

INTERNATIONAL PLANNING SYMPOSIUM: ENVIRONMENTAL PLANNING RESPONSES TO GLOBAL CRISIS 21 JANUARY 2025

ORGANIZER: XI'AN JIAOTONG-LIVERPOOL UNIVERSITY

CO-ORGANIZERS: SEOUL NATIONAL UNIVERSITY, TONGJI UNIVERSITY



OPENING SESSION
Opening Speech, Group Photo, Coffee Break
Location: X Bar Museum, South Campus of XJTLU
Time: 9:30–10:30

SESSION A: URBAN PLANNING AND DESIGN
Location: IA123, SIP Campus
Time: 10:30–12:50
Chair: Dr Daniel Yonto
Presenters: Xiuyuan Piao, Yao Shi, Byeong Jin Park, Beixi Sun, Mohammed Lawal Shaibu, Jo Hyeyoung, Wang Lian

SESSION B: LANDSCAPE AND ECOLOGY DESIGN
Location: IA127, SIP Campus
Time: 10:30–12:30
Chair: Dr Hyung Rae Cho
Presenters: Jiweon Yun, Lin Ji, Jisun Kim, Jin Zhiying, Hahn Seokjin, Xiaotong Guo



Symposium Background

The world is facing an unprecedented global crisis marked by environmental degradation, climate change, urbanization pressures, and socio-economic instability. These challenges require innovative and collaborative solutions that span across disciplines and geographical boundaries. In response, the international planning symposium, titled Environmental Planning Responses on Global Crisis, aims to serve as a platform for emerging scholars and professionals to address these urgent issues through research, dialogue, and collaboration.

This symposium provides a unique opportunity for PhD students from leading Asian universities to present their ongoing research in Urban Planning, Urban Design, Landscape Architecture, and Ecology. By facilitating the exchange of working papers, participants will not only share valuable insights but also receive constructive feedback from an esteemed panel of reviewers from diverse international backgrounds.

The event is structured to encourage a multidisciplinary approach, fostering a dynamic intellectual environment where the integration of urban and ecological systems can be explored. With sessions scheduled to allow in-depth discussions, the symposium will promote a vibrant exchange of ideas that is crucial for developing sustainable and resilient responses to today's global environmental challenges. Furthermore, the event will serve as a catalyst for establishing long-term academic and professional networks among institutions and individuals dedicated to advancing environmental planning.

This symposium underscores the importance of regional collaboration in addressing global crises. It strives to build a strong network of researchers and professionals who are committed to designing and implementing solutions that will shape the future of cities, landscapes, and ecosystems.

- The symposium will foster research exchange and networking among international universities.
- Two parallel sessions will be held, focusing on potential responses on global crisis:
 1. Urban Planning and Design
 2. Landscape Architecture and Ecology
- 13 PhD students will present their working papers, each followed by a 10-minute Q&A and discussion session to encourage further development.

Expected Outcomes

- The event emphasizes a multidisciplinary approach, integrating ideas from urban planning, design, ecology, and sustainability to address global crises.
- The symposium serves as a platform to establish and strengthen academic and professional networks across leading Asian universities, fostering long-term collaboration.
- Participants will receive direct feedback on their work from an esteemed international review panel, providing diverse perspectives on urban and environmental planning.
- A campus tour and informal networking opportunities will further encourage interdisciplinary discussions beyond the formal sessions.
- Attendees will gain valuable insights into cutting-edge research tackling global environmental challenges, including climate change, urbanization, and ecological degradation.
- Participation will also enhance external universities' reputation for addressing critical global issues, positioning them as leaders within the international academic community.

Location: Engineering Building, Xi'an Jiaotong-Liverpool University Campus in SIP, Suzhou, China

Date: 21st January 2025

Workshop Participants

Xi'an Jiaotong - Liverpool University, China

	Name	Num.
School/Department	Urban Planning and Design	1
Professors	Hyung Rae Cho (Urban Planning and Design); Daniel Yonto (Geography and Urban Planning); Xin Zhao (Urban Design); Joon Sik Kim (Urban Planning); Rui Wang (Urban Planning);	5
Student	Mohamed Lawal, Beixi Sun, Xiaotong Guo, Yao Shi, Lin Ji	5

Seoul National University, South Korea

	Name	Num.
School/Department	BK21 + Green Infrastructure team	1
Professors	Saehoon Kim (Urban Planning and Design), Youngkeun Song (Environmental Study), Youngryel Ryu (Landscape Architecture and Ecology),	3
Student	Xiuyuan Piao, Jiweon Yun, Byeong Jin Park, Jin Zhiying, Jo Hyeyoung, Hahn Seokjin, Jisun Kim	7

Tongji University, China

	Name	Num.
School/Department	Architecture and Urban Design	1
Faculty Member	Zheng Tan (Urban Design and Architecture)	1
Postdoc Researcher	Jacopo Benedetti (Urban Design and Architecture)	1
Student	Wang Lian	1

Opening Ceremony
International Planning Symposium:
Environmental Planning Responses to Global Crisis
 @ X Bar Museum at South Campus of XJTLU

Activity	Description	Schedule
Opening Speech	Hyung Rae Cho (XJTLU Prof) Saehoon Kim (SNU Prof) Tan Zheng (TU Prof)	9:30 – 10:00
Group Photo	Taking group photos	10:00 – 10:10
Coffee Break	Moving to the session Venue	10:10 – 10:20

*Noe: Taxi from Hongqiao Station, P9 (Parking Space 9) (8:00 AM) to XJTLU South Campus, South Gate

Session A
Urban Planning and Design
 @ SIP Campus-Meeting Rooms in International Academic E. & C. Centre
Room IA123

Presenter	Topic	Schedule
Xiuyuan Piao	<i>Does Economic growth have a positive impact on Urban Livability? A Study of 207 Districts in South Korea from 2010 to 2019</i>	10:30 – 10:40 (Presentation) 10:40 – 10:50 (Q&A)
Yao Shi	<i>What Factors Influence Youth Retention in Shrinking Cities? Evidence from the Yangtze River Delta Urban Agglomeration</i>	10:50 – 11:00 (Presentation) 11:00 – 11:10 (Q&A)
Byeong Jin Park	<i>Analysis of Residents' Preferences for Urban Heatwave Adaptation Facilities and Demographic Characteristics Using Discrete Choice Experiment</i>	11:10 – 11:20 (Presentation) 11:20 – 11:30 (Q&A)
Beixi Sun	<i>The Politics of Remembrance in China: The Commemoration and Heritagisation of Colonial Prisons in Qingdao and Dalian</i>	11:30 – 11:40 (Presentation) 11:40 – 11:50 (Q&A)

Mohammed Lawal Shaibu	<i>The Impact of Smart City Initiatives on Urban Affordability in African Cities</i>	11:50 – 12:00 (Presentation) 12:00 – 12:10 (Q&A)
Jo Hyeyoung	<i>Soybean Yield Gap Mapping in Mato Grosso, Brazil</i>	12:10 – 12:20 (Presentation) 12:20 – 12:30 (Q&A)
Wang Lian	<i>Remodeling of Cross-border Spatial Interface between Shenzhen and Hong Kong and its Urban Design Guiding Strategies</i>	12:30 – 12:40 (Presentation) 12:40 – 12:50 (Q&A)

Chair: Daniel Yonto / Panels: Saehoon Kim (Seoul National University), Zheng Tan (Tongji University), Jacopo Benedetti (Tongji University)

1. Xiuyuan Piao (SNU_ PhD / Supervised by Saehoon Kim)

Does Economic growth have a positive impact on Urban Livability? A Study of 207 Districts in South Korea from 2010 to 2019

Abstract: Over the past 40 years, the city has experienced rapid economic growth, providing abundant urban services and infrastructure to its citizens. With economic globalization, many developing countries are experiencing rapid economic growth. To achieve qualitative urban growth, research is needed to elucidate the relationship between economic growth, economic factors, and urban livability. This study analyzed the relationship between economic growth and urban livability in South Korea, a representative country that has achieved rapid economic growth, over the period from 2010 to 2019. This study, by elucidating the relationship between economic growth and urban livability, can serve as a reference for developing qualitative economic growth strategies and urban development and management policies in international developing countries.

2. Yao Shi (XJTLU_ PhD / Supervised by Hyung Rae Cho)

What Factors Influence Youth Retention in Shrinking Cities? Evidence from the Yangtze River Delta Urban Agglomeration

Abstract: Shrinking cities, once seen as failures, are increasingly recognised as spaces for resilience and adaptation. Although many studies have focused on reversing depopulation through growth-oriented strategies, some evidence suggests that focusing on well-being, social cohesion, and sustainable design can effectively retain youth populations. Nevertheless, research analysing these emotional, social, and spatial factors—and their impact on youth decisions to stay—remains limited. This is surprising, given the growing interest in how youth contribute to long-term urban resilience. Thus, this study applied the COM-B model to examine factors influencing youth retention in shrinking

cities within the Yangtze River Delta. A mixed-methods approach with interviews and a questionnaire informed a multilinear regression analysis of capabilities, motivations, and opportunities. The results showed that strong emotional attachment and civic responsibility significantly increased youths' intentions to remain. Findings also showed that high-quality public spaces and frequent social interactions positively correlated with the decision to stay. This implies that intangible factors, particularly community attachment and robust networks, can maintain local vitality despite decline. Revealing how these dimensions shape youth retention can inform urban regeneration strategies, guiding policymakers toward targeted, people-centred approaches that foster well-being, social cohesion, and sustainable development.

3. Byeong Jin Park (SNU_ Master / Supervised by Dong Kun Lee)

Analysis of Residents' Preferences for Urban Heatwave Adaptation Facilities and Demographic Characteristics Using Discrete Choice Experiment

Abstract: As climate change worsens heat waves, especially in densely populated cities with urban heat islands, Adaptation strategies are becoming increasingly important. Adaptation strategies include green infrastructure, such as street tree, green roof, and green walls and gray infrastructure options, such as artificial shade structure, cool roof, and cooling fog. However, due to limited resources and potential personal costs, an efficient and customized approach that considers diverse population needs is needed. Therefore, this study investigates residents' preferences for urban heat wave adaptation facilities through Discrete Choice Experiments (DCEs) in the Korean metropolitan area. The study analyzes how demographic factors, including climate crisis perception, age, and outdoor activity levels, influence facility preference. The results of the study have shown a high preference for highly accessible facilities, especially artificial shade structure or street tree. In addition, people with a high perception of climate crisis prefer green infrastructure, while those with extensive outdoor activities have a lower overall facility preference. This study provides basic data for policymakers to develop customized strategies to meet diverse population needs in response to urban heatwaves challenges.

4. Beixi Sun (XJTLU_ PhD / Supervised by Yi-wen Wang)

The Politics of Remembrance in China: The Commemoration and Heritagisation of Colonial Prisons in Qingdao and Dalian

Abstract: Heritage serves not only as a means to experience history but also as a tool for remembering or forgetting. In postcolonial China, where government authorities and heritage professionals hold significant power in determining which remnants of the colonial past are preserved—and how they are interpreted—colonial prisons have become sites for shaping collective

memory. This paper explores the heritage-making process at two colonial prison museums in Dalian and Qingdao, examining how the legacy of colonialism has been selectively curated and interpreted. Currently, three colonial prisons remain in China, all designated as heritage sites; however, the Shanghai prison remains operational until July 2024 (Zhou, 2024). Focusing on the decommissioned prisons in Dalian and Qingdao, this study compares the different approaches taken by the Lvshun Russo-Japanese Prison Museum and the Qingdao German Prison Museum. Both museums emphasize Japan's wartime atrocities, yet the Lvshun museum minimizes Russian colonial history to support a dominant narrative of Japanese aggression, in line with nationalist priorities. In contrast, the Qingdao museum downplays the darker aspects of German colonialism to enhance the city's economic and branding goals. Through this comparative analysis, the paper highlights the power dynamics in the construction of heritage and memory in postcolonial China, emphasizing heritage as a process of selective memory-making.

5. Mohammed Lawal Shaibu (XJTLU_ PhD / Supervised by Ju Hyun Lee)

The Impact of Smart City Initiatives on Urban Affordability in African Cities

Abstract: The smart city concept has gained prominence as a solution to improve quality of life amidst compounding urban challenges in a rapidly urbanising world. The concept has evolved from techno-centric to more human-centric perspectives inclusive of diverse social groups. However, smart city initiatives in Africa have yet to deliver inclusive outcomes; they are impeded by an exacerbated urban affordability crisis. This research thus seeks to evaluate the impact of smart city initiatives on the affordability of urban services in African cities and identify how the planning and implementation of those initiatives can be improved to foster inclusivity by enhancing affordability. The research employs a multiple case study methodology through interviews and focus groups with initiators and beneficiaries of selected smart city initiatives from three African countries. It will explore how inclusive processes in the planning and implementation of African smart city initiatives affect their impact on urban affordability and recommend ways to integrate diverse stakeholder perspectives to foster more affordable urban service delivery. The research contributes to the limited but growing literature on smart cities in Africa, responding to calls for local contextualisation. It will help in adopting inclusive smart city solutions that address existing African urban challenges.

6. Jo Hyeyoung (SNU_ Master/ Supervised by Youngryel Ryu)

Soybean Yield Gap Mapping in Mato Grosso, Brazil

Abstract: This study focuses on mapping soybean yield gaps in Mato Grosso, Brazil, a significant soybean-producing region affected by climate change. Using field survey data and a Random Forest model with Sentinel-2 data at 10m resolution, the mapping achieved an accuracy of 95%.

7. Wang Lian (TU_ PhD / Supervised by Zheng Tan)

Remodeling of Cross-border Spatial Interface between Shenzhen and Hong Kong and its Urban Design Guiding Strategies

Abstract: The cross-border spatial interface between Shenzhen and Hong Kong is not only a functional unit at the spatial level, but also an event unit for shared life and work across borders. This study re-examines the formation process from the boundary to the interface, as well as the characteristics and values of the interface, and then sorts out the construction process of port infrastructures in the urbanization process. This research argues that the cross-border port between Shenzhen and Hong Kong serves to activate the city gate image as a transit channel and transportation hub. Furthermore, events triggered by social activities and relationships on both sides become the dynamic projections of the port function, shaping the border crossing pattern between Shenzhen and Hong Kong and making it an invisible interface between the two cities. Based on this, a thorough analysis and refinement of the guiding strategies in urban design in Shenzhen and Hong Kong are presented. Shenzhen maintains the integrity of the interface form by focusing on spatial structure design and overall urban design, while Hong Kong achieves functional coupling of the interface through strategic design decision-making and spatial reorientation. These insights provide a reference for the future integration and reconstruction of cross-border spatial interfaces in Shenzhen and Hong Kong's urban design methodology.

Session B
Landscape and Ecology Design
 @ SIP Campus-Meeting Rooms in International Academic E. & C. Centre
Room IA127

Presenter	Topic	Schedule
Jiweon Yun	<i>Synergy and Offset of Ecosystem Services Based on Conservation Policies in Jeju Island: An 80-Year Analysis Using Land Change Models</i>	10:30 – 10:40 (Presentation) 10:40 – 10:50 (Q&A)
Lin Ji	<i>Strengthening Social Capital in Urban Green Commons: Institutional Approaches to Fostering Community Gardens in Suzhou, China</i>	10:50 – 11:00 (Presentation) 11:00 – 11:10 (Q&A)
Jisun Kim	<i>Unraveling the cooling effects due to transpiration by urban street trees through field observations and explainable machine learning framework</i>	11:10 – 11:20 (Presentation) 11:20 – 11:30 (Q&A)
Jin Zhiying	<i>Predicting Wild Boar Distribution and African Swine Fever Risk Through Habitat Connectivity and Occurrence Analysis in South Korea</i>	11:30 – 11:40 (Presentation) 11:40 – 11:50 (Q&A)
Hahn Seokjin	<i>High Spatiotemporal Resolution Satellite Data Reveal an Underestimation of Deforestation in Southeast Asian Tropical Forests</i>	11:50 – 12:00 (Presentation) 12:00 – 12:10 (Q&A)
Xiaotong Guo	<i>Heritage-making, Art Festivals, and Sustainability in Rural China: A Comparative Study of Wuzhen Theatre Festival and Countryside Theatre Festival</i>	12:10 – 12:20 (Presentation) 12:20 – 12:30 (Q&A)

Chair: Hyung Rae Cho / Panels: Xin Zhao (XJTLU), Youngkeun Song (Seoul National University), Youngryel Ryu (Seoul National University)

1. Jiweon Yun (SNU_ PhD / Supervised by Youngkeun Song)

Synergy and Offset of Ecosystem Services Based on Conservation Policies in Jeju Island: An 80-Year Analysis Using Land Change Models

Abstract: This study used Landsat 8 data (March to May) with a 30-meter resolution for the years 2004, 2008, and 2022 to collect over 100 samples for each of the six land types (forest, cropland, urban area, grassland, water, barren, and wetland) on Jeju Island, South Korea. With these samples and the SVM method, we classified land types on Jeju Island for the period from 1980 to 2020. Using Markov-PLUS, an advanced version of the CA-Markov model, we then projected future land types up to 2050. Two scenarios were implemented to estimate urban growth restraint zones: the first scenario (BAU) used areas designated as IUCN level 2 or higher and absolute conservation areas, excluding relatively conserved areas in the mid-mountain region of Mt. Halla. The second scenario applied a conservation policy expanding relatively conserved areas to absolute conservation areas. Ecosystem services were analyzed to evaluate the synergy and offset effects on carbon sequestration, soil conservation, and biodiversity.

2. Lin Ji (XJTLU_ PhD / Supervised by Ying Chang)

Strengthening Social Capital in Urban Green Commons: Institutional Approaches to Fostering Community Gardens in Suzhou, China

Abstract: Barriers to the success of community gardens have been extensively explored by Western scholars, yet it remains unclear whether these barriers align with the unique challenges faced by community gardens in China. As community gardens in China are still in their early stages, evolving through experimentation and adaptation, this study addresses a critical gap by investigating these barriers through a dual theoretical lens. Drawing on urban commons theory at the systemic level and social capital theory at the community level, the study highlights the interplay between institutional governance and grassroots social dynamics in shaping the sustainability of community gardens. A mixed-methods approach will be employed, integrating qualitative and quantitative methods, including a comprehensive case study in Suzhou with semi-structured interviews and questionnaires involving garden volunteers, government officials and other relevant stakeholders. This approach provides a nuanced analysis of how governance structures and resource management intersect with social capital factors to influence collective action and long-term sustainability. Additionally, Participatory action research will complement these methods by proposing and evaluating practical measures to address the identified barriers. The findings will advance the understanding of how governance and social networks sustain urban green commons, offering actionable recommendations for community gardens facing difficulties in the maintenance phase. This study

also contributes to broader discussions on urban resilience, sustainable development, and collaborative resource management.

3. Jisun Kim (SNU_ Master/ Supervised by Youngryel Ryu)

Unraveling the cooling effects due to transpiration by urban street trees through field observations and explainable machine learning framework

Abstract: Urban street trees, the closest vegetation to city dwellers, have an important contribution to mitigating the urban heat (UH) effect through transpiration. The role of transpiration cooling by street trees in UH mitigation has been studied using model simulations at different spatiotemporal scales, but whether and how its mechanisms are still unclear. Here, we examined the transpiration cooling effect of street trees by combining leaf-scale field observations and an explainable machine learning framework. We collected leaf-level data from four species of street trees located at Seoul National University (*Cercidiphyllum japonicum*, *Ginkgo biloba*, *Platanus occidentalis*, *Zelkova serrata*). We used a portable porometer with Pulse-Amplitude Modulation (LI-600, LI-COR); air temperature above crowns was recorded with a temperature and humidity sensor (MAXMIN-24 V2, Elitech). We found a mean value of isolated cooling effect (-0.30 ± 0.57 °C) from the trained model, and the larger transpiration rates lead to larger cooling. Our results showed the midday (-0.35 ± 0.67 °C) and afternoon (0.36 ± 0.53 °C) transpiration cooling effect is higher than morning (-0.14 ± 0.33 °C). In addition, different species showed a consistent pattern of diurnal changes in transpiration cooling effect under similar environmental conditions, whereas the magnitudes were different per species. Our findings provide clear evidence of the transpiration cooling effect of urban street trees and their drivers. These insights would be useful for urban planning to reduce management costs and enhance urban sustainability.

4. Jin Zhiying (SNU_ Master/ Supervised by Dong Kun Lee)

Predicting Wild Boar Distribution and African Swine Fever Risk Through Habitat Connectivity and Occurrence Analysis in South Korea

Abstract: African Swine Fever (ASF) is a fatal haemorrhagic disease that affects domestic pigs and wild boars of all ages. Urbanization drives changes in the environment, climate, biodiversity, wildlife habitats, human behavior, mobility, and land use, which in turn lead to the reemergence and spread of diseases. Since the first ASF outbreak in South Korea in September 2019, the disease has continued to spread, highlighting the urgent need for effective monitoring and accurate predictions to guide current and future disease prevention efforts. Wild boars act as both vectors and reservoirs for the virus, significantly contributing to the spread of ASF in regions where the disease is present.

Studies on landscape connectivity are fundamental for examining the dispersal networks of wild species. They provide a critical framework for predicting wild boar movement patterns and probabilities, as well as assessing the potential spread of ASF across suitable habitats. This study aims to predict wild boar distribution in Korea by integrating occurrence data, habitat connectivity, and ASF observations to evaluate the impact and risk of wild boar infections.

5. Hahn Seokjin (SNU_ Master/ Supervised by Youngryel Ryu)

High Spatiotemporal Resolution Satellite Data Reveal an Underestimation of Deforestation in Southeast Asian Tropical Forests

Abstract: This study demonstrates how AGM-SNU, a data generation module combining polar orbiting and geostationary satellite data, successfully produces high-resolution (10 m) daily surface reflectance images, allowing for more accurate identification of deforestation areas in Southeast Asian tropical forests. By overcoming limitations from cloud cover and enhancing spatiotemporal resolution, we were able to accurately quantify deforestation area from the construction of the new capital city of Indonesia, Nusantara. Our results revealed that deforestation area estimates from MODIS dataset and Landsat 8/9 based 30m resolution fusion dataset were underestimated by 49% and 10%, respectively, compared to estimates from Sentinel-2 based 10m resolution fusion dataset. Our findings show that high spatiotemporal resolution fusion dataset can greatly improve the accuracy of spatial analysis of land use and land cover change by capturing disturbances of small patches unidentifiable in coarser satellite imagery.

6. Xiaotong Guo (SNU_ Master/ Supervised by Dong Kun Lee)

Heritage-making, Art Festivals, and Sustainability in Rural China: A Comparative Study of Wuzhen Theatre Festival and Countryside Theatre Festival

Abstract: With 'culture' now seen as a key resource for regional development and building sustainability, the process of heritage-making is sweeping through cities and rural areas around the world. This study argues that heritage-making in rural China has generated two distinct types of arts festivals: those that seek to conform to the standards set by international organisations (such as UNESCO) or national heritage programmes, and those that seek to resist such a process of mainstream, authorised thinking. By comparing these two festivals - the Wuzhen Theatre Festival and the Countryside Theatre Festival - within the theoretical framework of the virtuous cycle, this study will reveal a mutually reinforcing relationship between social and economic sustainability in rural areas.

**Lunch (XJTLU, SNU, TU) &
Faculty meeting for potential teaching and research collaboration**

@ XJTLU Conference Centre (North Campus)

Activity	Description	Schedule
Gathering	Walking to XJTLU Conference Centre	12:50 – 13:10
Lunch	Lunch Discussion for future collaboration	13:15 – 15:45
Group Photos	Taking group photos	14:45 – 15:00

*Noe: Taxi from XJTLU Conference Centre (15:10 PM) to Hongqiao Station, P9 (Parking Space 9)