr Run Shi
PhD Students: Mr Guan Huang, Mr Maosu Li, and Miss Qiao Si
Research Assistant: Mr ZeHe Xiao

With the assistance of PhD students Mr Dong Li and Miss Zixin Luo.

2. Mr Shizheng Liang (BAUS Year 1 Student)

– has received the Laidlaw Scholarship to participate in the Laidlaw Scholars Programme 2021-22 in the University of Hong Kong.

The Laidlaw Scholars Programme equips students with research and leadership skills to pursue their academic and professional aspirations beyond their current course of study.

Centre of Urban Studies and Urban Planning

1. Mr Alain Chiaradia

   - has published the following paper:

   Soyinka, O., & **Chiaradia, A. J. F.** (2022). The landscape of informal economy research: a systematic review of transient trends, pivot, and emerging pattern: is there a spatial turn? *GeoJournal.* https://doi.org/10.1007/s10708-022-10611-w

   Abstract*: Informal economy (IE) activities contribute significantly to the contemporary urban dynamic. Multifaceted and prolific studies of IE are nearing 50 years. The concept of IE exists in diverse forms with discussion from different perspectives from a vast intellectual landscape. However, there is a lack of systematic review of IE literature knowledge domain evolution in relation to the broad spatial turn that has taken place in social sciences. The objective of this study is to investigate the landscape of IE research to explore and identify transient trend, pivot and emerging pattern of research front as markers of the evolution of knowledge of IE literature from a spatial turn perspective. A preliminary review establishes the platform for a systematic review. A scientometric semantic mapping of IE research extracted from 1,157 IE related articles retrieved from the Scopus database provided a panoramic view identifying intellectually significant articles/concepts to understand the intellectual base and its dynamic. The top 12 ranked articles were examined in-depth to further explore the IE spatial turn. Trends analysis confirmed that the IE schools of thought overlap and identified research fronts specialities. The study showed that "spatial turn" is yet to become a focus of IE studies in terms of research strategies and analytical methods. The findings suggest that the unexplored IE spatially integrated development strategies could be adopted for future research direction, with deployment of spatial analysis techniques. The recommendations are relevant to academics, professionals, and government agencies.*

2. Mr Yifu Ou (PhD student) and Dr Kyung-min Nam

   - have published the following paper:

   Ou, Y., Zheng, S., & **Nam, K.-M.** (2022). Impacts of air pollution on urban housing prices in China. *Journal of Housing and the Built Environment, 37*(1): 423-441. https://doi.org/10.1007/s10901-021-09845-w

   Abstract: *In this study, we examine pollution effects on urban housing prices in China, using a fixed effects 2SLS model on a 13-year (2005–2017) panel dataset of 237 prefecture-level cities. We find that urban*

housing prices are negatively associated with PM2.5 levels, presenting an elasticity of – 0.32 for the entire sample. In large cities with an urban population of ≥ 5 million, the elasticity further increases in absolute value to – 0.34, reflecting greater marginal benefit associated with a unit percentage PM2.5 reduction in a higher pollution band. In addition, PM2.5's effects on housing markets present temporal variations, and the base elasticity of – 0.29 for earlier periods increases to – 0.33 in the post-2008 period, reflecting increased public awareness of pollution-caused health risk after the Beijing Olympic Games. In the post-2014 period, however, the elasticity declines to – 0.24 with stricter pollution regulations introduced in late 2013 as part of the 12th Five Year Plan. Rational expectations regarding continued air-quality improvement in the future may underlie this trend.

# Future Urbanity & Sustainable Environment Lab

The Future Urbanity & Sustainable Environment (FUSE) Lab is a new research initiative launched by Dr Bin Chen of the Division of Landscape Architecture. It aims to leverage geospatial big data, data-model fusion, and advanced interdisciplinary approaches to investigate the interaction loops between urban environmental change, human activities, and public health, with the ultimate goal of contributing to sustainable and healthy cities.

FUSE Lab is now one of the Faculty's 15 HKUrbanLabs.

1. Dr Bin Chen

   - received Honorable Mention (Research Category) at the 2022 Hong Kong openBIM / openGIS Award on 23 March 2022, with his research project 'Mapping Parcel-level Urban Land Use Functions with Open Big Data and Machine Learning'.
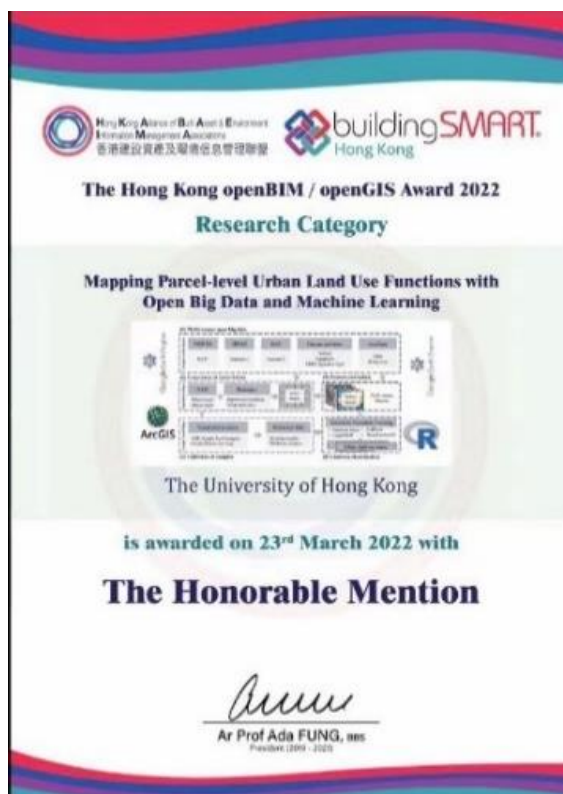
- has given the following invited lectures:

    (i) 'Human-Urban Environment Spatiotemporal Interaction', for the School of Energy and Environment, City University of Hong Kong, on 22 February 2022.

    (ii) 'Geospatial Big Data in Urban Environmental Studies', for the Department of Earth System Science, Tsinghua University, on 15 March 2022.

    (iii) 'Uncovering Human-Urban Environment Interaction with Multi-source Data and Interdisciplinary Approaches', for the IEEE TV channels, on 21 March 2022.

- has published the following book chapter:

    Chen, B.* & Song, Y. (2022). Changes of Urban Greenspace Coverage and Exposure in China. In A. Cheshmehzangi (Ed.), *Green Infrastructure in Chinese Cities* (pp. 173-189). Springer Singapore. https://doi.org/10.1007/978-981-16-9174-4_8

    Abstract: *Urban greenspace, as an essential component of green infrastructure, is particularly important in the urban environment that maintains the function and sustainability of urbanities. With the rapid economic growth over recent decades, China has been experiencing unprecedented urbanization processes, at the same time, leading to dramatic changes in urban land use and living environment. Therefore, understanding the spatiotemporal changes of urban greenspace coverage and how they impact on population's exposure to urban greenspace is a critical requirement for supporting urban planning and healthy city development. Although a number of studies have attempted to evaluate urban greenspace changes in China, a comprehensive and multidimensional assessment of urban greenspace coverage and exposure is still lacking. Meanwhile, the emerging geospatial big data provides unique opportunities to quantify the interaction between human activities and the green environment, which has been limitedly addressed. In this chapter, we retrospect some of our recent works on leveraging multi-source remote sensing and social big data to estimate the dynamics of greenspace coverage and exposure change for Chinese large cities. The expected findings will advance our understanding of the following questions in a more systematic way: (1) What is the spatiotemporal pattern of greenspace changes over the past two decades? (2) What is the temporal dynamic and heterogeneity in greenspace exposure? (3) How does urban expansion impact on greenspace exposure experience? (4) Are there any inequalities in greenspace exposure among Chinese cities?*

- has the following articles accepted for publication:

Abstract: *As a key component of wildfire activities, ignition is regulated by complex interactions among climate, fuel, topography, and humans. Considerable studies have advanced our knowledge on patterns and drivers of total area burned and fire frequency, but much is less known about wildfire ignition. To better design effective fire prevention and management strategies, it is critical to understand ignition patterns and predict the probability of wildfire ignitions from different sources. We here modeled and analyzed human- and lightning-caused ignition probability across the whole state and sub-ecoregions of California, USA. We developed maximum entropy models to estimate wildfire ignition probability and understand the complex impacts of anthropogenic and biophysical drivers, based on a historical ignition database. The models captured well the spatial patterns of human and lightning started wildfire ignitions in California. The human-caused ignitions dominated the areas closer to populated regions and along the traffic corridors. Model diagnosis showed that precipitation, slope, nighttime light, and road network shaped the statewide spatial distribution of human-started ignitions. In contrast, the lightning-caused ignitions were distributed more remotely in Sierra Nevada and North Interior, with snow water equivalent, lightning strike density, and Normalized Difference Vegetation Index (NDVI) as primary drivers. Separate region-specific model results further revealed the difference in the relative importance of the key drivers within different sub-ecoregions. Model prediction suggested spatially heterogeneous changes and an overall slight decrease in ignition probability between circa 2000 and 2010. Our findings reinforced and highlighted the importance of varying humans vs. biophysical controls in different fire regimes, in order to improve locally optimized land management to reduce ignition probability.*
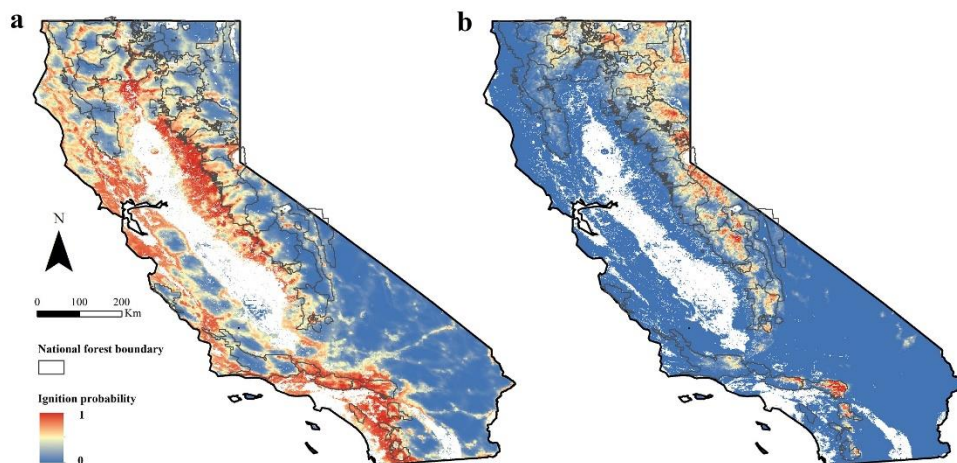
Predicted wildfire ignition probability

(ii) Du, Z., Yu, L., Yang, J., Xu, Y., **Chen, B.**, Zhang, T., Fu, H., & Gong, P. (2022). A global map of planting years of plantations. *Scientific Data.* (In press)

Abstract: Plantation is an important land use type that differs from natural forests and affects the economy and the environment. Tree age is one of the key factors used to quantify the impact of plantations. However, there is a lack of datasets explicitly documenting the planting years of global plantations. Here we used time-series Landsat archive from 1982 to 2020 and the LandTrendr algorithm to generate global maps of planting years based on the global plantation extent products in Google Earth Engine platform. The datasets developed in this study are in a GeoTIFF format with 30-meter spatial resolution by recording gridded specie types and planting years of global plantations. The derived dataset achieved a good consistency with other existing regional planting year products and could be used for yield prediction of tree crops and social and ecological cost-benefit analysis of plantations.