BJUT-IIEES-RCECWA Joint Workshop

"Why Systems Thinking for Urban Resilience?"

Date: Tuesday, November 10, 2026

Beijing University of Technology, Beijing, China

The Beijing University of Technology (BJUT), the International Institute of Earthquake Engineering and Seismology (IIEES), and the UNESCO Regional Education and Research Center on Earthquake Risk and Resilience in West and Central Asia (RCECWA) have launched a scientific collaboration on earthquake risk prevention and mitigation for urban areas and infrastructure systems—a macro-level issue encompassing many research topics. Urban resilience requires a systems thinking approach because cities are dense webs of interacting systems—transportation, energy, water, housing, health, finance, and governance—rather than collections of independent problems. The consequences of a single shock, such as a flood, cascade across all these domains, disrupting mobility, power, businesses, and healthcare, with the worst effects falling on low-income communities. Siloed interventions fail because they treat symptoms in isolation and overlook these feedback loops and dependencies. Systems thinking reveals the root causes of vulnerability—such as inequitable land use, aging infrastructure, and fragmented institutions—and, by mapping relationships and identifying leverage points, helps planners anticipate how shocks propagate across sectors. Ultimately, systems thinking enables adaptive, cross-sectoral strategies that make resilience a property of the whole system rather than a patchwork of isolated protections.

The First Workshop, entitled "Why Systems Thinking for Urban Resilience?" and organized around the theme "**Toward an Integrated Urban Resilience Framework**," features the following program:

Program

9:00 – 9:15 (Tehran time) **13:30 – 13:45** (Beijing time)	**Opening Statement Workshop Objective and Plan by:** ***Prof. Chengshun XU:*** *Dean of College of Architecture and Civil Engineering, BJUT, China* ***Prof. Mohsen Ghafory-Ashtiany****: Professor of IIEES (Iran) and Guest Professor of BJUT (China)*
9:15 – 12:00 (Tehran time) **13:45 – 16:30** (Beijing time)	**Presentations:** 1. ***Prof. Amir Albadvi:*** *From Sector Models to Urban Systems: Modelling interdependencies, Cascades and Leverage Points (Online lecture)* 2. ***Dr. Benwei Hou:*** *Water Purification Plant.* 3. ***Prof. Nadja Komendantova:*** *Director of system modelling at IIASA (TBD)* 4. ***Prof. Amir Albadvi:*** *URSA: From Urban Systems Mapping to Systemic Resilience Intelligence (Online lecture)* 5. ***Prof. Tao Wang:*** *System modelling of Industrial infrastructures for seismic resilience assessment* 6. ***Dr. Amir Shahmohammadian (Presented by Mohsen Ashtiany):*** *System Modeling of Iran Housing System* 7. ***Prof. BJUT:*** *College of Economy and Management (System modeling or analysis)* *Note: Each Lecture is 20 minutes and follows by 10 minutes Q/A*
12:00 - 13:00 (Tehran time) **16:30 – 17:30** (Beijing time)	**Discussion: Connecting the Threads: Toward an Integrated Urban Resilience Framework** ***Moderated by Prof. Benwei Hou, Prof. Amir Albadvi, and Prof. Mohsen Ashtiany***

Zoom online meeting links: