



韧性城市系统研讨会

Resilient Urban Systems Seminar

时间: 七月二十二日, 周五, 9:00am – 1:00pm

地点: 综合楼 902, 同济大学四平校区

主持人: 伍江 副校长/教授, 杨沛儒 教授, 蔡永洁 系主任/教授

Time: 9:00am- 1:00pm, July 22 Friday

Venue: 902 Zonghe Building, Tongji University, Shanghai

Conveners: Wu Jiang, Perry Yang, Cai Yongjie

主办:

中美生态城市设计实验室,
同济大学建筑与城规学院
佐治亚理工学院设计学院

科思创教席, 联合国环境
署-同济大学环境及可持
续发展学院

Organizer:

Sino-U.S. Eco Urban
Lab, College of
Architecture and Urban
Planning, Tongji
University,
College of Design,
Georgia Institute of
Technology

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全球气候变迁所衍生的自然与人为城市地区灾害, 导致能源短缺、热岛效应及水患等后果, 城市系统韧性的研究变得十分迫切。然而, 当代城市系统多未能从系统韧性的角度设计其空间结构。城市形态及基础设施系统往往基于其他的组织性原则, 而非针对气候变化的系统韧性。韧性城市系统观点近期的浮现, 视城市为能源、物质、水、交通及讯息流动的系统。如何理解其背后跨尺度系统复杂度, 以及链接不同子系统部门之间相互依赖关系的性质, 成为如何发展韧性及可持续城市未来的关键。这个观点并引出一个核心研究问题: 何种韧性城市系统的转形策略, 能够提升城市系统效率、资源管理再生力、及系统行为韧性? 本次韧性城市系统研讨会, 介绍中美生态城市实验室的最新研究概况, 这个团队由同济大学建筑与城规学院及美国佐治亚理工学院设计学院, 结合联合国环境署- 同济大学可持续发展与环境学院的科思创教席所组成。本研讨会诚挚邀请实验室的研究伙伴, 并欢迎建筑、城市规划、能源、材料、土木环境工程及社会科学各领域的专家研究者共同来参与。

System resilience of cities has become an increasingly pressing issue with high frequency of natural or human-induced disasters in cities in the context of climate change, which led to energy shortage, urban heat island, flooding and other consequences. Contemporary cities, however, were not necessarily designed with resiliency in mind. Urban form and infrastructural systems are often produced according to organizational principles other than resilience to climate change. Research on Resilient Urban Systems is emerging that sees cities as systems of energy, materials, water, transportation and informational flows. The understanding of properties behind such as multi-scale system complexity and cross-sectorial interdependency are keys to develop a resilient and sustainable urban future. This perspective gives rise to a central question: What are the transformative strategies of Resilient Urban Systems to make cities more efficient in performance, more renewable in resource management, and more resilient in their systems behavior? The Resilient Urban Systems Seminar introduces on-going research of the Sino-U.S. Eco Urban Lab, an initiative of College of Architecture and Urban Planning of Tongji University and College of Design of Georgia Institute of Technology, in association with Covestro's Chair Professorship at UNEP- Tongji Institute of Environment of Sustainable Development. The Seminar invites our research partners and welcomes all participants from areas of architecture, urban planning, energy, material, civil and environmental engineering and social sciences.

议程 Seminar Program

8:30-9:00am	Registration (free registration)
9:00 – 9:10am	Resilient Urban Systems: An Agenda of the Summit Project- Wu Jiang
9:10 – 9:20am	A Research Outline of Sino-U.S. Eco Urban Lab - Perry Yang, Cai Yongjie, Wang Yi
9:20 – 10:20am	主题一：生态城市更新 THEME ONE: Eco Urban Regeneration
10:20 – 11:40am	主题二：街区尺度的可持续城市形态 THEME TWO: Sustainable Urban Form at the District Level
11:40am –12:00pm	主题三：跨领域合作设计决策模式 – 10KM2 近零能耗街区 THEME THREE: Multiple-Disciplinary Collaboration and Design Decision Models and 10KM2 near Zero District
12:00pm–12:20pm	Lunch
12:20 – 1:00pm	思考一个城市设计专业实践的新模式 Reflection on a new model of urban design practice

Please find the detail program in the next page.
Thank you.

主题一：生态城市更新
THEME ONE: Eco Urban Regeneration

Convener: Professor Wu Jiang

- 9:20 – 9:40am **1.1 Benchmarking Energy Performance for Historical Urban Form of Shanghai Neighborhoods- Jiang Wu, Steven Jige Quan, Zhengwei Li, Yi Wang, Perry Yang** (Article presented in *International Seminar on Urban Form (ISUF) 2016*, July 8-10, Nanjing.)
- 9:40 – 10:00am **1.2 Urban form and energy resilient strategies: A case study of the Manhattan grid** - Perry Yang, Steven Jige Quan (Book chapter in *Urban Resilience - A Transformative Approach*, Yoshiki Yamagata and Hiroshi Maruyama eds., 2016, Springer.)
- 10:00 – 10:20am **1.3 Urban building energy modeling – A contextual approach - Steven Jige Quan, Perry Yang** (Article submitted to *the International Conference on Applied Energy (ICAE) 2016*, October 8-11, Beijing.)

主题二：街区尺度的可持续城市形态
THEME TWO: Sustainable Urban Form at the District Level

Convener: Professor Cai Yongjie

- 10:20 – 10:40am **2.1 Rural settlement form under the influence of the equality policy – A Case Study of Chongming Eco-Island in Shanghai- Yongjie Cai, Shan Man, Zijing Fan, Marshall Johnson, Perry Yang** (Article presented in *International Seminar on Urban Form (ISUF) 2016*, July 8-10, Nanjing.)
- 10:40 – 11:00am **2.2 A simulation-based research on passive district - Yinan Zhou, Xinyu Tao, Yaxin Wang, Ziyue Li, Perry Yang** (Article accepted by *Energy Procedia*, 2016)
- 11:00 – 11:20am **2.3 Optimization of the community size for a combined cooling, heating and power system (CCHP): a theoretical model - Yingjun Ruan, Dan Zou, Qingrong Liu, Zhengwei Li, Perry Yang** (Article submitted to *the International Conference on Applied Energy (ICAE) 2016*, October 8-11, Beijing.)

主题三：跨领域合作设计决策模式 – 10KM2 近零能耗街区
THEME THREE: Multiple-Disciplinary Collaboration and Design Decision Models and 10KM2 near Zero District

Convener: Professor Perry Yang

- 11:20 – 11:40am **3.1 Building a resilient and integrated urban infrastructural system through a near zero agenda - Cheryl Chi, Perry Yang** (Article presented at *2016 Engineering Project Organizations Conference (EPOC)*, June 28-30, Cle Elum, Washington, U.S.)
- 11:40am – 12:00pm **3.2 Material based urban modeling: An approach to integrate smart materials in a near-zero community design - Perry Yang, Annette Wiedenback, Yogendra Chauhan, Michael Tobey, Yihan Wu, Steven Jige Quan** (Article submitted to *the International Conference on Applied Energy (ICAE) 2016*, October 8-11, Beijing.)
- 12:00 – 12:20pm **3.3 Performance metrics for near-zero urban district - Yihan Wu, Perry Yang** (Article submitted to *the International Conference on Applied Energy (ICAE) 2016*, October 8-11, Beijing.)

综合讨论 OPEN DISCUSSIONS

- 12:20 – 1:00pm 思考一个城市设计专业实践的新模式
Reflection on a new model of urban design practice