

# CITY+

INTERNATIONAL  
CONFERENCE

BOOK OF ABSTRACTS

2021

30 / OCT  
POLITECNICO DI MILANO

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 **POLITECNICO  
MILANO 1863**  
DIPARTIMENTO DI ARCHITETTURA  
E STUDI URBANI

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# CITY + 2021 @ MILAN

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

DATE/TIME: 09.00-16.30, 30<sup>TH</sup> OCTOBER 2021

FORM: ONLINE MEETING

## *Introduction*

*“City+” is a research network led by early career researchers, and is organizing annual international conferences for early career researchers and PhD students on urban studies. The first event, City+ 2017 @ Cambridge, was launched at University of Cambridge, followed by City+ 2018 @ London at University College London and City+ 2019 @ Delft at Delft University of Technology. To date, our conferences have attracted approximately 260 delegates coming from a number of universities and organizations and from Asia, Europe and North America, demonstrating the conference’s potential to become a good platform to share research, provide cooperation opportunities and address increasingly complex urban concerns from multiple perspectives.*

*Within the theme “Modeling a Resilient and Smart Urban Life”, this conference aims to demonstrate the different aspects of modeling in urban studies. Modeling here means different research approaches: Conceptual Modeling, i.e., the ambition to formulate hypotheses about the correlations and possibly the logical and causal relationships among actors, spaces and phenomena in the urban setting. Empirical Modeling represents an inductive process of representing and analyzing a specific urban context in view of gaining extra insight which can go beyond the specificity of the case at hand. Virtual Modeling and Digital Twin, i.e., the use of digital technologies to represent and simulate, and even extract implicit knowledge from the urban environment.*

*From the standpoint of resilience and smart city, we propose a series of themes, which belong to a wide array of disciplines, yet converge in view of a new approach to urban studies, particularly focused on sustainability, live-ability and inclusiveness of urban life. Moreover, the aforementioned topics seem to have a great impact on a series of sub-fields, including – but not limited to – smart decision-making and participation, resilient urban climate, sustainable mobility, circular economy and reuse of cultural heritage, and anti-fragile urban agriculture.*

# PROGRAMME: 30<sup>TH</sup> OCTOBER, 2021

## 9.00-9.45: THE MAIN VENUE

### 9.00-9.15: Welcome and introduction

Prof. Luca Gaeta (Polytechnic University of Milan)

### 9.15-9.30: Keynote speech

Prof. Stefan van der Spek (Delft University of Technology)

### 9.30-9.45: Keynote speech

Prof. Ying Jin (University of Cambridge)

## 9.45-13.00: PARALLEL SESSIONS: THEME 1, THEME 2, THEME 4

### THEME 1: SMART CITY AND BEYOND

**Session chairs:** Prof. Daniele Villa (Polytechnic University of Milan), Lorenzo Ceccon (Polytechnic University of Milan)

#### Presentations

**Yang Xu\*** (The Hong Kong Polytechnic University, China), **Paolo Santi** (Massachusetts Institute of Technology, USA; The Institute of Informatics and Telematics of the CNR, Italy), **Carlo Ratti** (Massachusetts Institute of Technology, USA)  
*A new approach to understanding spatial and social network segregation in cities*

**Xinxin Lyu, Yi Chao\*, Yao Yao** (China University of Geosciences, China)  
*Spatial distribution and measurement of urban poverty at fine-scale based on multi-source data: A case study of WuHan, China*

**Wen Wen\*** (Tianjin University, China), **Yaxin Liu** (Tianjin University, China), **Yike Hu** (Tianjin University, China), **Hao Zheng** (University of Pennsylvania, USA)  
*Spatial distribution of urban residents' slow physical activity based on deep learning*

**Nan Bai\*** (Delft University of Technology, the Netherlands), **Pirouz Nourian** (Delft University of Technology, the Netherlands), **Renqian Luo** (Microsoft Research Asia, China), **Ana Pereira Roders** (Delft University of Technology, the Netherlands)  
*"What is OUV" revisited: A computational interpretation on statements of Outstanding Universal Value*

**Wei Zhai** (Hong Kong Baptist University, China)  
*Damage assessment using google street view: Evidence from Hurricane Michael in Mexico Beach, Florida*

**Zhewei Liang\*, Qingfeng Guan, Yao Yao** (China University of Geosciences, China)  
*Detecting urban transient anomalies by combing deep learning models and hierarchical time memory detector*

**Xiong Yang\*** (The Hong Kong Polytechnic University, China), **Chengxiang ZhuGe** (The Hong Kong Polytechnic University, China), **Chunfu Shao** (Beijing Jiaotong University, China), **Mingdong Sun** (Beijing Jiaotong University, China), **Pinxi Wang** (Beijing Transport Institute, China), **Shiqi Wang** (The Hong Kong Polytechnic University, China)  
*A data-driven agent-based electric vehicle travel demand model: A case study of Beijing*

**Xinyu Li\*** (The Hong Kong Polytechnic University, China), **Yang Xu** (The Hong Kong Polytechnic University, China), **Qi Chen** (China University of Geosciences (Wuhan), China), **Lei Wang** (University of Toronto, Canada), **Xiaohu Zhang** (The University of Hong Kong, China), and **Wenzhong Shi** (The Hong Kong Polytechnic University, China)  
*Short-term forecast of bicycle usage in bike sharing systems: A spatial-temporal memory network*

**Zhiyong Dong\*** (South China University of Technology, China), **Jinru Lin** (Tongji University, China), **Siqi Wang** (Tongji University, China), **Wen Wen** (Tianjin University, China), **Yijia Xu** (National University of Singapore, Singapore), **Jiaqi Xu** (Shenzhen University, China), **Xiao Liu** (University of Southern California, USA)  
*Where will romance occur: A new prediction method of urban love map through deep learning*

**Jing Zhou\*, Yue Zeng** (Suzhou University of Science and Technology, China)  
*A review of the application of artificial intelligence in the field of urban planning in China: Based on cite space*

**Zhiyong Dong\*, Yubo Liu, Qiaoming Deng** (South China University of Technology, China)  
*Application of neural network algorithm in urban form design*

### THEME 2: NEW FORM OF PARTICIPATION

**Session chairs:** Prof. Giovanna Fossa (Polytechnic University of Milan) / Prof. Felix Günther (University of Applied Sciences and Arts of Southern Switzerland), Annalisa Rollandi (Polytechnic University of Milan-University of Applied Sciences and Arts of Southern Switzerland)

#### Presentations

**Jingjing Li\*, Yiqing Wang\*, Shengsheng Cao** (Ningbo University, China)  
*Exploring the design strategy of emergency products with public participation*

**Jacob Lutta\*** (KU Leuven-Campus Sint-Lucas, Belgium), **Yves Schoonjans** (KU Leuven-Campus Sint-Lucas, Belgium), **Aldo Lupala** (Ardhi University, Tanzania)  
*The complexity of social and cultural dynamics in emerging of collective spaces in unplanned urbanization: Learning from Mlalakuwa-Dar es Salaam*

**Junxian Jiang\*, Qiaoping Jia, Zhuqiao Jin** (Shanghai Sanda University, China)  
*Application of "micro update" refactoring strategy in Shanghai Lujiazui waterfront landscape reconstruction*

**Sara Elgamal\*** (Mansoura University, Egypt), **Hajar al-Beltaji** (Arab Academy for Science, Technology, and Maritime Transportation, Egypt)  
*Participatory planning as a method for co-design of bridges/flyovers in Egypt: The case study of heliopolis transformation*

**Xiaoyun Liu\*, Zhaozhan Lu, Xiang Li** (Polytechnic University of Milan, Italy)  
*Vernacular architecture: Inspiration of contemporary architecture design in China*

**M.Mashhood Arif\*** (KU Leuven, Belgium), **Yves Schoonjans** (KU Leuven, Belgium), **Oswald Devisch** (U Hasselt, Belgium)  
*Public spaces in informal settlements as an asset for neighborhood-upgrading: A case study in Lahore, Pakistan*

**Jing Li\*, Yueqi Zhang, Di Cheng** (North China University of Technology, China)  
*Identification and optimization strategies of rural built environment elements for public health: A case study in Shaoxing City*

**Zhen Wu, Zixuan Di, Bing Chen\*** (Xi'an Jiaotong-Liverpool University, China)  
*A game-based social platform that can facilitate rural revitalization*

**Mariana Auad Proença\*, Alessandro Balducci** (Polytechnic University of Milan, Italy)  
*A case study of the role of universities as sustainable and social agents in co-design for fragile territories*

**Jing Li\*, Yuzhong Zhang, Xinning Liu** (North China University of Technology, China)  
*An empirical study on the effect of community green space micro-renewal on residents' mental health: Based on the perspective of post epidemic situation*

**Xiao Qian** (Chongqing University, China)  
*The city image narrated under the influence of online self-presentation*

**Nedaa Mahboub** (Cairo University, Egypt)  
*Spatial indicators and the measurement of happiness in deteriorated public spaces*

### THEME 4: ACTIVE TRAVEL AND URBAN MOBILITY

**Session chairs:** Prof. Domenico D'Uva (Polytechnic University of Milan), Dr. Mengqiu Cao (University of Westminster), Liang Yang (Polytechnic University of Milan)

#### Presentations

**Meiye Li\*** (Southeast University, China), **Ting Wang** (Southeast University, China), **Yajuan Deng** (Chang'an University, China)  
*Heterogenous trip distance-based route choice behavior analysis using real-world large-scale taxi trajectory data*

**Dian Shao, Junyan Yang\*** (Southeast University, China)  
*Research on the mechanism of UDUV in high-density areas based on population and spatial deviation model: Case study in Changzhou Railway Station Area*

**Senqi Yang\*, Yu Zhuang** (Tongji University, China)  
*Functional layout and its correlation with urban vitality in large-scale train station areas in the perspective of station-city synergy*

**Luning Li** (Beijing Normal University, China), **Xiang Chen** (University of Connecticut, USA), **Qiang Li\*** (Beijing Normal University, China), **Xiaoyue Tan** (Beijing Normal University, China; The Hong Kong Polytechnic University, China), **Jin Chen** (Beijing Normal University, China), **Dawei Wang** (The University of Hong Kong, China), **Pengfei Jia** (China Academy of Urban Planning and Design, China)  
*Contextualizing human dynamics: Understanding the semantics of movement trajectories with Wi-Fi data*

**Jing Li\*, Hao Zhang** (North University of Technology, China)  
*Research on the construction of "15-Minute" cities under the health impact assessment*

**Bruna Vendemmia\*, Cristiana Mattioli** (Polytechnic University of Milan, Italy)  
*Beyond the 15-minute city? Looking at proximity through secondary education*

**Yunhe Cui** (University of Connecticut, USA), **Xiang Chen\*** (University of Connecticut, USA), **Xurui Chen** (VIPSHOP (China) Co., Ltd, China), **Chuanrong Zhang** (University of Connecticut, USA)  
*Competition, integration, or complementation? Exploring the role of dock-based bike-sharing system in New York City*

**Qihao Liu\*** (University of Liverpool, UK), **Chia-Lin Chen** (University of Liverpool, UK), **Mengqiu Cao** (University of Westminster, UK)  
*Exploring the relationship between the commuting experience and hedonic and eudaimonic well-being*

**Tomaz Elisabete\*** (Centre for Socioeconomic and Territorial Studies-IUL, Portugal), **Tomaz Elisabete** (Centre for Socioeconomic and Territorial Studies-IUL, Portugal), **Di Marino Mina** (Norwegian University of Life Sciences, Norway), **Henriques Cristina** (University of Lisbon, Portugal), **Chavoshi Hossein** (Norwegian University of Life Sciences, Norway)  
*Coworking spaces in Lisbon and Oslo from a chrono-urbanism perspective*

**Luigi Carboni\*, Fabio Manfredini** (Polytechnic University of Milan, Italy)  
*Mapping urban peripheries in Milano*

## 13.00-13.15: REST AND TAKING PHOTOS

## 13.15-16.00: PARALLEL SESSIONS: THEME 3, THEME 5, THEME 6

### THEME 3: LOW-CARBON AND INCLUSIVE CITIES

**Session chairs:** Prof. Zhifu Mi (University College London)

#### Presentations

**Zhongming Lu (Hong Kong University of Science and Technology, China)**

*Open data-enabled Hong Kong commercial building energy use intensity modeling and interpretation*

**Jiang Lu (Guangdong Academy of Sciences, China; Qinghai Normal University, China), Bowenpeng Ding (Lanzhou University, China), YU Lu\* (Zhejiang University, China), Xiaonan Shi (Chinese Academy of Sciences, China), Yongxian Su (Guangdong Academy of Sciences, China), Hongou Zhang (Guangdong Academy of Sciences, China)**

*Spatial differentiation of household energy consumption and carbon emission in metropolis at the community scale*

**Tian Chen, Gaoyuan Wang, Dongqing Xie (Tianjin University, China)**

*A brief exploration on the green urban design for carbon neutrality*

**Huibin Mo, Shaojian Wang\* (Sun Yat-sen University, China), Chuanlin Fang\* (Chinese Academy of Sciences, China)**

*Carbon emissions dynamic prediction and its peak of cities: The case of the Pearl River Delta Urban Agglomeration*

**Kevin Santus\* (Polytechnic University of Milan, Italy)**

*A design synergy to decarbonize urban regeneration processes*

**Yulan Sheng\*, Hadi Arbabi, Martin Mayfield, Mauricio Álvarez, and Wil Ward (The University of Sheffield, UK)**

*No photo ID required: A multi-input approach for residential energy consumption in the UK*

**Han Han (Wuhan University, China)**

*Optimized strategy and selected paths of urban industrial space transformation under the goal of "two carbons": Centering on the path of industrial heritage protection and renewal*

**Xinyi Wang (National University of Singapore, Singapore)**

*The hybrid method for evaluating carbon footprint in medium scales: Review and analysis*

**Yuke Li (Yale-NUS College, Singapore)**

*Make the aging city resilient: Elderly populations' urban mobility to public health services in Singapore*

### THEME 5: PROTECTING & REUSE OF CULTURAL HERITAGE

**Session chairs:** Dr. Yang Song (Zhejiang University), Pengcheng Zeng (Polytechnic University of Milan)

#### Presentations

**Federica Cadamuro Morgante (Polytechnic University of Milan, Italy)**

*Cultural heritage and economic development: Social value research through the policy analytics approach*

**Liuwei Han\*, Zhifeng Zhao (Beijing University of Technology, China)**

*Evaluation on the economic value of water cultural heritage based on TCM-CVM integrated model: A case of Beijing*

**Mingming Liu (Hunan University, China)**

*Local cultural protection and reuse of cultural heritage under the construction of modern cultural tourism system in the ancient city: A case study of Kaifeng, China*

**Qinglong An\*, Zhiqing Zhao (Harbin Institute of Technology, China)**

*Suitability assessment of industrial heritage tourism of the towns along Chinese Eastern Railway in Heilongjiang Province*

**Qihang Qiu (Adam Mickiewicz University, Poland)**

*The role of intangible cultural heritage in tourism place making: A systematic review*

**Elif Sarihan (University of Debrecen, Hungary)**

*Generative design models of urban heritage patterns with human perception and behavior*

**Yang Zhou\*, Jing Li, Xingchen Liu (North China University of Technology, China)**

*Conservation of Beijing Historic District based on multi-temporal street view imagery: A case study of Beichizi areas*

**Jin Xu (Suzhou University of Science and Technology, China)**

*Conservation and adaptive reuse of cultural heritage based on synergy theory: A case study of the Grand Canal Jiangsu section*

**Federico Camerin (Iuav University of Venice, Italy)**

*The regeneration of military brownfields in Spain: Cultural heritage at risk?*

**Caterina Valiante (Polytechnic University of Milan, Italy)**

*Knowledge and reuse of inner areas' architectural heritage between urban and rural relationships. Reflections and experiences*

## THEME 6: ANTI-FRAGILE URBAN AGRICULTURE

**Session chairs:** Prof. Alessandra Oppio (Polytechnic University of Milan), Marco Rossitti (Polytechnic University of Milan), Isabella Spagnolo (Polytechnic University of Milan)

#### Presentations

**Marco Rossitti\* (Polytechnic University of Milan, Italy), Chiara Amitrano (University of Naples Federico II, Italy), Carlo Gerundo (University of Naples Federico II, Italy), Giuseppe Carlo Modarelli (University of Naples Federico II, Italy)**

*VOLO SU Napoli - Evaluating the optimum localization for social urban gardens*

**Yichen Jiang, Rouran Zhang, Fang He\* (Shenzhen University, China)**

*Conservation of indigenous germplasm resources and culinary tradition: Exploring urban agriculture in Hangzhou, China*

**Suxueer Sun\*, Naoko Fujita (University of Tsukuba, Japan)**

*New value addition in cultural landscape from the perspective of pickles making: International comparison between Yamagata, Japan and Sichuan, China*

**Valentina Galiulo\* (Polytechnic University of Milan, Italy; University of Seville, Spain), Antonella Contin (Polytechnic University of Milan, Italy), Domingo Sánchez Fuentes (University of Seville, Spain)**

*METYS: METropolitan CarTography for sustainability: Shaping urban-rural linkages' land use patterns through maps in the Milan case study*

**Wenhui Wang\* (Beijing University of Technology, China), Jian Zhang (North China University of Science and Technology, China)**

*Investigation on the dilemma and strategy of urban agriculture development in megacities: A case study of Beijing*

**Lingkun Zeng\*, Jian Zhang (Beijing University of Technology, China)**

*Planning and control of urban agricultural parks at home and abroad and its enlightenment to Beijing*

**Ezgi Arac\*, Qiong Wu (Central European University, Austria)**

*Remaking a green city: The development of urban agriculture and green gentrification in Vienna*

**Yasmina Ragab\* (Cairo University, Egypt), Emanuele Durante\* (Alma Mater Studiorum University of Bologna, Italy), Brando Di Giovanni (Alma Mater Studiorum University of Bologna, Italy), Luca Gialli (Alma Mater Studiorum University of Bologna, Italy), Patricia González Mariscal (Humboldt University of Berlin, Germany), Laura Gabrielli (Alma Mater Studiorum University of Bologna, Italy), Michele Lapomarda (Alma Mater Studiorum University of Bologna, Italy), Mohamed Shahwan (Cairo University, Egypt), Sherifa El-Haggan (Cairo University, Egypt)**

*From SIAPA to SIEPE: Urban farming as an innovative sustainable tool for cities' retrofitting – the case of Galliera municipality in Bologna, Italy*

**Rui Jing (Cardiff University, UK; Chinese Academy of Sciences, China)**

*Unlock the hidden potential of co-locating energy and food in urban rooftop*

## 16.00-16.30: CLOSING

