



# City+ 2019

**THE INTERNATIONAL CONFERENCE  
FOR PHD STUDENTS  
AND EARLY CAREER RESEARCHERS  
ON URBAN STUDIES**

**Venue: Hall T, Faculty of Architecture and the Built Environment  
Delft University of Technology**

**Julianalaan 134, 2628 BL Delft, The Netherlands**

**Time: 09:00-18:30, 11 Oct 2019**

**Contact: [2019cityplus@gmail.com](mailto:2019cityplus@gmail.com)**

# CITY+ 2019

## The International Conference For PhD Students And Early Career Researchers On Urban Studies

**Date/Time:** 09:00-18:30, 11<sup>th</sup> October 2019

**Venue:** Room T, Faculty of Architecture and the Built Environment, Delft University of Technology, 2628 BL, Delft

### Introduction

'City+' is the annual international conference for PhD students and early career researchers on urban studies. After being held in the UK for two years, this year 'City+ 2019' will take place at the Department of Urbanism of Delft University of Technology. This conference is in cooperation with University of Cambridge, University College London, University of Westminster, King's College London, and the Association for European Transport. The event is supported by 'City+', a UK-based research network led by PhD students and early career researchers who are working at the frontier of urban studies. This conference provides PhD students and early career researchers with a wonderful opportunity to share their knowledge and research experience of urban studies from their unique perspectives and to discuss the newest topics.

This event will contribute to the vibrant debate in urbanism, regarding its challenging question: To what extent can human efforts relating to the development of urban technologies and institutions promote the sustainability, liveability, and health of cities? This City+ event will help to learn about this debate, to become enriched with new knowledge, to learn from innovatory development, and to meet old and make new friends.

### Organised by

Fred Sanders, Delft University of Technology & City+ Group  
Juan Yan, Delft University of Technology & City+ Group  
Yan Song, Delft University of Technology & City+ Group

### Sponsored by

Department of Urbanism, Delft University of Technology

### Academic Advisory Board

Professor Wil Zonneveld (Delft University of Technology), Dr Ying Jin (University of Cambridge), Mengqiu Cao (University of Westminster), Dr Zhifu Mi (UCL) & Yang Song (King's College London)

## Programme – 11 October, 2019

09:30-  
10:00 **Registration & Coffee time**

10:00-  
10:30 **Welcome and Introduction**

- **Professor Machiel van Dorst (Delft University of Technology)**  
*Head of Department of Urbanism. He is an environmental designer and is specialized in environment-behaviour interaction and sustainable development. Behaviour research and design is related to control, social safety, community design, child friendly cities, health and stress reduction through design. For sustainable development the emphasis is on the combination of liveability and ecological design.*

10:30-  
11:30 **Session 1: Urban landscape and shrinking cities**

- **Moderator**  
  
**Dr. Chia-Lin Chen (University of Liverpool)**  
*Lecturer in Urban Planning. Her research interests lie in exploring the relationship between transport and territorial development on multiple spatial scales and associated planning issues such as inequality, polarisation, segregation etc., seeking possible strategies, solutions and policy implications by research and design.*
- **Presentations (10min each)**  
  
**Gabriel Lima (Drew University, USA)**  
*Generous cities: does the restorative quality of urban and natural spaces influence levels of generosity?*  
**Yue Shen (The Royal Danish Academy of Fine Arts, Denmark)**  
*Euthanasia of the Dilapidating Urban Machine*  
**Yiming Zhang (Nanjing University, China)**  
*Space Revolution and Reproduction: A Comparative study of Taoxichuan in Jingdezhen and Celadon Specialized Town in Longquan*  
**Lema Jaber (University of Milano-Bicocca, Italy)**  
*Informality and Urban Planning Theory*  
**Ruth Sepulveda Marquez (UCL, UK)**  
*Urban agriculture and social cohesion: the return to community life in Santiago*

11:30-  
12:30 **Session 2: Land use and transport planning**

- **Moderator**  
  
**Dr. Dena Kasraian (Eindhoven University of Technology)**  
*Assistant Professor Department of the Built Environment, Urbanism and Urban Architecture. With degrees and work experience in architecture, urbanism and transportation studies, she can conduct multidisciplinary research among these fields. She is proficient in quantitative spatial analysis, using geographic information systems and statistical packages.*
- **Presentations (10min each)**  
  
**Wufan Zhao (University of Twente, the Netherlands)**  
*Building Footprint Extraction from Aerial Scenes Using Dilated Convolutional Networks*  
**Guanqiong Che (Tianjin University, China & Cardiff University, UK)**  
*The 15minutes life circle construction in Tianjin, China—implications from the fractal structure of different land use types*

**Meng Wei (Chongqing University, China)**

*The Evaluation of Road Network Reliability in Mountainous Areas: A Case Study*

**Tianren Yang (University of Cambridge, UK)**

*Long-term potentials for land value uplift: A comparison among sub-centre planning strategies*

12:30-  
13:30

**Group photo & lunch**

13:30-  
14:30

**Session 3: Smart city and urban sustainability**

- **Moderator**

**Dr. Zhifu Mi (UCL)**

*Lecturer in Economics and Finance of the Built Environment. His research focuses on climate change economics and energy policy. He was awarded the 2018 World Sustainability Award for his leading research in the methodologies and applications of carbon footprint, and was selected to join the Forbes 30 Under 30 Europe in recognition of his innovative research in the economics of climate change.*

- **Presentations (10min each)**

**Di Wang (Chongqing University, China)**

*Does e-commerce change the rural urbanization? Analyze the impact of E-commerce-Urbanization-Environment and Resource coordinated development at county-level cities in Zhejiang, China*

**Helena Rong (MIT, US)**

*Designing with Data: Collective Intelligence in Urban Design*

**Lisa Kränke (Hochschule Bochum/Ruhr University Bochum, Germany)**

*Sustainable Urban Development - Governance and Participation in Urban Real World Laboratories: Case Study of Bochum Hamme*

**Henning Uck (University of Flensburg, Germany)**

*Potentials for technology and business model innovation in the energy and mobility sectors of smart cities*

**Macarena Gaete Cruz (Delft University of Technology, the Netherlands)**

*Making space for integration, public space for adaptation. Collaborative design approaches for resilient public space.*

14:30-  
15:30

**Session 4: Housing availability and affordability**

- **Moderator**

**Dr Marietta Haffner (Delft University of Technology)**

*Assistant Professor at Department of Management in the Built Environment. She is an economist by origin with more than two decades' experience in conducting comparative housing studies, particularly in housing finance and policy.*

- **Presentations (10min each)**

**Janine Bittner (Ruhr University Bochum, Germany)**

*The development of a housing market segment of loft living and its importance as a sectoral housing sub-market in major German cities – explained and discussed based on different case studies*

**Juan Yan (Delft University of Technology, the Netherlands)**

*Does Public Rental Housing Work in China? Tenants' Satisfaction*

**Roei Bachar (University of Milano-Bicocca, Italy)**

*Someone's Been Sitting in My Chair - Reflecting and Exploring the Conceptual Change of*

Home via Airbnb

**Arooj Khan (University of Birmingham, UK)**

*"Make Room for Us": Drawing Parallels Between the Colonial Past, Present and Future of Tilbury Town Through the Eyes of Children and Young People of Colour*

**Yin Jia (China Academy of Social Science, China)**

*Defending Gentrification! What china's city-middle-class do when communities fail*

15:30-  
15:45 **Coffee break**

15:45-  
16:45 **Session 5: Urban heritage preservation and renovation**

- **Moderator**

**Dr Gerdy Verschuure-Stuip (Delft University of Technology)**

*Assistant professor at Department of Urbanism. She is specialised in the transformation and revitalisation of heritage of buildings, landscape and city in both policy and design.*

- **Presentations (10min each)**

**Xiaowei Wang (Chongqing University, China)**

*A model to evaluate the correlation between risk factors on implementing urban renewal projects*

**Lan Li (Xi'an University of Architecture and Technology, China)**

*Urban Memory: Research on the Renewal of Industrial Heritage in Historical Area: The Case of Old Arsenal District in Taiyuan (China)*

**Weiyi Cao (Harvard University, US)**

*Lowell's Urban Redevelopment: Historic Preservation as Power Consolidation*

**Tongyun Du (University of Copenhagen, Denmark)**

*Investigating the relationship between social capital and satisfaction with current neighborhood under impact of urban renewal: a case study of Chongqing, China*

**Ye Zhao (Southeast University, China)**

*Research on integrated performance-based planning method of Chinese traditional rural settlements*

16:45-  
17:15 **Afterword and Goodbye**

- **Dr. Fred Sanders (Delft University of Technology)**

*Researcher at Department of Urbanism. Researcher and senior fellow, whose focus is on making cities sustainable by the power of people; the resilience of citizens included.*

17:30-  
18:30 **Drinks**

**All day Poster presentation**

- **Elvan Can (University of Westminster, UK)**

*Life Between Construction: The Current State of Istanbul*

- **Mario Giampieri (MIT, US)**

*Landscapes of retreat: exploring the linkages between climate-induced landscape change and shrinking cities*

- **Zhi-jing Yu (China University of Geosciences, China)**

*Research on urban green space renewal under urban shrinkage*

- **Jinglun Du (University of Westminster, UCL, UK)**

*Conceptualization of place quality in High-Speed Rail station areas: A Review*

- **Mengqiu Cao (Eindhoven University of Technology, the Netherlands)**  
*The Influence of Urban Public Transport Infrastructure on Social Equity within the Built Environment: An Investigation of Tramlink in London*
- **Sabina Favaro (IUAV University of Venice, Italy)**  
*Listening to the cities*
- **Yali Zhang (University of Sheffield, UK)**  
*How does online space reform, reproduce, transform public spaces though an online-daily life? An autoethnographical study based on online broadcasting utilising behaviours*
- **Biyue Wang (Delft University of Technology, the Netherlands)**  
*Towards integrated development of high-speed railway stations and urban areas through better planning processes in China*
- **Juncheng Yang (MIT, US)**  
*Valuing Building Design Through 3D Digital Model And Real Estate Transaction Data*
- **Vafa Dianati (UCL, UK)**  
*The Dynamics of Place Attachment and Perceived Density; Exploring the Impact of Urban Densification on Social Sustainability in Tehran.*
- **Xiaoming Li (UCL, UK)**  
*Research on the Network Based Spatial Synergistic Model Between Senior and Other Public Service Facilities in Urban Community*
- **Qing Han (Cardiff university, UK)**  
*Qingdao Practice of Resource and Environment Capacity Evaluation in Spatial Planning*
- **Yiyi Chen (Heriot-watt University, UK)**  
*Golf courses and life satisfaction: Evidence from Beijing resident survey, China*
- **Lu Jiang (UCL, UK)**  
*Who is energy poor? Evidence from least developed regions in China*
- **Tianyu Su (MIT, US)**  
*Entire home rather than private room: a monetary motivation study on Airbnb listings based on spatial cluster analysis and propensity score matching*
- **Yingxue Liao (Huazhong Agricultural University, China)**  
*Research on planning strategy of historical and cultural block based on urban catalyst theory ——a case study of Wuhan Yiyuan Road Historical and Cultural Block*
- **Zhexiao Wang (Huazhong Agricultural University, China)**  
*Exploring the Law of Existence of Informal Commercial Activities in Historical and Cultural Streets under the Concept of Sharing ——a Case Study of the Historical and Cultural District of the Russian Concession in Hankou*
- **Long Wang (Xi'an University of Architecture and Technology, China)**  
*Functional Integration and Site Protection of Small Wild Goose Pagoda*

## Abstracts of Papers & Posters

### **Session 1: Urban landscape and shrinking cities**

**Elvan Can (University of Westminster, UK)**

#### ***Life Between Construction: The Current State of Istanbul***

*The ongoing and increasing number of urban transformation projects in Istanbul have been associated with gentrification. This inevitably changes and shapes everyday life, streets, neighbourhoods and creates a city that is constantly under construction. Everyday life is experienced in and around construction. Public spaces, streets, parks and neighbourhoods are being transformed, emptied or even demolished. It is important to note that public space for this research is understood as a verb rather than a noun, something that is constantly given its meaning by the publics. Streets and neighbourhoods can be regarded as a manifestation of different publics and these are the places that publicness is being practised. The current use of public spaces is limited in Istanbul for different reasons: there are historical reasons, like the continuation of social*

*habits that tend to favour private spaces over public ones, and there are political reasons due to the increasing number of regeneration projects. Due to these projects, what the public shared and considered as 'collective life' is now becoming private as public spaces become emptied, isolated or have disappeared. In the case of Istanbul where there is ongoing and extensive construction in the name of 'urban transformation', life between buildings has become life between construction. What it means to live one's everyday life surrounded by building works and construction projects is one of the main questions of this paper. The construction works are in every corner creating noise and dust, blocking traffic and closing off streets in order to accommodate building works. This systematic 'cleansing' changes the characteristics of neighbourhoods by erasing fundamental and mundane everyday life practices from the public realm. This breaks the chain of continuity in certain neighbourhoods and damages urban collective memory. It affects society's relation with the city as the collective memory of places are being disappeared and erased both physically and emotionally. The research looks at three neighbourhoods in Istanbul where these processes of urban change are re-orientating the use, meaning and experience of public space.*

**Gabriel Lima (Drew University, US)**

***Generous cities: does the restorative quality of urban and natural spaces influence levels of generosity?***

*The restorative potential of natural environments is well documented in the literature and often linked to high levels of well-being and stress reduction (Kaplan, 1995; Vries et al, 2013). However, the urban environments of earlier studies seem often to have been chosen so as to emphasize the difference in restorative potential between nature and city. Not surprisingly, such urban environments were found to have little or no restorative potential (Ulrich et al, 1991). This study aims to explore possible differences in restorative potential between distinct urban environments, and if some of these can be as restorative as natural ones. Furthermore, we aim to investigate the influence of restorativeness in people's behaviors towards others, more specifically their generous behavior towards strangers, which is shown to vary according to levels of stress (Margittai et al, 2015). For part one, 150 online participants will rate 200 pictures of nature and urban environments using the PRS Perceived Restorativeness Scale (Hartig, Kaiser, & Bowler, 1997a). The 25 highest and 25 lowest scoring pictures from each of these two categories will be selected. For part two, 120 college students will be divided into 4 different condition-groups varying both in the environment (nature and urban) and restorativeness (low and high). After watching a presentation with their respective 25 pictures, they will be asked if they would like to donate part of the money they obtained from the study participation to a charity. We predict that participants in the high restorativeness-image groups, both urban and natural, will be more generous in their donations. With the world's population becoming increasingly more urban, research on the psychological impact of cities on behavior is crucial at the moment. Through this study, we aim to provide a framework for future research, as well as to inform urban designers and policy makers of the importance of restorative spaces for creating cities that promote social well-being in dynamic, interactive, and generous environments.*

**Yue Shen (The Royal Danish Academy of Fine Arts, Denmark)**

***Euthanasia of the Dilapidating Urban Machine***

*The Northeast has long been the industrial base of China. As the liberalization and privatization continue in China's economy and the global process of the third wave of industrialization, the Northeast is facing severe challenges including a shrinking population, especially in post-war industrial towns where the entire municipality is based on heavy-industrial factories. Despite the invariable shrinkage and degradation, there is still vast urban development going on for the Northeast. These plans and projects - usually subsidized by the central government in the attempt to revitalize the region - are resulting in over-development in underpopulated cities. They are becoming the cause of environmental issues, wracking the social and substantial heritage, and aggravating the mismatch between vision and social urgencies. This study looks into the notion of sustainable degeneration - one with conscious planning and manageable process, with consideration of spatial rearrangement and societal change. Instead of expecting the urban establishment to be a machine of investment and development that generates infinite prosperousness, it should be seen as an organic system with the natural attribute of growing, dying and decomposing. The Northeast is the perfect*

*test field to discover the possibilities that the largest socialist state and its top-down planning system could offer. A sustainable degeneration plan for a typical Northeast shrinking city is made in this study. The plan includes strategies for heritage preservation, regeneration of nature, elderly care and an integrated masterplan. It provides an alternative approach and political argumentation for the degeneration of dilapidating shrinking city.*

**Yiming Zhang (Nanjing University, China)**

***Space Revolution and Reproduction: A Comparative study of Taoxichuan in Jingdezhen and Celadon Specialized Town in Longquan***

*China has the most shrinking cities in the world, Jingdezhen and Longquan are parts of them in Southeast China. Although they are both millennial ceramic industry areas and cultural cities, the development of cultural industries in the two cities differs greatly. This paper analyzes this difference from the perspective of Lefebvre's space reproduction and space revolution. With the help of the state-owned and private capital, the Taoxichuan Ceramic Art Avenue Project in Jingdezhen has built the old ceramic industry area into a global cultural center. Through the post-modern architectural design and space use arrangement, it has attracted many art practitioners from home and abroad to make a pilgrimage. While Longquan celadon town makes use of the convenience of national cultural politics and carries out conservative space renovation basing on the old factory. Its reputation and attraction are far less than those of Taoxichuan. In the comparison of these two projects, this paper holds that Taoxichuan becomes a reproduction of global cultural and creativity industry area by the intervention of strong capital, and reconstructs the tradition and local society through the space revolution of modernization and capitalization. In contrast, under the influence of strong government and strong society, Longquan Celadon Specialized Town has carried out a halfway space revolution. Due to the compromise to local society, its space reproduction has not generated huge economic benefits and cultural popularity. However, it has reserved some spontaneous growth room for local traditions.*

**Lema Jaber (University of Milano-Bicocca, Italy)**

***Informality and Urban Planning Theory***

*When studying Global South, we always come across the informal economy or informality; it is present in housing, labour market, street vending and many other forms. Informality has been defined from different schools of thought and has been conceptualised and interpreted with various strands of research including economics, sociology, anthropology and urban planning. After around 50 years of studies concerning the informal economy we have a better knowledge of the phenomenon, its relations with the formal part of the economy and the policies and strategies that, in different parts of the world, have been implemented to either limit or integrate informality. However, when discussing informality there is an embedded factor of power relations that remains unanswered in the discourse. For instance, who has the right to land and why? This question sheds light on the strong links between informality and urban planning, especially in urban areas of the Global South. Notwithstanding these relations, traditionally the urban planning literature has dealt with informality's issues mainly through normative approaches, leaving under-explored the processes that contribute to define the informal economy, its meanings and the role of power relations. This paper aims at providing a bridge between the urban planning literature and the informal economy literature, focusing the attention on the power relations and on how urban planning process changes when dealing with informality.*

**Karla Barrantes Chaves (UCL, UK)**

***Gated Communities: Landscapes of fear or exclusion?. The Costa Rican case.***

*Gated communities in Costa Rica have been proliferating in the last two decades. They are embedded in the urban fabric, mainly over former coffee plantations or vacant lands. The weak planning regulation has allowed them to occupy large areas of land without control over their shape, size or design. In Costa Rica, as well as other countries in Latin America, there is a constant concern about crime; therefore, many people see those developments as a sort of shelter against criminality. However, they might be changing the urban landscape, generating additional externalities such as drawbacks in the road system, increasing the residential segregation and paradoxically fuelling fear feelings towards their peripheries. This research aims to explore the distribution of fear of crime outside of the gated communities, as well as if there is any*

variation in those neighbourhoods with different levels of income inequality. The research is taking place at the Greater Metropolitan Area of Costa Rica, which concentrates more than 50% of the country population. The methodology approach is through eight study cases with distinct levels of poverty, considering: housing, education, health and access to good and services. Each study case corresponds to a neighbourhood next to a gated community. The data were collected through walking interviews, which were tracked with a GPS and audio-recorded. Additionally, there were focus groups, in-depth interviews and observations. The preliminary findings suggest deep residential segregation and feelings of exclusion in most of the cases. Likewise, distribution of fear varies according to the income inequality, characteristics of the built environment and internal issues of each neighbourhood.

**Mario Giampieri (MIT, US)**

***Landscapes of retreat: exploring the linkages between climate-induced landscape change and shrinking cities***

Current research on shrinking cities primarily revolves around capital and labor flows driven through the socio-economic processes of de-industrialization, suburbanization, and globalization, among others. While some attention has been given to the opportunities that shrinking cities provide in terms of access to recreational green space and ecosystem services, little attention has been paid to how the environment itself might also 'shrink' cities in the coming decades. While the exact rate of sea level rise driven by anthropogenic climate change is uncertain, the impacts of sea level rise are already being felt by municipalities through monthly high tide cycles, sunny day flooding, and increasing intensity and frequency of storm surge events. Water is increasingly a cause of concern for coastal and riverine cities who have hitherto relied on water as an asset for investment rather than a liability, and conversations around 'retreat' from flood-prone areas are threatening property rights, real estate values, commercial investments, and municipal tax revenue. As cities confront these challenges, climate adaptation practice increasingly embraces the removal or relocation of fixed assets out of vulnerable areas. While the spatial implications that sea level rise has on urban shrinkage is clear due to the loss of developable land, there is a dearth of scholarship on the lessons that cities affected by climate change can learn from the existing scholarship on shrinking cities and economic decline. This paper brings the growing literature on climate adaptation into conversation with existing literature on shrinking cities and proposes lessons learned across two divergent fields. In addition to hypothesizing on theoretical and policy implications of these similarities, it uses several U.S. cities as case studies to explore causes, consequences, and adaptations to economic and environmental shrinking, including an exploration of the functional utility of undevelopable land in the resulting 'urban landscapes of retreat.'

**Ruth Sepulveda Marquez (UCL, UK)**

***Urban agriculture and social cohesion: the return to community life in Santiago.***

The emergence of urban agriculture projects in Santiago during the last couple of years has allowed the growth of new initiatives of collaboration between actors who were previously excluded or ignored. However, it is unclear how the neoliberal economic and political scenario in Chile has allowed the participation of community actors in projects to improve the urban environment when the private sector has had a strong influence on planning decisions. Santiago presents an interesting case to understand the connections between the actors participating in sustainable actions and to unravel the change in the social networks produced by the urban agriculture initiatives in a neoliberalism context. The study aimed to investigate the modification of networks resulting from the emergence of urban projects in Santiago de Chile, by linking environmental ideas and the neoliberal transformation driven by the development of new partnerships between actors. The research followed a case study approach with Santiago as the main area of research. The research used a governance network approach theoretical framework. For data collection, the study used semi-structured interviews and documentary analysis. The study showed that in Santiago, urban agriculture projects are developed more for a social purpose than an environmental one. For the actors involved, the main objective of urban agriculture is social cohesion and the creation of community. Most connections between civil society actors are formed in the neighbourhoods where the gardens are located, but connections are also created with actors from other areas of the city. Urban agriculture appears as a potential alternative to break the individualistic attitude fomented by neoliberalism in society.

**Zhi-jing Yu (China University of Geosciences, China)**

**Research on urban green space renewal under urban shrinkage**

*With the development of the economic environment, the phenomenon of urban shrinkage gradually appears in some areas of China, and they are also continued a long time. Recently, scholars have carried out extensive research and practice. The relationship between urban shrinkage and urban green space has become one of the hot spots, and the renew strategy of green space in the shrinking city has gradually become one of the challenges of the new urbanization transformation in the future. This paper, based on a brief overview of the basic research of shrinking cities and the strategy of green space renew, analyzes the theoretical research and practice of green space renew under the contraction city scenario, and focuses on the utilization pattern of green space under contraction scenarios and its policies, vacant space and Related research on urban residential space renewal. In addition, this paper studies the benefits and challenges of urban green space renew based on the contraction background, and summarizes its characteristics. Furthermore, this paper closely combines them with the real problems faced by China's current urban development and green space renew, which in order to provide an innovative perspective for urban green space renew and promote the sustainable development of the shrinking cities in China.*

**Session 2: Land use and transport planning**

**Yuerong Zhang (UCL, UK)**

**Exploring functional urban structure using smart card data**

*Cities continue to grow and grapple with uncertainties and challenges. It has therefore become essential to gain a deeper understanding of urban structure, while looking at urban structures through spatial interaction networks has gained in popularity, particularly using approaches driven by big data analytics. However, most studies mainly focus on delineating the urban structure and its variations. Only a few have investigated the incentives behind the movement dynamics. To identify the urban structures of Greater London and uncover how the urban structure co-evolves with socio-economic demographic factors, the study applies a technique borrowed from the complex network sciences, namely community detection, using smart card data derived from 2011 and 2017, respectively. Our findings showed that Great London can be clustered into seven communities based on people's travel patterns. Commuters in the North-eastern communities travelled 1.67 times longer than the average travel distance. It was also found that the travel areas in the western communities are mainly concentrated in the west and central areas of London. Additionally, the North-eastern community borders shifted slightly to the west in 2018, compared to the urban communities boundaries in 2014, which indicates more interaction between the city centre and North-eastern areas. Finally, in addition to the spatial impact, our results showed that employment density and housing affordability are also the key indicators which influenced people's movement and interaction. The findings of this study provide deeper insights into the inherent dynamics of urban structure variations, which could guide future strategic planning.*

**Wufan Zhao (University of Twente, the Netherlands)**

**Building Footprint Extraction from Aerial Scenes Using Dilated Convolutional Networks**

*Establishing up-to-date large scale building maps is essential to understand urban dynamics, such as estimating population, urban planning, disaster management and many other applications. Although many computer vision tasks has been successfully carried out with deep convolutional neural networks (CNNs), there is a growing need to understand their large scale impact on building mapping with remote sensing imagery. In addition, it is significantly challenging to extract arbitrary-size buildings with largely variant appearances or occlusions. Taking advantage of the scalability of CNNs, this study presents an end-to-end a novel hierarchically fused fully convolutional network structure- Dilated Convolutional Networks (DCNs). The network can effectively synthesize the different levels of semantic and location information in image by using dilated convolution method. It constructs a series of different sizes of receptive fields to capture spatial context information of different scales, so as to improve the extraction and learning abilities of building*

characteristics. In addition, different size images without pre-processing like uncut or deformed can be directly set as input for this network, and the final prediction results can be then acquired directly. The experiment results tested on a public aerial imagery benchmark dataset- Massachusetts Building Dataset demonstrate that our method surpasses some existing mainstream methods in the building extraction accuracy and significantly reduces the time cost.

**Jian Wang (Nanjing Agricultural University, China & Michigan State University, US)**

***Analysis of China's local governments breaking the binding targets of construction land: Local governments' strategic interaction perspective***

*In China, the binding target of construction land (BTCL) in land use planning (2006-2020) for the next 15 years was exhausted within only 7 years, which represents a very serious problem. This result not only nullifies the meaning of the plan itself but also threatens China's food and ecological security and poses great challenges to sustainable development. Here, we develop an analysis framework of local governments that break the BTCL in view of the strategic interactions of transferring newly-increased construction land (NCL) among local governments and perform an empirical analysis of data on 232 prefecture-level cities from 2007 to 2016. The two main conclusions are as follows. First, adjacent local governments have significant positive strategic interactions regarding the quantity of NCL. Second, positive strategic interactions regarding the quantity of NCL are important reasons for local governments to break the binding targets of newly-increased construction land (BTNCL). In addition, we find that better economic development corresponds to more obvious positive strategic interactions. We also find that fiscal incentives, and land misallocation have a significant role in promoting the increase in NCL while strengthening land law enforcement can effectively constrain the increase in NCL. This paper not only enriches the research focused on the ineffectiveness of planning regulation as well as the strategic interaction of China's local governments, and it also provides a new and important perspective for the central government of China to control the behavior of local governments that break planning indicators.*

**Chunsi Tian (Tongji University, China)**

***Planning Strategies towards Multiple Land Use of Sharing Homestay Development in Shanghai***

*According to the forecast of the World Tourism Organization, by 2020, China will become the world's largest tourist host country. Accommodation service products, as the basic supporting products of tourism development, are also booming. With the continuous development of China's social economy and the improvement of people's living standards, people's living conditions for travel have gradually changed from "standardized hotel" to "deep experience of diverse cultural and folk customs accommodation". Shared tourism is becoming a new social trend. However, Shanghai's short-rent is still in the primary stage of development. The quality of various types of housing sources is uneven. Most of the housing resources on the shared short-rent platform are the idle resources of the owners. The spatial distribution of the short-rent housing resources is more coupled with the dynamic urban areas. Nevertheless, it is a new kind of accommodation product with high cost performance ratio. Compared with star-rated hotels in the same location, it has a certain price advantage, cultural attraction and great development potential compared with fast hotels. Based on a review of relevant studies about sharing economy and tourism, this study investigates the spatial distribution characteristics of tourism accommodation products in the construction-intensive areas. This paper mainly focus on the multiple land use and functional organization of short-term rental residential accommodation. A new paradigm of homestay which consists of "multiple land use-business operation-local residents' participation" is proposed. This paper uses spatial correlation analysis of GIS relying on "POI data" of Shanghai to figure out proper structure characteristics and proportions of short-term rental. A research framework of planning strategies of sharing city: function oriented mixed land use system, design oriented spatial system, activity oriented cultural system is supposed to be established.*

**Guanqiong Che (Tianjin University, China & Cardiff University, UK)**

***The 15minutes life circle construction in Tianjin, China——implications from the fractal structure of different land use types***

*Life cycle concept has been put into practice since it can promote the intensive, compact and integral development. The distribution consistency of different public service facilities required in 15 minutes life circle construction and the residential area lies at the essential. In this sense, we apply fractal dimension analysis, which is an effective scaling parameter to describe urban form and reflect urban growth, to different land use types mentioned in 15 minutes life circle in the metropolitan area in Tianjin. The results show that, firstly, three land use types, namely the residence, community hospitals and restaurants show scale invariance development pattern with the  $R^2$  values higher than 0.99, indicating that they develop relatively evenly in all directions and their distributions are relatively consistent with each other. Secondly, the primary school and sports venue show bi-fractals development pattern, indicating that their space-filling capacity are relatively higher than land uses showing no fractal dimension but their distribution are not invariantly at all directions. Thirdly, other land use types, namely the cultural activity center, postal and telecommunication center, kindergarten, supermarket, bank service, as well as police station show no fractal development patterns with the  $R^2$  values lower than 0.95, indicating that their space-filling capacity are relatively lower and distribution are unevenly. The results suggest that more attention should be paid to land use types show no fractal dimensions, since their distributions are not in consistent with that of the residential area. For land use types with bi-fractal patterns, the directions that they develop relatively insufficiently should be identified and complemented so that residents can get access to these facilities more conveniently.*

**Biyue Wang (Delft University of Technology, the Netherlands)**

***Towards integrated development of high-speed railway stations and urban areas through better planning processes in China***

*High-speed railway (HSR) is planned and constructed expeditiously for China, but there is a significant lack of knowledge regarding the urban development impacts that HSR system have had in China. The HSR station is usually expected to bring resources, employment opportunity and economic growth to the city. Although the HSR station areas are generally developed with substantial investment and a comprehensive plan, the current spatial performance of these station areas is criticised by scholars, media and users. The HSR stations are always planned separately with the surrounding areas which leads to many difficulties in the station area development. This study attempts to identify the main reasons for the perceived poor spatial performance around HSR stations in China and ways how to improve the spatial performance of these areas, especially from the planning and decision-making process perspectives. The node-place model provides the foundation for this research to explore the station area which is not only a transport node but also urban area in the city. Based on the literature review on station area and public space, the evaluation criteria for the spatial performance of station area have been summarised in themes as diversity, integration and public space. This research will explain how the planning and development process impacts on the spatial performance of HSR station areas in China. The policy network theory is used to analyse the actors, rules and the process of planning and development of HSR station areas. The research strategy used for this research is the case study, for which triangulated data are collected by mixed research methods such as in-depth interview and questionnaires. It aims to extract lessons for the present and future HSR station area development projects in China.*

**Jinglun Du (Eindhoven University of Technology, the Netherlands)**

***Conceptualization of place quality in High-Speed Rail station areas: A Review***

*High-speed railway (HSR) station areas are expected to benefit the urban environment not simply as transportation or economic activity hubs but also as urban places. However, the relationship between HSR station areas and place quality has not received systematic attention, despite the evolution of urban planning paradigms towards a clearer focus on quality of life. In this paper, we review 19 academic articles written between 1998 and 2019, and analyze concepts of place quality spanning the disciplines of traffic, urban planning, economic development, place-making, and mega-project management. We demonstrate that the conceptualization of place quality in relation to HSR station area development has remained compartmentalized, and this conceptual ambiguity stems from insufficient attention to the HSR features and*

*a systematic classification of station areas should be a necessary method for future discussion. Finally, we put forward a working definition of place quality and develop a framework for categorizing specific features.*

**Mengqiu Cao (University of Westminster, UK)**

***Public transport accessibility and housing value uplift: Evidence from the Docklands Light Railway in London***

*Public transport infrastructure is essential to city development, improving accessibility and allowing people to engage in activities, allowing travel by environmentally-friendly modes, and also creating economic benefits. This study investigates the impacts of public transport accessibility on development, examining changes in housing prices, and applying hedonic modelling. London's Docklands Light Railway (DLR) is selected as a case study. The findings show that residential properties in station catchment areas of the south-eastern and northern branches of the DLR have a premium respectively of 0.352% and 0.093% per 100m proximity to a station. By assessing inclusive variables, it is found that housing value is also determined by the property's own features and the neighbourhood, particularly the property tenure. The detected housing value uplift implies that the provision of good public transport is crucial in policy making, especially in areas with poor public transport accessibility. Moreover, since transport investment is partly capitalised in housing projects, we suggest that future transport infrastructure investment and housing development should be set within a framework of value capture policies.*

**Meng Wei (Chongqing University, China)**

***The Evaluation of Road Network Reliability in Mountainous Areas: A Case Study***

*Towns and cities in southwest China limited in construction land, sparsely populated areas, sparse distribution of roads and other infrastructure, and face problems such as unfair allocation of resources for emergency rescue and low reliability of road network. This paper takes the Wenchuan earthquake area in southwest China as an example to reveal the reliability of road network to meet the need of improving the relief benefit and efficiency of the post-disaster relief network. This paper applies the complex network and computer simulation analysis method to establish the regional road network model and the multi-disaster interference simulation mechanism, at the same time, the corresponding index system and road network under different time nodes are established for comparative analysis. The simulation of multi-disaster scenario interference realizes the ordering of network links according to the importance of maintaining proper connections. The empirical findings show that different sections of the road network are hierarchical, The road segment has spatial or clustering or scattered distribution characteristics according to the difference of the degree and the betweenness value. The high-grade roads tend to be concentrated, and the low-grade roads are often dispersed. Such a ranking can be particularly helpful in prioritizing optimizes the layout of the refuge facilities and establishes the most efficient evacuation channel to maintain road reliability service capability .*

**Tianren Yang (University of Cambridge, UK)**

***Long-term potentials for land value uplift: A comparison among sub-centre planning strategies***

*The use of value capture methods is often hampered by insufficient long-term prognoses of the land value effects of planned interventions. This implies many missed opportunities where long-term value uplift is in fact strong, and foolhardiness otherwise. This research aims to develop a novel method to measure the land value effects of planned interventions over time. The results from the analysis above underpin the identification of key influences on value uplift, and key data streams to be monitored continuously for validating and revising the prognoses. This would materially improve local governments' abilities to explore land value capture options not only as a financing instrument within current property hotspots but also as part of a wider policy toolkit to promote social equity, environmental sustainability and business productivity in a city region at present characterised by an overcrowded core and low-growth suburban sub-centres.*

**Session 3: Smart city and urban sustainability**

**Sabina Favaro (IUAV University of Venice, Italy)**

***Listening to the cities***

*Cities are simultaneously spaces of exclusion and inclusion. Cape Town is certainly not an exception, it is rather an extreme example: simultaneously being a space of encounter and a space of clash. It is impossible to speak about Cape Town, whilst avoiding to talk about racial segregation, the socio-spatial legacies of apartheid and its segregationist predecessors. Cape Town, its cultural narratives and discourses are deeply entangled with socio-spatial exclusion. With this thesis, I argue that a careful reading/writing, through an active — listening to the cities —, [meaning to the people who live in the city] is a necessary procedure not only to understand how socio-spatial conditions affect their individual everyday lives, but also in order to imagine possible ways to counterbalance socio-spatial exclusionary processes through projects. I, therefore, propose and explore thick mapping as a way of inquiring socio-spatial in/exclusion. Through an engaged listening to the cities, mapping can contribute in the making of just and inclusive forms of urbanism. Drawing from the notion of thick description repurposed by the anthropologist Clifford Geertz, thick mapping is here intended as a ‘thick’ interpretative inquiry. The adjective thick is a reminder to the mapper about the ‘thickness’ of the urban palimpsest, meaning the entanglement between people and space. How can the map render/capture the hendiadys people-space? Inspired by the philosopher Henri Lefebvre’s writings, thick mapping is rooted in a multi-dimensional notion of space, — perceived, conceived and lived —: inquiring how to represent individuals’ everyday life experiences, how to ‘re-socialise’ the space of the map. In short, through thick mapping, it is here explored how a map can be an emancipatory tool for the cities to talk. In inquiring how to capture the entanglement between people and space, the contribution that this mapping exploration is attempting to make is twofold. On one side, it is mapping segregation through the direct interrogation of young citizens, aiming to reach a better understanding of how the territory is experienced, where are the shared spaces, what is left of the segregated mind. On the other side, it is an exploration of mapping as a tool of inquiry, and furthermore, a tool of emancipation, as a way for the city to talk. In order to overcome socio-spatial exclusion, it is necessary to start by giving space and voice to people who normally are ignored or simply not heard.*

**Xibei Zhang (Chongqing University, China)**

***Current Situation and Countermeasure Research on Renewal of Old Residential Areas in Chongqing***

*To improve the life quality of the residents and accelerate urban renewal, more and more attention has been paid to the renovation of decayed residential areas, which is one of the key goals of China’s poverty alleviation and prosperity. Chongqing, one of the four municipalities in China with characteristic, which has a large scale, is also faced with the severe task of decayed neighborhood regeneration. However, due to the late exploration, a complete mechanism for renovation and upgrading of old residential areas has not yet been formed. In order to break through the bottleneck and explore the improvement path of decayed residential area regeneration in Chongqing. This paper proposes the improvement mechanism and development strategies for Chongqing based on the three aspects: (1) reviewing the exploration process of decayed neighborhood regeneration (2) analyzing the existing problems and obstacles of decayed neighborhood regeneration based on the specific case; (3) constructing a sustainable mechanism for decayed neighborhood regeneration. At the same time, it will help other cities by providing some references, through the research on the decayed neighborhood regeneration in Chongqing.*

**Di Wang (Chongqing University, China)**

***Does e-commerce change the rural urbanization? Analyze the impact of E-commerce-Urbanization-Environment and Resource coordinated development at county-level cities in Zhejiang, China***

*E-commerce reallocates the resource and creates a brand-new industrial chain in the information age and it dramatically varies people’s everyday life, the popularization of e-commerce has gradually reshaped cities, especially the rural areas in China. This study is an attempt to analyze the e-commerce involved rural in situ urbanization (ERISU) by creating an e-commerce, urbanization, environment and resource (EUER) system. Based on a theoretical framework from the angle of EUER, the coordination degree and development level of ERISU are explored. The results show that rural urbanization is a dynamic and initiative process and studying it in a systematic view can promote the overall development and understand the relationship*

between each subsystem. When formulate a regional rural urbanization plan, the location factor and the coordinated development level should be included in. There are five modes of ERISU are summarized to assist the sustainable rural development. E-commerce modernizes rural cities, generates non-agricultural employments, and gives rural residents a chance to live a respectful life. Distinguished from traditional rural urbanization, e-commerce is a catalyst to reorganize rural areas fundamentally and revolutionarily. ERISU under EUER system broadens the perspective and sets up a new path for a better rural urbanization.

**Helena Rong (MIT, US)**

***Designing with Data: Collective Intelligence in Urban Design***

Over the last decade, advancements in data collection, computing and visualization methods have given rise to the field of urban informatics and urban computing. Our current output of data is roughly 2.5 quintillion bytes a day. Ninety percent of the world's data has been created in the last two years alone. For the first time in history, we are able to capture a "real-time" smart city and networked urbanism and evaluate the interconnections between different aspects and layers of the city. However, the excessively technocratic algorithmic-driven approach to city-making has received criticisms and outcries pertaining to surveillance, digital divide, centralized governance and data ownership. And in the process, both designers and citizens become increasingly marginalized from the discussion. I intend to address the shortcomings of current approaches to Smart Cities in the context of human-centric urban design and develop a new design methodology which emphasizes on the "smart citizen" to effectively engage the collective throughout a collaborative urban design process. This research surveys a number of significant recent projects and studies their goals, proposed frameworks and interventions, ingredients used in their IoT solutions as well as potential concerns, and uses the findings to create a citizen engagement tool and design framework to be tested on a site in Ang Sila, Thailand.

**Chun Zheng (Carnegie Mellon University, US)**

***Bottom-up Urbanism in Pittsburgh***

Known as one of America's most livable cities, Pittsburgh, over the past decade, has witnessed its own transformation from an industrial factory in the 20th century to a modern innovation hub with the influx of cutting-edge technology companies like Uber and Google. However, in the torrent of emerging urban technologies and developmental pressure, some neighborhoods have become marginalized and the voices of the communities have been submerged. Against this background, some bottom-up initiatives started to arise in response to the imbalanced distribution of urban resources and lack of community solidarity. From community garden to refugee artists sanctuary, bottom-up urbanism has been recapturing and redefining urban spaces of collectivity and emancipation through co-negotiation, co-design, and co-management among community members. This paper presents a number of case studies where collective efforts contribute to the improvement of community well-being and even broader urban systemic changes in Pittsburgh. Through close examinations of the resource they share, people they involve, and the process they experience, I argue that bottom-up urbanism provides an alternative perspective to view questions regarding urban design thinking and methods: What does the true livability mean to the citizens? How can designers and architects learn from these grassroots actions to design for a more sustainable and healthier future Pittsburgh?

**Lingchao Meng (Macau University of Science and Technology, China)**

***Epidemic City: A Study of Evidence-Based Design Strategies for Street Space in Macao***

The everyday life of urban residents is presented in street spaces, and of which the high-density and high-heterogeneity is likely to have a negative impact on the physical and mental health of residents. Based on the existing evidences of medical and spatial association, this paper selects five street spaces of the Huawangtang District in Macao, uses PSPL research approach to conduct an on-the-spot investigation, analyzes the spaces where are prone to induce residents' physical and mental illness, and the spaces that can guide residents to take healthy activities. Thus the evidence-based design strategy of Macao street spaces which is based on residents' health is proposed. And from the perception of overall dimension, the research form is matched

with the problem-solving methods, and the evidence-based design strategy suitable for the street space of the historical districts of Macao is expected to be constructed.

**Yali Zhang (University of Sheffield, UK)**

***How does online space reform, reproduce, transform public spaces though an online-daily life? An autoethnographical study based on online broadcasting utilising behaviours***

*Against the current background of information explosion and technology upgrading, information and communication technology (ICT) and mobile Internet are not only increasingly influencing people's communication but also the way in which they are using public space (Graham, 2004); (Kellerman, 2014), - in fact our understanding of public space is fundamentally questioned through these developments. The virtual cyberspace and the physical as well as social space of our cities as we knew it are now interweaving with each other, and evolve together into something altogether different. The decentralization and fragmentation of social networking on the mobile Internet have triggered changes and conflicts in the public sphere of the city (Zhou, 2016). Its multitude of sub cultures and sub groups have caused the participation in the public, urban space to become more diverse, more complex and dynamic. Under the influence of new technologies, the traditional mode of operation and formation public space begin to be dispelled while at the same time, the new modes and forms are reconstructed with new mobile technologies being a driving force. The increasing popularity of online shopping, online broadcasting and other social cyberspace activity and with it the involved everyday behaviours have deeply 'reformatted' the daily life of young people in China. Inevitably this lead to the emergence of a new forms of producing, consuming and living, which ultimately has given rise to newly emerging requirements for public space (Wang and Li, 2018). And while the actual operational provision of cyberspace as well as the development technological interfaces is largely in control and driven by big corporations this paper argues that new public space has been redefined and shaped, fragmented and decentralised at a large scale through the participation of users who constantly recreate new 'daily-life space-sequences'. The paper will further argue that this people-oriented cyber urbanism is already enabling a more diverse yet less divisive future between the rural and urban centres for China This paper is based on research that appropriated an autoethnographic analysis in combination with ethnographic mappings and draws on transdisciplinary discussions between architecture, environmental behaviours and computing science in order to nurture design practice and decision making for a cyber-involved sustainable future of public space.*

**Sheng Song (University of Sheffield, UK)**

***Mapping Parameters for Liveable Streets in Contemporary China: A Case Study of Five Neighbourhoods in Nanjing***

*In view of the existing problems in contemporary Chinese cities, this research focuses on the concept and mechanism of liveable streets during the development of urbanisation. Since 1996 until now, generally seen as rapid growth period for urban expansion in China, old streets and alleys have been disappearing together with urban vitality and diversity, caused through the construction of super large-scale projects. Traffic engineering dominates street forms in newly-built districts while the needs of pedestrians are undermined. The hierarchy and width of streets are defined and designed by the traffic volume and speed. There is little recognition and description of streets as places for urban public life in a void of effective design guidelines in the city planning. The conflict between traffic and daily life on streets become more and more serious in Chinese cities. This research is concerned with the quality of Chinese streets and neighbourhood public spaces. It takes Nanjing and five neighbourhoods as its case study. Concretely, it will demonstrate how a set of interrelated mappings, diagrams and spatial drawings can be used in a socio-spatial analysis for liveability parameters of streets and its public spaces. These mappings include investigations into form, morphology, scale, time, the forms of activities. The aim of this research is to produce a mapping-based, transferable methodology through which Chinese public spaces can not only be analysed but one can also engage transformatively in the creation of liveable streets within existing and newly planned urban settings.*

**Juncheng Yang (MIT, US)**

***Valuing building design through 3D digital model and real estate transaction data***

One of the significant aspects of smart city development is that digital technology enables researchers to study in-depth the complex built environment that was not feasible for study before. How does design contribute to real estate value? With a comprehensive digital urban model of New York, we propose to devise a set of design metrics to provide reference and guidelines for both designers and developers. We identify a list of design elements as quantifiable features which we can collect and evaluate to construct correlations between design and real estate market value. To execute these models, real estate asset pricing modelers consider the following as dependent variables for driving asset valuation: building size, age, number of stories, status of renovation, location and proximity to CBD, all of which describe only the crudest elements of a building that have already been specified as guidelines prior to the design of the physical structure. Designers, on the other hand, consider much more qualitative and tactile elements of architecture during the design process currently overlooked by the real estate financial economics literature - such as materiality, geometry, daylight, views and spatial transformability - to cater to both functional and aesthetic needs. However, omitting these features from asset valuation leaves a missed opportunity to understand the extent to which the actual design and function of a building impact the market value of a property during individual real estate transactions, thereby diminishing the agency of design during negotiation processes. Through linking New York's digital model and real estate transaction database, this paper aims to identify, quantify, and assess the value of selected attributes of building design. The preliminary results show that some design attributes may yield significant and positive pricing premium for real estate transaction.

**Vafa Dianati (UCL, UK)**

***The Dynamics of Place Attachment and Perceived Density; Exploring the Impact of Urban Densification on Social Sustainability in Tehran.***

Within urban sustainability discourses, the link between density and the social dimension of sustainable development has received much attention (e.g. Bramley et al., 2009; Dempsey et al., 2011; Raman, 2010). Although a general agreement exists regarding the benefits of high urban density on social equity by producing equal access to job opportunities, services etc. (Burton, 2010), dense urban areas have also been subject to criticism for negatively impacting place attachment and community satisfaction (Bramley et al., 2009). The present research seeks to explore this relationship by shedding light on the commonly neglected, yet vitally important role of subjectivity. In this regard, the link between density and social sustainability is investigated by focusing on residents' subjective views and knowledge. Moreover, this research maintains its focus on neighbourhood unit as a place and as the main setting of urban experience. The theoretical framework of this study is founded upon three key pillars. The concept of place serves as the backbone linking urban density and social sustainability. Place refers to a complex phenomenon, shaped by a dialectical relationship between social and physical realms and deeply interwoven with human experience and perception (Malpas, 1999). The second pillar is perceived density which centres on the unique way each person understands and experiences urban density on the ground (Rapoport, 1975). Lastly, urban social sustainability is understood as a relative, place-based and locally rooted concept studied at the micro-level of the neighbourhood. Accordingly, place attachment acts as the key element of urban social sustainability (Colantonio, 2007). The study involves a single case-study design focusing on three residential neighbourhoods in Tehran, Iran as its units of analysis. The basis of the research design is a sequential mixed-method approach. The data analysis will involve a combination of qualitative and quantitative approaches, with SPSS conducting the survey analysis and MAXQDA software conducting thematic qualitative analysis of the interview data. The preliminary results indicate that (1) the relationship between perception of densification and place attachment is complex, yet more significantly under the influence of intermediary socio-spatial characteristics of place including functionality of place, social/family ties, and environmental qualities; and (2) Besides place characteristics, the relationship between perception of densification and place attachment is determined by external and structural factors such as housing market dynamics and societal features of Iranian contemporary society.

**Henning Urk (University of Flensburg, Germany)**

***Potentials for technology and business model innovation in the energy and mobility sectors of smart cities***

*Innovative technologies and new business models offer a big lever for the promotion of sustainability in smart cities- especially so in the energy and mobility sectors, which still rely heavily on fossil resources and hence offer room for improvements. The possibilities that are offered by new technologies depend largely on the challenges a city is dealing with. In addition, the variety of stakeholders, ranging from city councils to technology startups, results in very different perspectives on the usability of newly invented technologies and revolutionary business models. The present study developed and applied a framework for the evaluation of technology and business model innovation in the energy and mobility sectors of smart cities. Therefore, clusters of innovative technologies were identified in a profound literature research. Complementary, six city archetypes that were formulated in another, previous study by the classification of more than 500 cities worldwide, were allocated with the most urgent needs of each archetype. City needs and innovative technologies were matched in a multi-stage relevance assessment, evaluating the potential of technology clusters such as artificial intelligence, autonomous vehicles and home energy management systems for cities from Amsterdam to Mumbai. Based on this macro-level assessment, a number of business model methodologies were combined and applied for the identification of the most promising applications in exemplary cities. The study offers a framework which enables different city stakeholders to evaluate new technologies and business models, based on a holistic methodology that can be calibrated to their individual needs. It therefore reduces confusion and proneness to hypes which are often collateral to the topic of innovation in smart cities. Thus, it facilitates the conception, evaluation and implementation of influential innovation that maintains the potential to boost sustainability and support cities at becoming smart.*

**Yite He (Tongji University, China)**

***Spatial Distribution Pattern and Location Selection of Hema Fresh Supermarket in Shanghai***

*The fresh supermarket represented by Hema Fresh Life has become a new business form in many cities, especially in Shanghai with the highest consumption vitality, but Shanghai's urban development has entered a stage of savvy growth and stock renewal. Therefore, focusing on new types of retail development, especially fresh supermarkets, can inspire urban planners to have a new understanding of urban life and bring about the layout of public service facilities. In view of the current research on the lack of attention to the layout of emerging retail space in the city, this paper takes Hema Fresh Life in Shanghai as the research object, and analyzes the spatial pattern evolution, the accumulation distribution status and the location selection factors. Research methods include point pattern analysis, spatial autocorrelation analysis, and so on. The results showed that the overall spatial distribution of Hema Fresh Life in Shanghai was characterized by historical diffusion from the center to the periphery; the spatial distribution of Hema Fresh Life was relatively concentrated. Pearson correlation analysis was used to analyze the factors affecting the location selection of Hema Fresh Life. The results showed that residents' consumption power, traffic convenience, population size, land price and other factors promoted the spatial distribution of Hema Fresh Life in Shanghai through comprehensive mechanism pattern.*

**Lisa Kränke (Hochschule Bochum/Ruhr University Bochum, Germany)**

***Sustainable Urban Development - Governance and Participation in Urban Real World Laboratories: Case Study of Bochum Hamme***

*With Agenda 2030, the UN adopted 17 sustainability goals. The eleventh of these 17 goals focuses on cities and communities. They represent key points for the transformation towards sustainable development. Civic engagement and (political) participation are assigned an important function. They require new governance structures and processes in the sense of sustainable urban governance. The aim of my PhD project is to investigate the sustainable development of urban spaces using the example of a city quarter. The focus is on the question of which local governance constellations are suitable to enable or promote sustainable neighbourhood development and how the participation of all actors the neighbourhood can be promoted in the sense of inclusive urban development. To answer these questions, political science governance approaches are linked with inter- and transdisciplinary concepts from participation research, transformative research and human geography approaches. The research takes place in a real world laboratory (RWL) in Bochum, a city in the centre of the Ruhr Valley in Germany. Bochum Hamme, the quarter where the real world laboratory is located, is a heterogeneous neighborhood which a lot of development needs in social as well as*

*in urban planning terms. This RWL is based on a cooperation between the City of Bochum and the Bochum University of Applied Sciences, which aims to provide transformative scientific support for urban change in the urban quarter. The presentation includes results from two citizen participation events that took place in Bochum in January and March 2019 with 36 and 50 participants. The results were evaluated and contribute to the dissertation project, whose central questions, assumptions and procedures are also presented.*

**Yanxue Hu (Beijing Jiaotong University, China)**

***Spatial tenacity of self-organizing function — Taking the Spatial Distribution of Bicycle Maintenance Points in Beijing Second Ring as an Example***

*Based on Baidu Street View Time Machine and field survey data, this study applied space syntax to analyze the spatial distribution and evolution of bicycle repair points in Beijing Second Ring Road (2013-2017). It is found that in recent years, with the rise of shared bicycles and population relief, the number of such function has decreased, but the spatial distribution is stable. Through the correlation analysis and multiple regression analysis of the distribution of bicycle repair points with three kinds of parameters: resident density, commercial POI and spatial accessibility, it is shown that the distribution of bicycle repair points is related to three kinds of independent variables, and the effect of spatial accessibility is most significant. In addition, by calculating index of one thousand person from 2013 to 2017 and spatial accessibility of the auxiliary functions of these repair points, it is shown that the regularity of spatial accessibility is also stronger than that of distance parameters. These findings suggest that as a basic service facility formed spontaneously, the distribution of repair points tends to be flow-centric rather than distance-centric.*

**Macarena Gaete Cruz (Delft University of Technology, the Netherlands)**

***Making space for integration, public space for adaptation. Collaborative design approaches for resilient public space.***

*Climatic action is taking long. Lack of plans, policies, regulations and projects, but also to the design challenges arise due to methodological fuzziness, lack of participation clarity and unclear design principles to face them. The aim of this research is to explore the possibilities and constraints for the collaborative design of resilient public space, in order to assess and support the design processes of climate adapted human settlements ensuring integrated participants and projects. The presentation presents the analytical framework of the research concerning the collaborative design and the design principles for resilient public space, while presenting two cases for further understandings.*

**Xiaoming Li (UCL, UK)**

***Research on the Network Based Spatial Synergistic Model Between Senior and Other Public Service Facilities in Urban Community***

*To cope with the rapid development of population ageing, China constructed over 6.7 million nursing beds for senior service facilities (SSF) during the '12th Five-year Plan (2012-2017)'. In the contemporary community-oriented SSF planning scheme, community population size, service radius and building volume of SSF are the only three indexes considered, neglecting other spatial and service resource of specific urban communities. Various problems have arisen from existing SSFs, such as high vacancy rate, disparity in service efficiency and mismatch of supply and demand, resulting in a great waste of public resource. Within a certain urban community, the SSF connects both spatially and functionally with other public service facilities (PSF), constituting a dynamic service system to provide support for the elderly. The planning strategy of SSF should take full consideration of the existing spatial and service condition of specific urban community. However, most previous research on the planning of SSF focuses on issues of accessibility and equality of spatial distribution. Little attention has been paid to the synergistic relationship between SSF and other PSF within the community. Network theory is specialized in analyzing relationships between entities within certain systems. It is widely used in the crossing field of urban research and complexity sciences. This paper aims to set up a new, network based spatial synergistic model between senior and other public service facilities in urban communities. 18 residential districts in the main city of Nanjing (China) are selected as research objects. Massive open source geographic information, such as POI and street networks, are employed in modelling, to precisely describe service and spatial condition. To define the adjacency matrix and*

corresponding network of facilities, two types of 'links'-spatial adjacency and functional connection-are identified in both local (street segment) and global (residential district) scale. The structural attributes of networks - density, centrality and clusters, are analyzed and summarized, to depict the position of SSF within the public service facility system, as well as manifested and potential synergistic relationships between them. The research is expected to provide a new perspective to the research of SSF planning, as well as empirical evidences for related policies.

**Qing Han (Cardiff University, UK)**

***Qingdao Practice of Resource and Environment Capacity Evaluation in Spatial Planning***

*A number of opinions on the establishment of spatial planning system and the implementation supervision of China stated that the resources and environment capacity and national spatial development suitability evaluation were the basis of scientific and orderly as a whole function, it also laid the resources and environment capacity evaluation in the base support position in the national spatial planning. Resources and environment capacity is based on a certain stage of development, economic and technological level and production way of life, regional resources environmental elements to support the agricultural production, urban construction and other human activity is the largest. This article mainly to Qingdao case practice of resources and environment capacity evaluation, based on the objective truth rightly understand environmental resources background conditions, the land resources, water resources, environmental resources, ecological resources and disasters factor evaluation, to depict resources characteristic, regional space through the integrated evaluation results analysis advantage and shortage. The bearing levels of agricultural functions, ecological functions and urban functions are preliminarily determined, and the upper limit of resource utilization and the bottom line of environmental quality within the scope of the city are discussed, so as to support the Qingdao's spatial space planning.*

**Yulin Zhou (Chongqing University, China)**

***The Effect of Centralized Migration on the Welfare of Former Residents in Urban Renewal: A Case Study of Hualongqiao Area Renewal in Chongqing, China***

*Urban renewal often induce large-scale centralized migration. The residents in the renewed areas are often placed in the new urban economic and social space to form a new state of life. This paper adopted Capability Approach proposed by Amartya Sen to establish a multi-dimensional and multi-tier levels of welfare measurement variable set regarding former residents. Through a two-wave questionnaire survey on the residents who experienced Hualongqiao area renewal in Chongqing, China, this paper analysed former residents' welfare change and its law after the centralized migration to a new socio-economic environment using a fuzzy welfare measurement model. The results reveal that, centralized migration induced by urban renewal has made great contributions to improving the living conditions and mental outlook of former residents, but leads them to lower economic profitability. The negative impact comes from that location migration with capital attributes causes the mismatch of former residents' job-housing relationship and the decline in accessibility to public service facilities. Moreover, in terms of resettlement and compensation pattern, the potential of for improving the former residents' life conditions is insufficient in the long run. Sustainability should be paid great attention to in people-oriented urban renewal to ensure former residents receive long-term welfare improvements.*

**Xinxin Huang (Wuhan University, China)**

***Modeling Urban Growth Using Cellular Automata and Artificial Fish Swarm Algorithm in Wuhan, China: Methods Optimization and Implications for Urban Planning***

*With the rapid growth of the economy and the new era of urbanization, the simulation of urban growth has become a hot spot. Since the end of the 1990s, the research on CA has evolved from traditional applications to intelligent algorithms. Taking Wuhan (China) as the research area, this study combines artificial fish swarm algorithm (AF), traffic factor, neighborhood factor and prosperity degree and other factors to study the current situation of urban land use. At the same time, ant colony optimization (ACO), biogeography-based optimization (BBO), particle swarm optimization (PSO), genetic algorithm (GA) and binary logistic*

regression (BLR) were compared with the artificial fish swarm model. The results show that the Kappa coefficient of AF-CA model is the highest (0.7948) among these models. In addition, the total accuracy of AF-CA reached 0.9771. The analysis shows that in 2015, the urban land coverage area based on AF-CA model is nearly 497.95 km<sup>2</sup>, while the actual time area is 508.86 km<sup>2</sup>. The difference between the actual area and the simulated area is small. It shows that AF-CA model has good applicability to simulate the change of urban land use. The simulation results also show that in 2025 and 2035, urban land use will increase to 635.60 km<sup>2</sup> and 762.34 km<sup>2</sup> respectively, accounting for 7.5% and 8.96% of the total area, respectively. The results will help the government and management departments to formulate more effective policies and optimize the allocation of resources.

#### **Session 4: Housing availability and affordability**

**Wenhao Huang (Renmin University of China, China)**

##### ***Regeneration of Informal Settlements and Changes in Rural-urban Migrants' Residential Satisfaction: A Case Study of Beijing***

*The frequent demolition of informal settlements in China's megacities has generated significant academic discussion, but few studies have analyzed the large number of "rural-urban migrants" who live in these areas from the perspective of multiple-interest integration. This paper uses two representative surveys of Beijing, one in 2007 and the other in 2017, to: analyze the determinants of rural-urban migrants' residential satisfaction and their impact; examine how rural-urban migrants' housing demand has changed after the policies and programs of informal settlement regeneration have been implemented; and determine how city governments should play a role in this implementation. Findings in both surveys show that high-quality public service related to housing is the most important factor for these rural-urban migrants. In both 2007 and 2017, the public services available to low income groups were inadequate in urban areas. At the same time, it was difficult for rural-urban migrants to obtain affordable housing as a result of urban regeneration policies. The results of this comparative study are interpreted with reference to incrementalism, inclusive growth and space value of housing. Implications for urban governance and policy are discussed.*

**Yiyi Chen (Heriot-watt University, UK)**

##### ***Golf courses and life satisfaction: Evidence from Beijing resident survey, China***

*Golf course is a new type of urban club goods in post-reform Chinese cities. As golf courses are being woven into urban greenness landscapes, this paper examines the spill-over effects of proximity to golf courses on nearby residents' life satisfaction. We employ two micro geographically-coded data sets in Beijing: one includes all the existing golf courses and the other is a large-scale individual survey conducted in 2013. Our findings show a positive association between residential proximity to golf courses and their life satisfaction. Such effects are more pronounced for residents living at nearby distance margins and tend to decline with distance in a non-linear fashion. Robustness results suggest the level of association between residential proximity to golf and life satisfaction varies by housing type, residential experience and the landscape characteristics of golf courses. Additional results quantify the evidence on potential complementary effects of public parks and golf courses on life satisfaction. Findings of this study suggest that public and private green space elements should be taken into account in the land use design of urban green landscape aiming to promote environmental justice.*

**Janine Bittner (Ruhr University Bochum, Germany)**

##### ***Loft Living - living in old factory buildings"– a present trend on the German housing market?!– The development of a housing market segment of loft living and its importance as a sectoral housing sub-market in major German cities – explained and discussed based on different case studies***

*In recent years, the housing markets in Germany are subject to significant modifications. An overall trend of population decrease as the result of demographic and economic-structural change resulted in relaxation of the housing market in many cities before the growing number of refugees started to affect the German housing market. Processes of social change, for instance the associated pluralization of lifestyles, lead to*

*changes in housing needs. Furthermore, the differentiation of the housing demand by age, income groups, ethnic or cultural affinities and ways of life is equally important as the trend towards re-urbanization that is taking place not only in the larger cities, but also in the small and medium-sized cities. There is an increasing demand for housing sector „niche products“, in particular for loft housing, old „brick buildings, formerly warehouses (...) transformed into apartments (Podmore 1998: 289) in a diversifying and increasingly differentiated housing market. The key research objective is to compile the factors determining living arrangements and selection of surroundings as well as the living circumstances of the Loft Dwellers based on the desired lifestyles, fitting and location parameters of the residential properties and urban environmental parameters. The latter should be respectively placed in context against the strategies of the supplier stakeholders and the structure of the housing markets in the respective cities. A distinction is made between four research questions: 1. What are the evolutionary framework conditions and determining factors for developing a Loft Living market in Germany? 2. What is the significance of Loft Living in the German housing market? 3. What are the motives forming the basis for the public demand of this type of living? 4. Is there a connection between the renaissance of urban living and the creation of this (new) residential culture for urbanites? The design of the study builds on methodological integration in order to get a deeper insight in and gain a better, more conclusive understanding of the research topic. The explorative character of the study prevails the use of qualitative methods. In my presentation I would like to present interim results after the evaluation of semi-structured interviews conducted to get a better understanding of the evolutionary constraints, background details and determinants which shaped the development of Loft Living as well as strategies, ideas and approaches of the producer or supplier stakeholders. There will be references to different case studies of cities in Germany's eastern and western regions.*

**Juan Yan (Delft University of Technology, the Netherlands)**

#### ***Does Public Rental Housing Work in China? Tenants' Satisfaction***

*In the past decade, Public Rental Housing (PRH) has become a crucial program of providing housing at regulated rents to low-and middle-income households in China. With the provision of PRH, the Chinese government aims to achieve the goal of maintaining social stability. In light of this objective, however, few research has taken the satisfaction of the PRH tenants with PRH governance into account. This explorative paper aims to fill this gap by empirically analysing how tenants value PRH governance in Chongqing, a pilot city of PRH provision. Unlike the conventional residential satisfaction analysis focusing on dwelling, neighbourhood and management services quality, this study develops an analytical framework that defining satisfaction into four dimensions: satisfaction with housing quality, housing quantity and additionally “willingness to purchase the dwelling” and “willingness to communicate with the government about the governance of PRH”. The descriptive analysis of 206 tenants' questionnaire responses reveals that respondents were moderately satisfied with housing quantity and quality, and indicated a relatively high intention to buy their rental dwelling and communicate with the government about repairs and maintenance. Furthermore, this study figures out that socio-economic characteristics of respondents (i.e. gender, age, and job type), the project information, and variables of residential attitude such as housing condition, accessibility, dwelling size, maintenance and service, options to apply, and waiting time have significant impacts on tenants' residential satisfaction. The article draws attention to the improvement of PRH governance and can contribute new insights to the measurement of governance in public housing debates.*

**Lu Jiang (UCL, UK)**

#### ***Who is energy poor? Evidence from least developed regions in China***

*The concept of energy poverty has been well-established over the last two decades. However, there has no consensus on the way of measuring energy poverty. Several approaches have been proposed, among which the energy poverty line has been defined as the minimum quantity of energy required for basic life, in particular for cooking and heating. This paper estimates the relationship between energy expenditure and household income and identify energy poverty line based on the tipping point from which the energy share becomes not sensitive to household income, with the household survey data from rural Qinghai China. Considering the energy transition on the way, and the negative impacts of the use of biomass energy for environmental and health, the study set a scenario by replacing all bioenergy consumption with electricity.*

*The findings conclude that 52.8% of rural Qinghai household is energy poor, when transportation energy consumption is considered, and 57.2% when transportation is not considered. The results also indicate that Qinghai might have passed the phase of energy poverty in terms of accessing basic energy access, and what required attention is how to increase the share of modern energy in households' energy consumption. Considering the transition towards modern energy on hand, the population of income non-poor but energy poor is primary, and requires attention. The conventional policy design that targeted primarily on income poor households may in this case be inappropriate.*

**Andrew Purves (UCL, UK)**

***Models of fair public ownership: lessons from Hong Kong and Singapore***

*The question of public as opposed to private ownership is often cast as ideological or one of economic efficiency. Here, the question will be asked as to whether there are particular assets which should remain in public ownership due to the nature in which their value is created. Viewed in this way, the same public assets can in turn be used to deliver public revenue in a way that does not deter their use – as the revenue arises from economic rent. Examples from Hong Kong and Singapore are used to illustrate their effectiveness in delivering social as well as economic benefits. The examples will include leasehold systems of land ownership, housing, airport development and public transport.*

**Roei Bachar (University of Milano-Bicocca, Italy)**

***Someone's Been Sitting in My Chair - Reflecting and Exploring the Conceptual Change of Home via Airbnb***

*The place we call home has gone through a long process before becoming into what it is today. It was the urban revolution that had separated and created an urban dichotomy between the private and the public. Today, an interesting debate is being raised about the distortion of those lines. While the risks of such trends are widely discussed, another phenomenon should be under research eye, as home becomes work, under the support of Airbnb and its success story. This research would discuss the meaning of 'home' while finding evidences for a possible change. To get those answers, qualitative research in three cities was established. Milan, Italy. Lisbon, Portugal. And Jerusalem, Israel. A variety of research methods were used for this research, including the collection of 88 cases collected by ethnography, and the collection of 57 interviews. Airbnb is often a practical and sometimes even life-saver solution for a household in an economic crisis. Nevertheless, Airbnb's wave-rhythm-like of incoming guests, which is restricted to Airbnb's rules and rulings, leads to several patterns that make the host experience the loss of their home, or the transformation of a 'good' type of home into a 'bad' one. In addition, objects and family objects tend to change their meaning, as the space does, which altogether leads to a sense of alienation between the hosts and their home. The research found that, bad or extreme experiences tend to influence the host's feeling towards their home over time. This feeling increases in situations in which the host does not only share spaces in their room but actually, gives home away. In such cases, hosts tend to experience psychological signs of grief over loss. In this three city research, it was possible to create a rare combination of an empirical qualitative work method, and a philosophical and yet fundamental thinking about the core definition of home. As it is important to continue research in order to understand changes at home, this research also reflects on the whole human condition and its further possible directions.*

**Tianyu Su (MIT, US)**

***Entire home rather than private room: a monetary motivation study on Airbnb listings based on spatial cluster analysis and propensity score matching***

*The proliferating short-term rentals such as Airbnb have drawn wide concerns of driving up housing costs for full-time residents and intensify the gentrification in neighborhoods. Drawing on 2015-2018 Airbnb listings data in Boston Metropolitan Area from AirDNA, we use propensity score matching methods to analyze the economics of Airbnb's entire-home listings by matching them with the "ghost hotels"—entire units or whole apartment buildings which have been converted into many private-room listings by the owner. We use spatial cluster analysis (DBSCAN) to identify groups of private rooms rented by a single host which are highly likely to be located in the same building, then match the samples and test for the existence and magnitude of*

*the “entire-home listing premiums”. After controlling the Airbnb accommodation attributes and socio-economic factors, we find that the normalized revenue premium of entire-home listings is around 30% compared to “ghost hotels”. We also analyze the spatial variation of the entire-home listing premiums, finding that the economic premiums of entire-home listings are lower in census tracts with higher Airbnb densities. Additionally, we identify the influence of various socio-economic factors such as poverty rate, white population ratio and elderly population ratio on the dependent variable across census tracts. The results imply that Airbnb hosts have the monetary incentives to list their properties as entire homes, thus stricter regulations should be established to outlaw the entire-home Airbnbs. This research can act as a data-driven support for short-term rental regulations in cities like Boston and New York City, and can also provide insights for the cities who are debating around similar regulations.*

**Jingsi Xie (Central Academy of Fine Arts, China)**

***Research on Renting Market Based on Open Data——Beijing as an Example***

*The sustainable development of economic housing has received widespread attention from decision makers around the world. However, due to the lack of rental data, researchers still know very little about the rental market. By integrating the open data of the Internet platform, this paper comprehensively compares the determinants of residential rent prices in Beijing. Through regression analysis, we found that the rental housing market is affected by regional factors, such as transportation facilities, service facilities, and employment opportunities. In areas with well-developed infrastructure, the location advantages of high salaries and business districts are significant. In the suburbs, regional advantages are significantly affected by traffic factors. These phenomena indicate that economically disadvantaged groups need to withstand higher commuting distances, and policy makers need to spread the industry distribution of each location to improve public housing policies.*

**Arooj Khan (University of Birmingham, UK)**

***"Make Room for Us": Drawing Parallels Between the Colonial Past, Present and Future of Tilbury Town Through the Eyes of Children and Young People of Colour***

*Since the 1960s, studies on race and housing issues have dominated the fields of cultural studies, geography, architecture and all fields in between. This has been further confirmed by the Human City Institute's recent research which reveals that the level of housing stress in Black, Asian and Minority Ethnic communities (BAME) is much higher than for white communities. Furthermore, according to governmental statistics, homelessness has grown massively in BAME communities, from 18% to 36% in the last two decades – double the presence of ethnic minorities in the population. With regeneration continuing to become a mainstay in British urban policy, there has been a disproportionate amount of BAME residents pushed out of inner city areas for affluent, transient and predominantly white newcomers by racist housing policies and pricing out age (Perrera, 2016). This presentation is an overview of the research conducted to date on an area specific PhD study which draws parallels between regeneration and British colonialism, by observing the impact of regeneration on children and young people of colour who have recently moved to Tilbury Town from London boroughs. It takes a geographical and architectural perspective on the colonial past, present and future of the area by conducting a series of decolonising research methods with those involved.*

**Xiaomin Lin (Southeast University of Nanjing, China)**

***Research on spatial potential exploitation of Nanjing workers' new village based on residents' satisfaction***

*The workers' new village is the first workers' new village in Nanjing. As the carrier of living culture in the early days after the founding of the People's Republic of China, it recorded the living characteristics and urban culture in this period. However, at present, the protection and renewal of workers' new village is not optimistic. The houses are dilapidated and old, the facilities are insufficient, the space utilization is tense, the residents' satisfaction is low, and the quality of life needs to be improved. The purpose of this paper is to put forward the strategy of multi-development of the community in order to provide some new ideas for this type of old community renewal. Based on the research on the historical value and current situation of Nanjing workers' new village community and no. 82 of Luxiying, this paper comprehensively investigates and studies*

*the residents' satisfaction, and explores the development potential of community space from the aspects of material environment, community economy and organization.*

**Yin Jia (China Academy of Social Science, China)**

***Defending Gentrification! What china's city-middle-class do when communities fail***

*It is hardly to imagine but easy to believe, that urbanization in rapidly growing china cities have different looks. Similar is also the Gentrification and urban community functioning, which takes on an alienation image. This research picks two typical cases as examples: Beijing and Shenzhen, to see how problems are taken place and resolved. In Beijing, when new buyers of old apartment located in particularly "elite school zone", they voluntarily help to organise the community, keeping it from failing down. While in Shenzhen, on the other hand, the apartment holder, who make the purchase all by effort themselves, show extremely hatred and intolerant to the co-dwells, who get their rooms most thanks the policy of government. Behind the lacking of community awareness and sharing spirit, are actually the ghost of Gentrification. Which inferred that the necessity of review the value of city regulation and planning law.*

**Session 5: Urban heritage preservation and renovation**

**Weixuan Chen (South China Agriculture University, China)**

***The Pattern Analysis and Promotion Strategy of Public Participation of Micro-transformation in the Old Community in Guangzhou***

*In terms of the renewal of the old community, residents in the old communities participate in the renewal and construction and jointly promote the communities to renew their new surroundings. After the development of cities, there are a large number of old communities. With the development of the Stock-Based Planning and the City Betterment and Ecological Restoration, the micro-transformation of the old community has gradually been noticed. At the same time, Residents are users of the communities, but the micro-transformation of the old community still has shortcomings in public participation. How to reflect the status of the residents as one of the stakeholders in the micro-transformation and to fully mobilize the initiative and enthusiasm of residents is a social problem that has to be explored today. The exploratory public participation model under the community micro-renewal is an essential part of the community micro-renewal work, which has a positive effect to improve the relationship between residents and communities. This research basing on 11 typical old communities in Guangzhou as the object, conducts detailed questionnaires and in-depth interviews in the field research, investigates information of public participation and existing problems in the micro-transformation of the old community, analyzes the opinions and comments of different stakeholders, and explores the corresponding public participation model in the old community. Targeted strategies and suggestions are put forward, which provides a reference and research basis for the improvement of public participation of the micro-renewal in old communities.*

**Yingxue Liao (Huazhong Agricultural University, China)**

***Research on planning strategy of historical and cultural block based on urban catalyst theory ——a case study of Wuhan Yiyuan Road Historical and Cultural Block***

*Since Chinese urban construction entered the stage of "stock planning", the value of historical and cultural blocks has been re-recognized and explored. As an important urban stock land, reasonable planning and protection of historical and cultural blocks has become an important issue in Chinese contemporary urban construction and urban historical landscape development. Taking Wuhan Yiyuan Road Historical and Cultural Block as an example, for the problems such as the lack of internal vitality and relative isolation in the process of renewal, this paper attempts to establish a two-level planning strategy of "internal activation and external linkage" based on the theory of "urban catalyst". Hope to reasonably guide the catalytic effect of historical and cultural blocks and provide reference for the planning and construction of the same type of historical and cultural blocks.*

**Xiaowei Wang (Chongqing University, China)**

### ***A model to evaluate the correlation between risk factors on implementing urban renewal projects***

*Urban renewal is an increasingly essential strategy for urban development in a long time. The urban renewal project faces a more complex risk system than the general construction project because the former involves the interest relationships of more subjects. Identifying the risks that related to the urban renewal projects and the correlations between these risks are essential for sustainable urban renewal. This study aims to explore the impact of the risks and their correlations in the implementation of the urban renewal projects. The list of risk factors used for model development are gathered from literature review, two-round Delphi interview, and a questionnaire survey. Based on the identified 26 risk factors of urban renewal projects, the social network analysis (SNA) and k-cores method are employed to construct the risk correlation relationship model of urban renewal projects. The model contributed to comprehensive analyze and evaluate the risk correlation of urban renewal projects. Results showed that there is a 18.3% correlation between urban renewal project risks, and these risks correlations have a significant impact on the achievement of urban renewal projects. Meanwhile, developer's insufficient experience in urban renewal project, imperfect decision-making mechanism, and unreasonable governance structure are critical risk factors, which have greater impact on the entire risk network. The findings in this study can provide helpful references not only for the government to adopt risk management measures for promoting urban renewal projects, but also for project implementer to effectively mitigate risks in future urban renewal projects.*

### **Yiqing Zhao (Polytechnic University of Milan, Italy)**

#### ***The process and policy network of heritage-based development in China: A case of Xi'an Qujiang Model***

*For the purpose of stimulating rapid urban socio-economic growth, some Chinese historical cities have initiated property-led urban regeneration projects to attract new investment and introduce various economic activities since the 1990s. Xi'an, an ancient capital of China, is proposed as "a world-famous historical and tourism city" in its fourth master plan (2008-2020). Since the 2000s to date, an increasing number of large-scale conservation projects have been undertaken by Qujiang New District Management Committee, endeavoring to "reconstruct" the city in its Tang Dynasty glory (618-906AD). Within this period, local heritage sites such as the Daming Palace and Big Wild Goose Pagoda are experiencing an encounter with commodification for cultural tourism. This paper examines the heritage-based development model in Xi'an (Qujiang New District), seeking to explain how pro-growth coalitions used heritage to stimulate the economic competitiveness and historical city branding of Xi'an. Using qualitative data collected from published sources and interview with key stakeholders, the paper investigates the internal policy networks and land management mechanisms in process of heritage-based development of Xi'an. The Qujiang New District development model presents a typical case for the commodification of heritage places, in which large-scale property-led regeneration was initiated to increase land values. It shows that while Xi'an has benefited from Qujiang New District development model of property-led regeneration and the developed heritage sites have been used as growth poles for the whole city, the development process has a negative impact on the local communities. This paper thus calls for more attention to similar domestic and international processes of transformations in heritage-rich areas.*

### **Zhexiao Wang (Huazhong agricultural university, China)**

#### ***Exploring the Law of Existence of Informal Commercial Activities in Historical and Cultural Streets under the Concept of Sharing ——a Case Study of the Historical and Cultural District of the Russian Concession in Hankou***

*In the era of "stock planning", the value of historical and cultural blocks has become more and more precious. However, due to the old residential buildings in historical and cultural blocks, a large number of low-income urban residents have been gathered, which has made the interior of the neighborhood lack of vitality, restricts its value seriously. The occurrence of informal commercial activities has stimulated the improvement of the vitality of the block to some extent, but at the same time it has also damaged the image of the block, increased the traffic burden, brought about food safety problems and security risks, and has serious negative externalities. Starting from the concept of sharing, this paper advocates the means of "road rights sharing and fine management" and tries to establish a set of "mobile phone positioning, information*

*release and credit evaluation system". On this basis, the concept of "compound employment post" for street vendors is put forward, aiming at finding a breakthrough through the perspective of landscape architecture, mediating the antagonistic relationship between street vendors and city managers, improving the disadvantages of informal commercial activities, Based on this new system, the social identity of vendors has been redefined, and they have become the vitality of historical and cultural blocks. This concept provides new ideas for building a harmonious, convenient and dynamic historical and cultural block.*

**Lan Li (Xi'an University of Architecture and Technology, China)**

***Urban Memory: Research on the Renewal of Industrial Heritage in Historical Area: The Case of Old Arsenal District in Taiyuan***

*In recent years, large-scale regional demolition and construction have taken place due to urban renewal, which has caused great damage to the industrial heritage. People are gradually aware that the industrial remains, which carry the cultural memories of the city, can play an important role in the sustainable development of the city if they were adapted thoughtfully and put into use for new purposes. During the process of renewing these industrial areas, two important factors should be taken into account: preserving the industrial heritage and improving the sense of belonging of the neighboring area. Taiyuan city, which is one of the most significant industrial cities in China, still retains the old Arsenal, which has been the largest in north China in modern times. Taking the old Arsenal in Taiyuan as the research focus, this study explores the role that the protection of industrial heritage plays in the renewal of historical area, by investigating its historical and cultural inheritance, functional layout, built environment, transportation linkage, ecological protection. By adopting the approach of questionnaire surveys and also statistic analysis, this study investigates the three core areas in the historical area in order to get an insight into the overall impact of industrial heritage on the renewed area. Based on our findings, we suggest to change the focus of the renewal of industrial heritage from "protection" to "guided development". Specifically, we propose the renewal model of the industrial heritage: renewing it while maintaining its unique local characteristic, by stimulating its own transformation, in order to persevere the whole area. In addition, we also emphasize the importance of integrating the renewal of the industrial heritage into the general renewal plan of the entire urban area, for which we propose several suggestions for urban planners and decision makers.*

**Weiyei Cao (Harvard University, US)**

***Lowell's Urban Redevelopment: Historic Preservation as Power Consolidation***

*This paper discusses the situation and development of Lowell, MA, United States since the establishment of Lowell National Historical Park (LNHP) in 1978. By revealing the underlying forces shaping the preservation plan and its later practices, I want to investigate how the industrial history of Lowell was used or abused to create its urban change of residential displacement and industry transition, which creates problems and provide power consolidation for different certain ethnic groups. In the case of Lowell, I have found the forces creating LNHP represent certain advocacy groups as well as the interests they represented with, which resemble with David Lowenthal's ideas that the essence of heritage is formed by people's invention (Lowenthal, 1998). I argue that the noteworthy creation of LNHP was not as innocent as it seemed. Rather, under the guise of preserving heritage assets, this effort of historical designation fabricated the history into heritage, and considered the potential economic benefits, which late brought out consequences that resembled many characteristics of urban renewal across many U.S decaying cities since 1960s.*

**Tongyun Du (University of Copenhagen, Denmark)**

***Investigating the relationship between social capital and satisfaction with current neighborhood under impact of urban renewal: a case study of Chongqing, China***

*Urban renewal in China often involves large-scale demolition of built-up areas and inhabitants are often subjects to forced eviction and involuntary resettlement, which can lead to the dissolution of social networks with comprehensive social impact as a result. The most striking social impact are changing residents' social capital and changing residents' satisfaction with current neighborhood. Very few researches have attempted to delve into the social impact of urban renewal. In this paper, we evaluate the relationship between social capital and neighborhood satisfaction in recently renewed areas in the center of Chongqing, China. We*

selected six urban renewal projects in different stages, some finished a couple years ago, some more recent or not finished yet, and conducted a questionnaire survey with more than 1,000 local residents between December 2018 and April 2019. Four research questions are examined: (1) what is the relationship between social capital and satisfaction with current neighborhood? (2) What is the relationship between social capital and five separate dimensions of social capital? (3) Which of those five is the most relevant to social capital? (4) Whether the situation of the model is consistent with that of real life or not? To investigate statistical relationships in an explorative way, we use PLS-SEM. The structure of this paper is organized as follows. First, we clarify the definition of social capital and its dimensions and provide a brief review of the literature on social capital under urban renewal background. We also review the measurement of social capital under urban renewal background, basis for the design of our own questionnaire. Section 3 provides the conceptual framework used to explore the relationship between social capital and satisfaction with current neighborhood, summarized in the research hypothesis. After an introduction to the study area, survey instrument and data sources, the results of the fieldwork adopted the PLS-SEM are presented and discussed. The results show that social capital increased after urban renewal. After urban renewal, 'social capital' is influenced by 'sense of community and community cohesion', less by 'social reciprocity and trust' and 'avoid forced eviction and gentrification' and 'community participation and accessibility' and 'social network and social protections'. 'Social capital' has a positive relationship with 'satisfaction with current neighborhood'.

### **Ye Zhao (Southeast University, China)**

#### **Research on integrated performance-based planning method of Chinese traditional rural settlements**

Traditional rural settlements are basic living units in rural China, which express geographical environment and social appearance comprehensively. It's not only the assemble of space and substance, but a complete system including landscape, farmland, streets and houses, immersed in the unique cultural atmosphere, dominated by folk customs and patriarchal rules, and organized according to the acquaintance social order. On the premise of holistic and integrated, the characteristics of traditional rural settlements can be summarized as "locality, temporality, sociality, inheritance"; accordingly, the preservation and development are summarized as "respecting regional conditions, continuing historical context, inheriting humanistic atmosphere, saving the environment, shaping the space, maintaining the style", and present through the spatial form and special features. However, with the acceleration of China's urbanization and improvement of living standard, there have been some changes and loss in the rural: the disconnection between development goals and operation strategies, the eager pursuit of specific "tangible" profits but neglect of the "comprehensive quality", the "destructive construction" caused by the inferior and inefficient private renovation. All these problems have caused the unequal or poor connection between demand and countermeasures, which has changed the path and efficiency of rural development. The "Rural Revitalization Strategy" proposed in the new period has put forward new contents and ideas for the development, and provided new opportunities and guarantees, but the practice must combine with the specific implementation of the project and the current conditions of the settlement. From the two aspects of "value orientation" and "historical orientation", we can get the basic content of self-organized generation demand and performance control target of traditional rural settlement. This thesis attempts to establish a "bridge" between the two, highlighting the idea of "integrate", combine the characteristics with economics, talents, culture, ecology, and organization to carry out multi-dimensional performance coordination, establishes a performance matrix with "multi-phase implementation strategy", through three steps of information integration, data mapping and program decision-making to complete value assessment, project collection, design operation, and proposes a performance planning workflow for traditional rural settlement to connect macro propositions and micro practices, and try to achieve the simultaneous promotion of the protection and development of traditional rural settlements.

### **Long Wang (Xi'an University of Architecture and Technology, China)**

#### **Functional Integration and Site Protection of Small Wild Goose Pagoda**

Heritage protection and vitality regeneration in historical areas have always been a widely concerned and controversial topic. The protection of sites blindly pursued without regard to modern life will often lead to the isolation and loss of vitality of sites. The combination of reasonable protection and utilization is not only

*conducive to the protection of the site, but also can give full play to the cultural radiation effect of the site. As one of the world cultural heritages, the historical area of Small Wild Pagoda has a relatively complete preservation of the tower itself and related relics, which has important value and significance for the study of Tang culture. The area of Small Wild Pagoda is located in a prosperous city commercial center, and has superior conditions in terms of human flow, traffic accessibility and so on. The protection and improvement of Small Wild Pagoda historical area is not only the requirement of urban development, but also closely related to the protection of world cultural heritage. This paper attempts to make an attempt in the direction of site protection, vitality regeneration and historic scene remodeling in the historical area of Small Wild Pagoda. Through the combination of reasonable protection and utilization, the historical features of the Little Wild Goose Pagoda can be reconstructed and its modern significance and site vitality can be endowed at the same time. On the premise of heritage protection laws and regulations, according to the present situation of Small Wild Pagoda, this paper puts forward the ways of underground expansion, organic combination, and reconstruction of historic scene, so as to meet the needs of modern space and at the same time create a harmonious historical and cultural environment of Small Wild Pagoda. In the reshaping of historical features, through in-depth excavation of the historical culture of the area, the spirit of place with epochal significance and sense of history can be created from reshaping the scale of streets and lanes, symbolic symbols, spatial deduction and scene reappearance, etc. Finally, considering the significance of the paper, on the one hand, I hope to provide ideas for the future comprehensive renovation of the historical area of Small Wild Pagoda; on the other hand, there are many historical areas similar to the status quo of Small Wild Pagoda in many cities in China and all over the world, hoping to play a reference role in the renovation and upgrading of related types of historical areas.*

## Supporting Universities

### **Department of Urbanism, Delft University of Technology**

The Department of Urbanism in the Faculty of Architecture and the Built Environment encompasses and combines urban design, spatial planning, landscape architecture and environmental modelling. The Department has a global reputation for excellence in research and education. It is particularly well known for the 'Dutch approach' to urbanism that brings together the creativity of design with academic research methods. This 'integral' urbanism enjoys high international esteem in professional practice, research and education.

### **Department of Architecture, University of Cambridge**

The Department of Architecture is part of the Faculty of Architecture and History of Art in the University of Cambridge. Regularly, it is lauded as one of the leading architecture schools in the world and a community which gathers many world-renowned researchers and ground-breaking practitioners. It delivers courses which mix design with academic rigor and is considered the only Cambridge degree that combines the intellectual challenges of both arts and sciences with the opportunity for creative design.

### **The Bartlett, University College London**

The Bartlett, the University College London's global faculty of the built environment, is constituted of three schools (Architecture, Construction and Project Management, Planning), a Centre for Advanced Spatial Analysis, a Development Planning Unit, and eight research institutes which, individually, are leading their fields. As a whole, they represent a world-leading, multidisciplinary faculty, united by the radical spirit of UCL. As one of the oldest but most radical faculties of its kind, Bartlett is ranked as the Europe's top research institution for architecture and build environment in the lastest QS World Ranking.

### **School of Architecture and Cities, University of Westminster**

Architecture and Cities is a research umbrella comprising five distinct research groups based in the University's Department of Architecture: Architectural History and Theory, Environment and Technology, Expanded Territories, Experimental Practice (EXP), and Representation, Fabrication and Computing. These are loose alignments of academics, research students, designers and practicing architects who undertake joint research initiatives and organise events of common interest.

### **Department of Geography, King's College London**

The Department of Geography is a vibrant community of students, teachers and researchers. Our holistic approach encompasses both human and physical geography perspectives on global challenges and pressing environmental, geopolitical, urban and rural issues. Our research findings contribute to public debates and policy development at national and international scales, making important contributions to climate change, disasters, smart cities, risk regulation, water, human migration and wildfire hazards. We are also deeply committed to tackling pressing matters of social justice around the world.

## Supporting Organisations

### **The Association for European Transport**

The Association for European Transport is the leading European organisation for transport professionals and academics. AET promotes networking and exchange of ideas, information and opportunities amongst members. It organises Europe's oldest multi-disciplinary, multi-stream annual transport conference, the European Transport Conference (ETC). AET is committed to the development of young professionals in the transport industry and in academic fields. For more information about the benefits of AET membership see the membership section.

### **Vereniging Deltametropool**

The Delta Metropolis Association is the initiator of independent design research into metropolitan development in the Netherlands and the Euro-Delta Metropolis. We coordinate research projects, do our own research, share knowledge and advise. Through well-considered cooperation with our broad and layered administrative and knowledge-oriented network, the research becomes well-founded and relevant.

*Visiting address: Museumpark 25, 5th floor, Rotterdam*

*Phone: +31 (0) 10 737 0340*

*Email: [secretariaat@deltametropool.nl](mailto:secretariaat@deltametropool.nl)*

### **'CITY+' Research Network**

'CITY+', currently London-based, is a research network led by postgraduate students and early career researchers working at the frontier of urban studies. The first 'CITY+' conference was held on September 23, 2017 at the Martin Centre for Architectural and Urban Studies, University of Cambridge. Over seventy delegates from eighteen universities across the UK, Netherland, Denmark, Italy and China attended the event. The one-day conference brought together participants working on a diverse range of disciplines, from social equality and right to the city, to urban mobility, regeneration, housing, environment, energy, data analytics and smart technology.

*Website: [www.city-plus.org](http://www.city-plus.org)*

*WeChat: CityPlus2016*

## Contact

*E-mail: [2019cityplus@gmail.com](mailto:2019cityplus@gmail.com)*

*Website: [www.city-plus.org](http://www.city-plus.org)*

## Notes

**Notes**

# Map of Delft University of Technology

TU Delft Campus Map  
Campusplattegrond

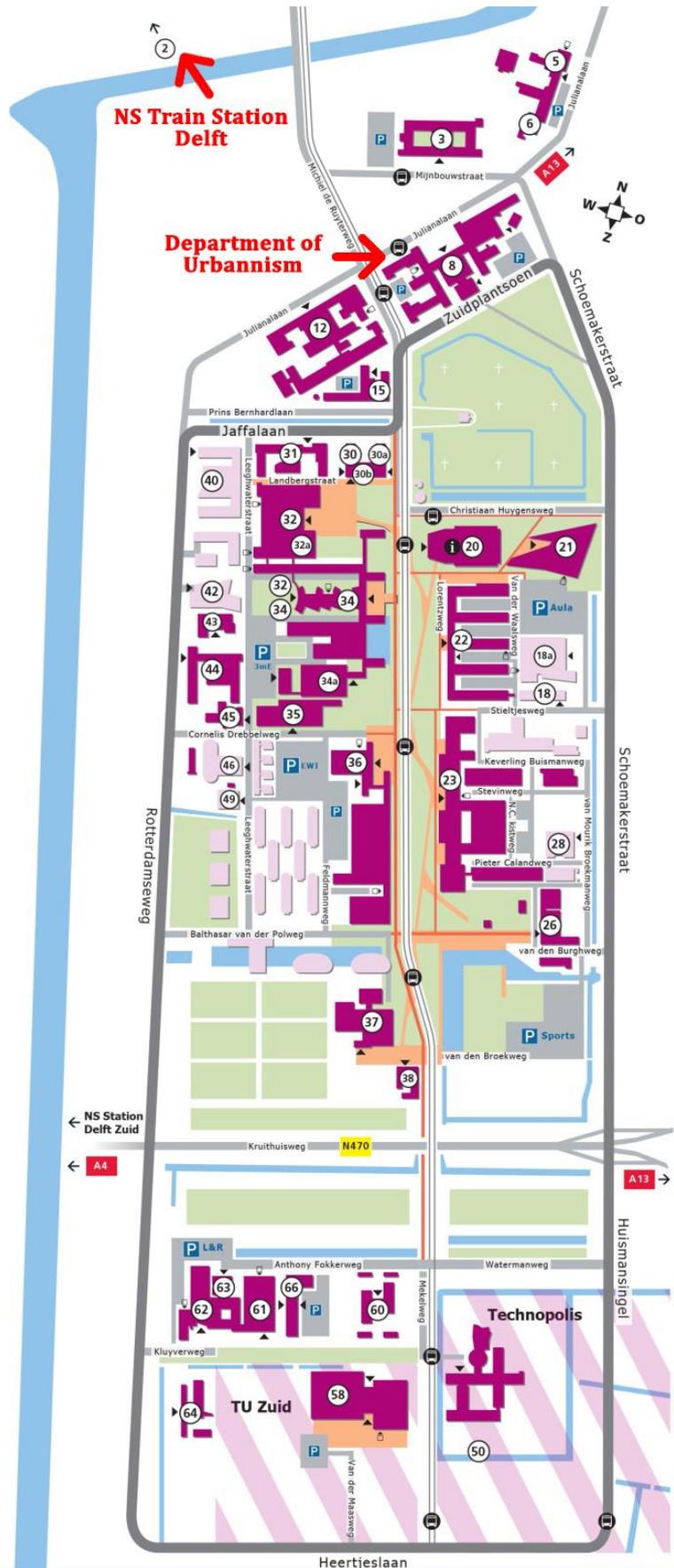
## Legend / Legenda

- TU buildings  
TU gebouwen
- Other buildings / prospective buildings  
Overige gebouwen / gebouwen in aanbouw
- 20 Building number  
Gebouwnummer
- (Main) entrance building  
(Hoofd)ingang gebouw
- Delivery entrance  
Goedereningang
- TU roadway  
TU ring
- Road  
Autoweg
- Bus track  
Busbaan
- Cycle path  
Fietspad
- Pedestrian area  
Voetgangersgebied
- B Busstop  
Bushalte
- P Parking  
Parkeerplaats
- Park / sports field  
Park / sportveld
- Water
- Area under construction  
Gebied in ontwikkeling
- i Information Desk TU Delft  
Tel: +31 (0)15 27 88022

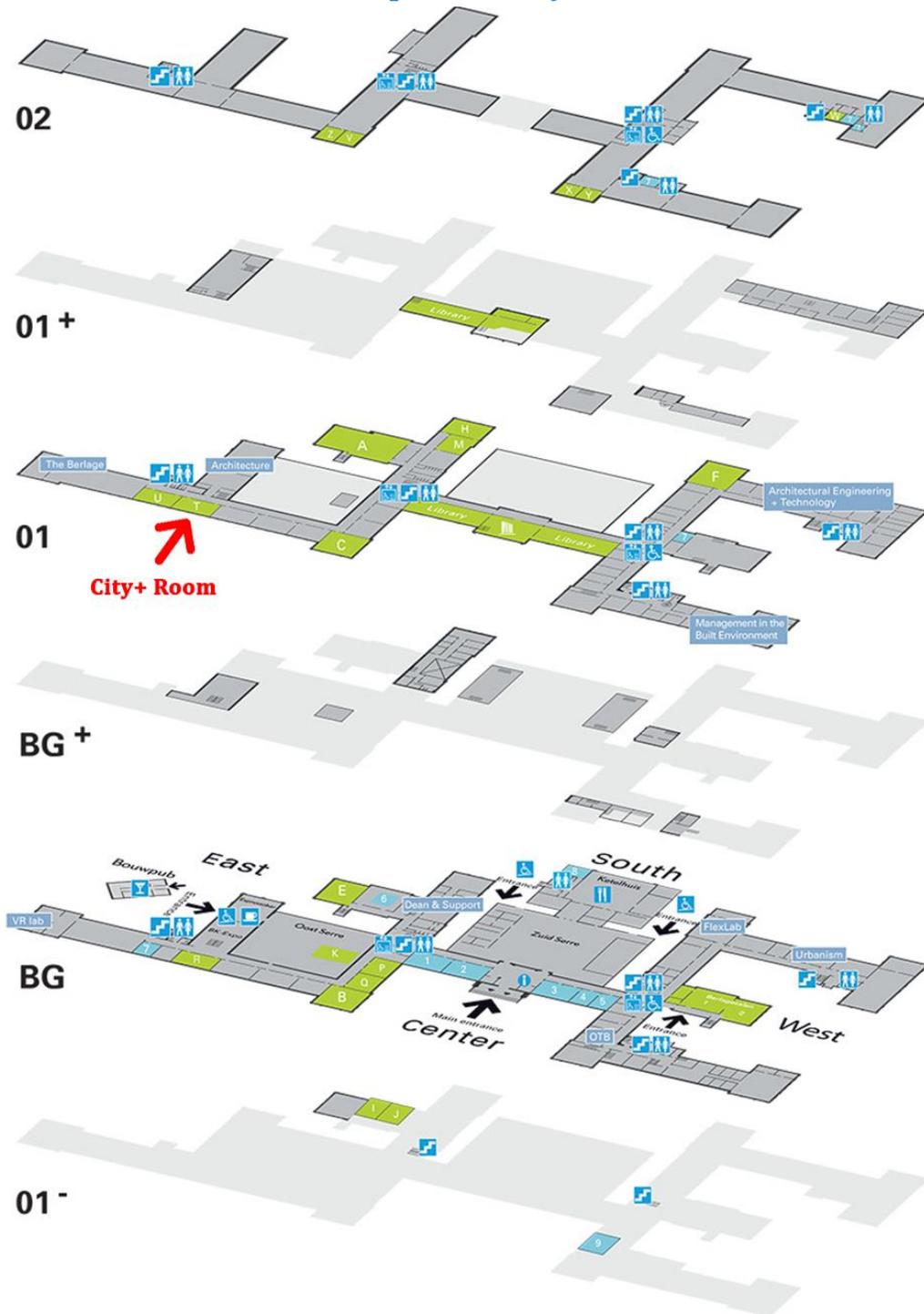
See page 2 for building list and addresses  
Zie pagina 2 voor gebouwenlijst en adressen



Mei 2016



## Map of BK City



**TU Delft** Delft University of Technology  
**BK Bouwkunde** Faculty of Architecture and the Built Environment

Printshop	Service Desk	Library	Lecture room F	Lecture room R
Waltman's Bouwshop	Restaurant Ketelhuis	Berlage zaal 1	Lecture room H	Lecture room T
Stylos	Espresso Bar Sterk	Berlage zaal 2	Lecture room I	Lecture room U
@-Hok	Bouwpub	Lecture room A	Lecture room J	Lecture room V
FSR / B_Nieuws	Toilet	Lecture room B	Lecture room K	Lecture room W
Student affairs	Disabled toilet	Lecture room C	Lecture room M	Lecture room X
+ International office	Disabled elevator	Lecture room D	Lecture room P	Lecture room Y
Msc-student association	Disabled entrance	Lecture room E	Lecture room Q	Lecture room Z
Thinkroom	Staircase			
Logistics Desk				