

**ISAIA
2022**

**INTERNATIONAL SYMPOSIUM ON ARCHITECTURAL
INTERCHANGES IN ASIA**



**SHARING HEALTHY CITY
FOR MORE PEOPLE**

December 1-2, 2022 Wuhan, China

Organizers

Architectural Society of China
Architectural Institute of Japan
Architectural Institute of Korea

Co-organizer

Central-South Architectural Design Institute Co.,Ltd.



The 13th International Symposium on Architectural Interchanges in Asia



ISAIA
2022

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The 13th International Symposium on Architectural Interchanges in Asia

Date: November 30-December 2, 2022

Place: Wuhan, China

Theme: Sharing Healthy City for More People

Hosted by: The Architectural Society of China (ASC)

The Architectural Institute of Japan (AIJ)

The Architectural Institute of Korea (AIK)

Co-hosted by: Central-South Architectural Design Institute Co.,Ltd.

Jointly supported by: School of Architecture, Tsinghua University

School of Architecture, Southeast University

College of Architecture and Urban Planning, Tongji University

School of Architecture, Harbin Institute of Technology

School of Architecture, South China University of Technology

School of Management Science and Real Estate,

Chongqing University

Huazhong Architecture Magazine

INTRODUCTION

The International Symposium on Architectural Interchanges in Asia (ISAIA) is a biennial international symposium co-sponsored by the Architectural Society of China (ASC) together with the Architectural Institute of Japan (AIJ) and the Architectural Institute of Korea (AIK). The goal of the symposium is to explore East Asian architectural culture tradition, the relationship between modern architectural development and traditional architectural features, modern building technology and sustainable architecture. This international academic event has gradually transformed from an multilateral academic exchange conference into an international conference with architectural professionals from worldwide.

The 13th ISAIA will be held on November 30-December 2, 2022, Wuhan, China in both online and offline form, and hosted by ASC. The history of it follows as:

1st ISAIA		September 6-12, 1986	Fukuoka, Kyoto and Tokyo, Japan
2nd ISAIA	Asian Architecture in 21st Century	September 8-10, 1998	Kobe, Japan
3rd ISAIA	Challenges and Roles of Asian Architecture for the New Millennium	February 23-25, 2000	Jeju, Korea
4th ISAIA	Resource Architecture and Modern Technology	September 17-19, 2002	Chongqing, China
5th ISAIA	Global Environment and Diversity of Asian Architecture	June 1-4, 2004	Matsue, Japan
6th ISAIA	A+T: Neo-Value in Asian Architecture	October 25-28, 2006	Daegu, Korea
7th ISAIA	Urban Renewal and Architectural Creation	October 15-17, 2008	Beijing, China

8th ISAIA	Asian View Order and Wisdom for the Future	November 9-12, 2010	Kitakyushu, Japan
9th ISAIA	Technological Advancements in Architecture	October 22-25, 2012	Gwangju, Korea
10th ISAIA	Cultural Elements in Architectural Advancement	October 14-17, 2014	Hangzhou, China
11th ISAIA	Resilience and Diversity-Rethinking Asian Architecture for the Next Generation	September 20-23, 2016	Sendai, Japan
12th ISAIA	Confluence of Architecture in the Age of Super Connectivity	October 23-26, 2018	Pyeongchang, Korea
13th ISAIA	Sharing Healthy City for More People	November 30-December 2, 2022	Wuhan, China

WELCOME MESSAGE



Xiu Long

President

The Architectural Society of China

It is my honor to welcome participants for the 13th ISAIA in Wuhan. The symposium focuses on the theme “Sharing Healthy City for More People” to carry out various academic discussions and exchanges, and I hope you will learn something from it.

Architects and architectural scientific personnel are constantly committed to seeking healthier and happier life solutions. In 1994, the World Health Organization (WTO) defined a healthy city as “A healthy city constantly creates and improves its natural and social environment, enlarges social resources, enables people to support each other and realizes their life potential, thus motivating the biggest city potential”. The determinants in addressing health problems are the participation, solidarity, cooperation and interaction of all works of life in the whole society. As the COVID-19 pandemic raged worldwide in 2020, various measures have been taken to prevent and control it. However, under this situation, architects and planners all over the world, especially in Asia,

are facing unprecedented, more complicated problems related to healthy life and more specific personalized requirements, which all need to be addressed in the construction of human settlement environments.

2022 is designated by the International Union of Architects (UIA) as the “Year of Design for Health”. The theme of this symposium is a positive response to this decision. We hold this symposium under the theme of “Sharing Healthy City for More People”, which demonstrates our confidence and belief that architect scientific personnel work hard to fight against the pandemic impacts and further design and create healthier cities for our people.

At the symposium, four architectural masters from ASC, AIJ and AIK will address keynote presentations as well as 12 professionals and scholars will give special presentations on healthy city and healthy building. We also set up 6 special sessions with the theme such as architectural planning and design, urban planning and landscape, etc. In spite of pandemic impacts, Japanese and Korean guest speakers and paper presenters cannot attend it on site, I believe that representatives from China, Japan, Korea and related countries and regions, through our two-day conference, can still deepen their academic exchange and understanding, as well as further promote friendship and cooperation.

On behalf of the Architectural Society of China, I would like to take this opportunity to sincerely thank its co-sponsor, Central-South Architectural Design Institute Co., Ltd., and all co-organizers. You have undertaken a great deal of work and thus ensured its normal convening. Meanwhile, I am also grateful to the presidents of AIJ and AIK, experts and scholars from China, Japan, Korea and other countries and regions for their active support and participation.

We look forward to reuniting in physical attendance and renewing our long-lasting friendship.

Thank you.

WELCOME MESSAGE



Shin-ichi TANABE

President

Architectural Institute of Japan

The Architectural Institute of Japan (AIJ) founded on 1886 and over 136-year history. I am delighted that we are able to attend this International Symposium on Architectural Interchanges in Asia. The symposium was established in 1986 to commemorate the centennial of AIJ's founding, and this year's symposium is the 13th congress. With the joint hosting of AIJ, the Architectural Institute of Korea (AIK) and the Architectural Society of China (ASC), the symposia aim to stimulate the field of architecture through international interchange among researchers, architects and engineers active in Asia. The symposia also offer a splendid opportunity to assemble the presidents and directors of our three institutions so that they can meet and deepen mutual understanding.

In view of these circumstances, main topic of this symposium is "Sharing Healthy City for More People." I believe that the keyword of "healthy" have several meanings. Not only individual wellness but also social wellbeing is important. Climate neutrality and wellbeing are important for architecture. I

hope that you will all appreciate this major point, and that the symposium fosters a constructive debate with lasting future impact.

Finally, I would like to thank the Architectural Society of China for their host in the symposium and all of the participants for their enormous efforts even with on-line. I sincerely hope that the symposium will prove to be a significant event for all attendees and provide a pleasant forum for interaction and interchange.

WELCOME MESSAGE



Chang-Sik Choi

President

Architectural Institute of Korea

As the President of the Architectural Institute of Korea, it is my honor to welcome participants for the 13th ISAIA Symposium in Wuhan. In addition, I would like to offer a special welcome to all the eminent speakers for sharing their knowledge and vast experience in a variety of subjects such as architectural planning and design, history, urban planning and design, construction engineering and management, digital transformation, and many others.

It is always great that experts in the field of architecture in East Asia gather every other year (though it was impacted by COVID-19 for the last two years) and exchange their ideas and research outcomes. Since the first symposium, participation has increased not just in number from Korea, China, and Japan, but also from other countries. As always, our communication and sharing brilliant ideas have made the symposium unique and wonderful in every aspect, impacting the development of our societies.

The theme: Sharing Healthy City for More People is a very timely and critical

issue after the COVID-19 pandemic. Along with rapid urbanization and pursuing better quality and safety of life and environment, we are facing more complex and difficult problems to resolve in the architectural area. Collaborative cooperation and coordination among researchers, professionals, and users become increasingly important to resolve these problems.

With focus on the problems mentioned above, speakers and audience will enjoy learning and sharing new research items, knowledges, and results to be presented by our fellows through the symposium. I think this kind of networking is also based on the cultural similarities among the participating countries and passion for architecture and technologies. Hence, I strongly believe that this symposium will grow further and enhance our understanding each other's scholarly background and professionalism.

With warm heart, I congratulate the Chair of the Organizing Committee and ASC President Xiu Long on successful hosting of the symposium in Wuhan. Also, I would like to take this opportunity to deeply appreciate great efforts of all the volunteers and generous donors as well as Korean and Japanese organizing committees. Without your support, this symposium would not be possible.

I wish you have a meaningful and exciting time in Wuhan and through online of ISAIA 2022.

Thank you very much.

ORGANIZATION

Organizing Committee

Chairman	Xiu Long	ASC President
Members	Li Cundong	ASC Secretary General
	Yang Jianhua	General Manager, Central-South Architectural Design Institute Co.,Ltd.
	Shin-ichi TANABE	AIJ President
	Yasuaki ONODA	AIJ Vice President
	Choi, Chang-Sik	AIK President
	Chin, Sangyoon	AIK Vice President

Scientific Committee

Chairman	Meng Jianmin	Academician of Chinese Academy of Engineering, ASC Vice President, Chief Architect of Shenzhen General Institute of Architectural Design Research Co. Ltd.
Members	Zhuang Winmin	Academician of Chinese Academy of Engineering, ASC Vice President, Dean of Architectural Design and Research Institute, Professor of School of Architecture, Tsinghua University
	Zhang Wei	Director, Architectural Programming and Design Center, Architectural Design and Research Institute, Tsinghua University
	Peng Zhenwei	Deputy Secretary of Party Committee, PhD Student Tutor and Professor of College of Architecture and Urban Planning, Tongji University
	Zhuo Jian	Head of the Architecture Department, PhD Student Tutor and Professor of College of Architecture and Urban Planning, Tongji University

Members	Sun Cheng	Dean and Professor of School of Architecture, Harbin Institute of Technology
	Han Yunsong	Vice Dean and Professor of School of Architecture, Harbin Institute of Technology
	Zhang Tong	Dean and Professor of School of Architecture, Southeast University
	Chen Wei	Director of Architectural History and Theory Institute, Professor of School of Architecture, Southeast University
	Liu Guiwen	Vice President, Professor of School of Management Science and Real Estate, Chongqing University
	Ye Kunhui	Dean and Professor of School of Management Science and Real Estate, Chongqing University
	Xiao Yiqiang	Vice Dean and Professor of School of Architecture, South China University of Technology
	Wang Shifu	Vice Dean and Professor of School of Architecture, South China University of Technology

KEYNOTE SPEECH

Date/Time December 1(Thurs), 2022 / 09:20-12:00

Moderator: **Zhuang Weimin**



Academician of Chinese Academy of Engineering

ASC Vice President

President and Chief Architect of the Architectural Design and Research Institute
of Tsinghua University Co., Ltd.

Professor of the School of Architecture, Tsinghua University

KEYNOTE SPEECH 1

Date/Time December 1(Thurs), 2022 / 09:20-10:00

Presentation Title **The Development Trends of New Hospitals**

Keynote Speaker: **Meng Jianmin**

Academician of Chinese Academy of Engineering, ASC Vice President, Chief Architect of Shenzhen General Institute of Architectural Design Research Co. Ltd.



Hospital architecture is characterized by complexity and dynamism: involving both complicated functions and processes, and rapid iterations in technology, operation and maintenance along with the dynamic development. Based on the practice and research of Benyuan Healthcare Design Team in recent years, this report conducts case studies on Yangtze River Delta International Medical Center, Huazhong University of Science and Technology Union Shenzhen Hospital (Nanshan Hospital), The University of Hong Kong-Shenzhen Hospital, Luohu District Hospital of Maternity and Child Care in Shenzhen, and Guangming Campus of Shenzhen Traditional Chinese Medicine Hospital. In doing so, the report summarizes and expounds on seven development trends of new hospitals in China, namely hospital-city integration, which promotes medical-industry-oriented urban development; diversified functions, which enables hospitals to shift from discipline to service; multi-purpose spaces, which maximizes land utilization in high-density urban context; resource centralization, which allows the hospital management to shift its focus from cutting costs to improving services; intelligent operation and maintenance, which helps create smart hospitals driven by big data; ecological environment, which supports

sustainable development under carbon peak and carbon neutrality targets; diverse styles, which enriches the once monotonous hospital design form.

KEYNOTE SPEECH 2

Date/Time December 1(Thurs), 2022 /10:00-10:40

Presentation Title **Healthy Buildings and Carbon Neutrality**

Keynote Speaker: **Shin-ichi Tanabe**

AIJ President, Professor of Waseda University



People in the modern world nowadays spend about 90% of their lives indoors. The quality of the indoor environments we inhabit is crucial for maintaining and improving our health, comfort, and productivity. Proper ventilation is an extremely important safeguard against the spread of infectious agents. To date, however, many of the goals of energy-efficiency policies have focused on energy consumption alone. In some cases, the comfort and health of building occupants have been neglected altogether. Efforts need to be directed towards reduced energy consumption by buildings without compromising the quality of their indoor environment. We need more scientific evidence to clarify the impacts of indoor environment on human health and productivity. In 2015, the

signatories to the Paris Agreement pledged a common commitment to limiting global warming to well below 2 degrees Celsius (preferably to 1.5) compared to pre-industrial levels. The IPCC's sixth report, published on August 9, 2021, states that human activities have unequivocally warmed the atmosphere, ocean, and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere have occurred. Energy demand is projected to rise in the Asian region due to economic development. In particular, the IEA has predicted that global cooling in the world demand will approximately triple by 2050. About one-third of the world's greenhouse gas emissions are in the building sector, including housing. Air-conditioning and ventilation account for about half of the energy consumption of a typical office building. Net Zero Energy Buildings (ZEB) and Houses (ZEH) are key to current and future efforts to limit greenhouse emissions. If the labor cost of a typical company operating out of an office is 100, the rental cost of the building is 10 and the energy cost is about 1. Good indoor environment is an essential precondition for a prosperous society. Human-centered research is needed if the carbon neutrality problem is to be solved. My lecture discusses some of the latest technologies and findings expected to contribute to the realization of carbon neutrality and comfortable and healthy environment.

KEYNOTE SPEECH 3

Date/Time December 1(Thurs), 2022 /10:40-11:20

Presentation Title **A or B**

Keynote Speaker: **Lee, Sang-Leem**

CEO of SPACE GROUP



Development and conservation have long been the subject of controversy, but the answer is still not found and the debate continues. The more important the area is, the hotter the debate is. The reality that the entire earth is under the influence of an abnormal climate due to global warming is at a stage where special measures must be implemented beyond the stage of controversy.

By looking at the creation process of Jeju Island, which is registered as a World Natural Heritage Site by UNESCO, you can learn the geology, shape, and natural environment characteristics, and briefly look at modern events based on the records in history.

International Convention Center Jeju(ICC), Wolryeong Renewable Energy Pilot Complex, Jeju 4·3 Peace Park, Udo Hundertwasser Park, etc, which has been designed by space group over the past 30 years, will be compared to the past, present and future of the location, and why development and preservation are needed at this point.

Jeju Island, 455km south of Seoul, is a volcanic island on the continental shelf completed in the fourth period after volcanic activity began in the late third stage of the Cenozoic Era. It has beautiful tourist resources such as Seongsan Sunrise(Ilchulbong) Peak and Udo Island, and 360 oreum (small volcanic bodies). Until the Joseon Dynasty, it was a small island with a population of about 50,000, but it has steadily increased to about 700,000 now. In addition, the number of tourists has exceeded 15 million in recent years, raising concerns about over-tourism.

Conservation in biosphere reserves is a concept that preserves various biosphere resources while developing them to gain economic benefits, and active conservation can be achieved through sustainable development.

KEYNOTE SPEECH 4

Date/Time December 1(Thurs), 2022 /11:20-12:00

Presentation Title **Integration and Sharing – Designing for Healthy Cities**

Keynote Speaker: **Zhang Songmin**

Vice Chief Architect of Central-South Architectural Design
Institute Co.,Ltd.



On the basis of sorting out the development of healthy cities, it reach to a conclusion that the abnormal changes and unbalanced issues in urban resources result in serve cities problems by analyzing the urban risk factors those generally affect human life safety and wellness. This lead to the design strategy of integration and sharing. Through the domestic and overseas cases, combining with the author's architectural practice, this paper analyses the construction strategies of sports and healthcare facilities, and how significant role they play in building healthy cities. It as well explores design methodology for usual and

emergency time from sports and healthcare facilities from resource integration and sharing aspect, in order to assist healthy city construction.

SPECIAL FORUM (Healthy City)

Date/Time December 1(Thurs), 2022/13:30-16:30

Moderator: **Li Baofeng**



President of Wuhan Architecture and Urban Planning Design and Research

Institute of HUST

President of New Architecture Magazine

ASC Council Member

Vice Director of Committee of Green Building-ASC

SPECIAL FORUM (Healthy City) 1

Date/Time December 1(Thurs), 2022/13:30-14:00

Presentation Title **Theoretical Practice and Future Prospects of Urban
and Rural Ecological Habitat Construction**

Keynote Speaker: **Xue Kongkuan**

ASC Council Member,

Director of Committee of Ecological Habitat-ASC



Currently, the construction and development of urban and rural living environments are facing severe challenges. How can the urban and rural living environment in the future be more adaptable to human needs and sustainable development? Based on the current situation of China's urban and rural development, this article lists some typical cases that have been implemented in the construction of various ecological human settlements over the past 20 years through the elaboration of the source of the definition of ecological human settlements, the basic theoretical basis, and the implementation of technical approaches. It helps explain the characteristics of urban and rural ecological human settlements construction, and sorts out the current situation and future development trends of China's urban and rural human settlements construction. Meanwhile, through analyzing the relationship between the concepts of ecology, green and health, the inevitable future of harmonious coexistence between man and nature, and the natural ecological health as the basic guarantee for the health of the human settlement environment, this speech demonstrates that the construction of urban and rural ecological human settlements will surely gain consensus in the industry.

SPECIAL FORUM (Healthy City) 2

Date/Time December 1(Thurs), 2022 / 14:00-14:30

Presentation Title **The study of relationship between urban form and exposure risk of traffic pollutants in residents**

Keynote Speaker: **Chen Hong**

Professor and PhD Student Tutor,
School of Architecture and Urban Planning,
Huazhong University of Science and Technology



Exposure to PM_{2.5} and CO has been proven to be closely related to physical health. Since 2012, they have been added to the pollutant list for national monitoring in Wuhan. However, the fine-scale variation in pollution, especially at the street level, is complex and requires further exploration. In the study, the measurement and numerical simulation methods are used to study on relationship between diffusion process of traffic pollutants (PM_{2.5} and CO) and the spatial form and the building shape on both sides of the valley, and to analyze the diffusion mechanism of pollutants in adjacent blocks. From the perspective of exposure risk assessment, the exposure risk sensitivity of human body in street valleys and adjacent blocks is judged, the parameter range of block morphology that is conducive to traffic pollutant control is summed up and

the type of street and valley that is not recommended, and a reasonable design strategy for reference is proposed.

SPECIAL FORUM (Healthy City) 3

Date/Time December 1(Thurs), 2022/14:30-15:00

Presentation Title **Toward Urban Planning Different from that Preceding
the Nuclear Power Plant Accident**

Keynote Speaker: **Aya KUBOTA**

Professor of Tokyo University



It is evident by looking at the region affected by the Fukushima nuclear power plant accident that pre-accident urban planning has been applied even after the accident. However, zoning for evacuation orders and cancellations cannot control radioactive substances that have no thresholds. Even in areas where evacuation orders have been lifted, some people naturally do not wish to return, and the number of returnees is limited. Despite this situation, residents in some places form organizations to mow the weeds around still-vacant homes, and people in some villages are undertaking the sixth industrialization of rape blossoms. These are spontaneous and practical initiatives (“natural practices”) . However,

the immense quantities of radioactive materials existing in transcendence of time and space are impossible to control. Reactor decommissioning work is also extremely difficult. Since the nuclear accident we need to understand that urbanization has progressed beyond anything that is internal or external to cities, while implosion occurs inside the human body and explosion occurs in the hinterland. Our only choice is to honor the act of protecting habitus by each person concerned.

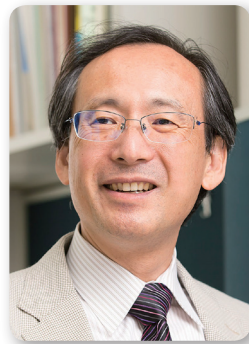
SPECIAL FORUM (Healthy City) 4

Date/Time December 1(Thurs), 2022/15:00-15:30

Presentation Title **Development and Validation of Regional Environment Assessment System for Promotion of Healthy City**

Keynote Speaker: **Toshiharu IKAGA**

AIJ Vice President,
Professor of Keio University



Population aging is accelerating in many developed countries and there are growing concerns about increasing social security costs. Given this background,

as stated in the Japanese Growth Strategy, community that can sustain citizens' lifelong health and active living is required. Therefore, this study aims to develop a healthy community checklist based on citizens' consciousness and behavior survey to recognize the condition of their community and notice the risk factor of disease. Based on the answer of the respondents, the score for a community was calculated and verified the effectiveness of this tool. As the result, the relationship between overall community score and citizens' health condition was quantified. Furthermore, the result showed a significant relationship between the community environment and the personal health, even in the case of considering personal lifestyle.

SPECIAL FORUM (Healthy City) 5

Date/Time December 1(Thurs), 2022/15:30-16:00

Presentation Title **Digital Transformation and Smart City**

Keynote Speaker: **Kim, Donyun**

Professor of SungKyunKwan University



Healthy cities create paths of sustainable development for future generations.

The cities we live in today are products of technologies accumulated from the past fused with cutting-edge technologies of the present. In fact, cities have always sought for solutions to the challenges, becoming ‘smart cities’ of the times as they utilized available knowledge new technologies.

In this context, the creative challenge of the last industrial revolution merits attention. During this time, the electricity – a key new technology of the time – was incorporated into existing architecture and cities. This has built the foundation which then transformed people’s lifestyles completely and led to prosperity of new civilization and culture. The ‘modern city model’ envisioned cities and people’s lives in the future in detail by incorporating the cutting-edge industries and technologies into architecture. The last century was a journey that realized this envisioned future, and the result is the cities we live in today. However, the modern city model depends excessively on carbon-based fuels. We face climate change crisis after a century of developing modern cities and increasing carbon emissions.

Today, our cities are undergoing digital transformation while also responding to COVID-19 crisis. This situation is surprisingly similar to the last industrialization period during the Spanish Flu, during which tens of millions died. At the time, many alternatives have been proposed to address urban issues, and the ‘modern city model’ – the smart city model of the times – emerged as the answer. The key to overcome the urban issues of this century is also a new city model.

The best new technologies for sustainable development and people’s healthy life can be brought together on a city planning platform to create a new city model for the future and contribute to climate change response. As always, cities need to become the hope for future generations. As always, as the origin of new civilizations and cultures, cities need to become the hope for future generations.

SPECIAL FORUM (Healthy City) 6

Date/Time December 1(Thurs), 2022/16:00-16:30

Presentation Title **Intelligent building energy and environment management(iBEEMS) for residential buildings using reinforcement learning**

Keynote Speaker: **Moon, Hyeun-Jun**

Professor of Dankook University



Reduction of energy consumption in buildings is crucial to achieving the target of greenhouse gas emissions in each country. However, maintaining an appropriate indoor healthy environment is also inevitable for occupants' comfort and productivity. Although energy saving and good indoor air quality cannot be achieved at the same time, a new method for building system control can be implemented by using a data-driven model with machine learning technology.

This paper suggests an intelligent building energy and environmental management system(iBEEMS) for residential and commercial buildings. In this paper, a specific machine learning method, which is one of reinforcement learning, is tested. The new control algorithm utilizes DDQN(Double deep Q network) along with an occupants activity model in the built environment.

Energy consumption data from a mechanical ventilation system and an air-conditional system are fed to the reinforcement learning model. Indoor environmental factors are also used to establish the model, including temperature, relative humidity, CO₂ concentrations, PM₁₀, and PM_{2.5} concentrations. The performance of the DDQN model was tested in a living testbed that resembles a small residential home with two beds, a living room, and a kitchen.

The results confirm that the suggested control method can improve indoor air quality and reduce energy consumption from mechanical systems at the same time. This approach also considers various occupants' activities, including sleeping, workout, rest, cooking, and so on. Based on the prediction of occupants' activities, a customized indoor environmental system control can be provided to satisfy indoor air quality and energy saving.

SPECIAL FORUM (Healthy Building)

Date/Time December 1(Thurs), 2022/13:30-16:30

Moderator: **Gui Xuewen**



Chief Architect of Central-South Architectural Design Institute Co., Ltd.

Professor-level Senior Architect

ASC Standing Council Member

SPECIAL FORUM (Healthy Building) 1

Date/Time December 1(Thurs), 2022/13:30-14:00

Presentation Title **Intelligent Design and Smart Operation for Green
Building and Carbon Neutrality**

Keynote Speaker: **Lin Borong**

Deputy Dean and Professor, School of Architecture,
Tsinghua University



Considering the double challenges from carbon neutrality and people's health, we need more and more innovative approaches to enhance the built environment quality and energy efficiency from design to operation phases. This report introduce our research focused on the algorithm and technology study for AI-driven design by simulation at architectural scheme phase, and the data-oriented optimization technology for better IEQ and energy saving with sensors and robots.

SPECIAL FORUM (Healthy Building) 2

Date/Time December 1(Thurs), 2022/14:00-14:30

Presentation Title **Research and Practice of Healthy Housing in China**

Keynote Speaker: **Zhang Lei**

Director, China National Engineering Research Center for
Human Settlements and Secretary General, Committee of
Healthy Habitat-ASC



The speech mainly focuses on three parts, which cover the health challenges faced by the living environment, the research and features of healthy housing, and the prospect of healthy housing technology. In this way, the research background, present status, practical significance and so on of healthy housing in China can be comprehensively conveyed to the participants. In the first part, the challenges faced by the living environment were mainly elaborated, including infectious diseases, chronic non-infectious diseases and so on, as well as people's expectations for a healthy living environment. The healthy housing built with human health as the core is able to effectively reduce health risks, reduce potential health hazards, avoid health damage, cultivate healthy behaviors, the goal is to treat the sick before they get sick, get sick less, get sick later and get healthier. The second part will elaborate on the research background, research history, technical characteristics and current status of achievements of healthy housing in China, in which the technical system and evaluation system of healthy housing construction were mainly introduced, and the technical characteristics of healthy housing research in China over the past more than 20 years were analyzed, such as taking people as the core, taking design as the guide, taking equipment as the promotion, taking wisdom as the means and taking service as the feature. In the third part, the future research direction and ideas of healthy housing in China were elaborated, covering new technology + new industry + new service + new standard + new culture. In the future, it is necessary to pool the wisdom and efforts of everyone to realize the dream of “healthy living”.

SPECIAL FORUM (Healthy Building) 3

Date/Time December 1(Thurs), 2022/14:30-15:00

Presentation Title **Healthy Architecture from the Perspective of Subject's Actions in Space**

Keynote Speaker: **Yasuaki ONODA**

AIJ Vice President,
Professor of Tohoku University and Honorary Editor of
JAABE Editorial Board



The theme of healthy architecture has become an indispensable theme for contemporary architecture, especially for those of us in the midst of the Covid-19 battle. In the past, when cities were developed and the built environment was poor, ensuring physical conditions such as daylight hours and air quality was fundamental to healthy architecture.

However, as urban structures changed with the development of building technologies and the change of transportation systems, and as methods for creating artificial air quality were developed through the progress of mechanical technology, the context changed. The first is the assessment of whether the energy input is appropriate and within a range that is sustainable for the global environment. Secondly, the question becomes whether or not the entity using the

architecture is healthy, or in other words, whether or not he or she is Wellbeing. At the same time, this question also asks whether a healthy competitive environment that is respectful and rational is maintained, not only for those who use the product, but also for the designers who are responsible for the results.

On the other hand, when architects design a building, they assume that the people who use it will act rationally. However, when we actually see how they use the building, we find that the subjects often act irrationally. Such irrationality also resides in those who plan and plan architecture. In this lecture, I would like to discuss various aspects created by attempts to achieve healthy architecture.

SPECIAL FORUM (Healthy Building) 4

Date/Time December 1(Thurs), 2022/15:00-15:30

Presentation Title **From architecture to neighborhood**

Keynote Speaker: **Moriko KIRA**

Director of Moriko Kira Architect



Working both in Japan and Europe throughout my carrier as architect, I have been investigating what could be the role of architecture and architect to improve

or to prevent the possible isolation of people. The isolation is a relatively new but seriously difficult social phenomenon. Living without sufficient contacts and exchanges is mentally unhealthy and it could eventually cause physical problem.

The aging society where more and more people are out of the professional context and lessening the ability of mobility, it is not so strange that the social isolation becomes a growing phenomenon. Furthermore, the polarization of society, which makes it increasingly difficult to find and to develop houses with proper price and quality, could bring especially venerable people in the situation of lack of social contacts and sufficient care.

I have witnessed that both in Japan and Europe we are facing the similar situation and I have been trying to design and realize housing projects, which not only provide the houses where a person or a family can live sufficient individual or family life but also the houses which trigger and implement diverse communications and bindings within and around the houses.

Development of such a living environment in the form of housing or group home, where the contacts between the residents and the neighborhood become part of the everyday life, has an inevitably different character than the conventional development of housings where the city authority and the development organizations are in charge. Instead, the development of such housing projects often arises from bottom-up initiatives of the residents themselves. If such initiatives could reach the realization rely on numbers of factors. The capability of initiative takers, supportive role of the local government and open and new stand point of the financial institutions are most important.

SPECIAL FORUM (Healthy Building) 5

Date/Time December 1(Thurs), 2022/15:30-16:00

Presentation Title **Occupant behavior for natural ventilation in buildings**

Keynote Speaker: **Park, Jun-Seok**

Professor of Hanyang University



Occupants take adaptive behaviors to change their indoor environment to meet their individual need for comfort. Window controls is the most common and preferred behavior for occupants, and those is not only useful to save energy, by reducing the use of mechanical cooling, but also for ventilation, by inducing outdoor air. Occupants' behavior can also lead to a significant gap between the actual energy use and the designed value predicted at the early design stage. It is important to understand occupant behavior for designing healthy and energy efficient buildings. The occupant behaviors related to natural ventilation, therefore, have been monitored for more than one year in twenty-eight residential buildings for ten years for developing occupant behavior models. The monitored data provide evidence that there is a statistically significant relationship between occupant behavior and outdoor temperature. The behavior for natural ventilation can be described by seasonal effects, occupancy, and time of day. Indoor stimuli, such as temperature, humidity, and CO₂, can better account for the window

opening behavior than can outdoor stimuli. There are clear differences in driving variables between window opening and closing behavior. The closing behavior is better described when the outdoor and indoor variables are combined. Machine learning algorithms have been developed to predict occupant behavior related to window controls in residential buildings. The algorithms can help to understand the influence of the occupant's behavior on the indoor environment and energy used in residential buildings.

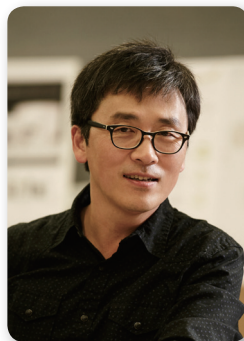
SPECIAL FORUM (Healthy Building) 6

Date/Time December 1(Thurs), 2022/16:00-16:30

Presentation Title **Redemption of Bukchon Topography;
the Rehabilitation of a High School into the Seoul Craft
Museum**

Keynote Speaker: **Song, Hayub**

Professor of Chung-Ang University



Bukchon area of Seoul is located on the north-east of Gyeongbokgung Palace. Since the modernization of Seoul in the early 20th century, this residential area of royal family and nobleman was transformed to have two new types of

buildings; the Urban Hanok and the modern school buildings. Urban Hanok is a modernized traditional urban house, which has a courtyard and a traditional roof with black roofing tiles. On the other hand, Bukchon has modern school buildings that was built in colonial period (from 1919 to 1945). School buildings are large, compared to houses, and has been hostile to the context of Bukchon. However, after schools move to new towns, empty schools have been transformed into a public building such as a library and public parking spaces. In the case of Seoul Craft Museum, the undeveloped land in the west side called “Songhyun-dong Area” and nearby National Museum of Contemporary Art could shape a form of museum complex that was not planned in the previous urban planning of this area. Based on this possibility, recently Songhyun-dong Area has been designated as a future place for Lee Kun-hee Museum, and thus can shape museum complex through rehabilitation of old buildings and undeveloped land.

This paper will interpret this urban renewal as the redemption of public space and address themes of historical continuity in the rehabilitation of abandoned modern school into Seoul Craft Museum. Also, this paper will address how Seoul Craft Museum facilitate a part of Bukchon area to restore the public pedestrian culture that has been devastated through the urban development since the modernization of Seoul. Together with National Museum of Contemporary Art and the future Lee Kun-hee Museum in Songhyun-dong area, Seoul Craft Museum will lead the cultural and public spatial atmosphere in Bukchon area.

GENERAL PROGRAM

(all indicated in Beijing Time)

Date	Morning	Afternoon
Nov.30 (Wed)		14:30-16:00 Executive Meeting of ASC, AIJ and AIK President
Dec.1 (Thurs)	09:00-09:20 Opening Ceremony 09:20-12:00 Keynote Speech	13:30-16:30 Special Forum (Healthy City/ Healthy Building)
Dec.2 (Fri)	08:30-12:00 Academic Session Academic SessionB1 Academic SessionC1 Academic SessionC3 Academic SessionD1 Academic SessionE1 Academic SessionF1	13:30-17:00 Academic Session Academic SessionA1 Academic SessionA2 Academic SessionA3 Academic SessionB2 Academic SessionC2 Academic SessionC4

A:Architectural Planning and Design B:Architectural History and Theory
C:Urban Planning and Design D:Construction Engineering and Managemen
E:Big Data and Interdisciplinary Collaboration F:Architectural Programming
and Post-Occupancy Evaluation

PROGRAM IN DETAILS

(all indicated in Beijing Time)

November 30 Wednesday	
Date	Content
14:30-16:00	Executive Meeting of ASC, AIJ and AIK President
December 1 Thursday	
Date	Content
09:00-09:20	Opening Ceremony Welcome Speech by: Xiu Long, ASC President Shin-ichi TANABE, AIJ President Choi, Chang-Sik, AIK President Leader from Central-South Architectural Design Institute Co., Ltd. Leader from Department of Housing and Urban-Rural Development of Hubei Province
Keynote Speech	Moderator: Zhuang Weimin
09:20-10:00	Keynote Speech 1: The Development Trends of New Hospitals Meng Jianmin Academician of Chinese Academy of Engineering, ASC Vice President, Chief Architect of Shenzhen General Institute of Architectural Design Research Co. Ltd.

10:00-10:40	Keynote Speech 2:Healthy Buildings and Carbon Neutrality Shin-ichi Tanabe AIJ President, Professor of Waseda University
10:40-11:20	Keynote Speech 3:A or B Lee, Sang-Leem CEO of SPACE GROUP
11:20-12:00	Keynote Speech 4:Integration and Sharing – Designing for Healthy Cities Zhang Songmin Vice Chief Architect of Central-South Architectural Design Institute Co.,Ltd.
Special Forum (Healthy City)	Moderator: Li Baofeng
13:30-16:30	Xue Kongkuan, ASC Council Member, Director of Committee of Ecological Habitat-ASC Presentation Title: Theoretical Practice and Future Prospects of Urban and Rural Ecological Habitat Construction Chen Hong, Professor and PhD Student Tutor, School of Architecture and Urban Planning, Huazhong University of Science and Technology Presentation Title: The study of relationship between urban form and exposure risk of traffic pollutants in residents Aya KUBOTA, Professor of Tokyo University Presentation Title: Toward Urban Planning Different from that Preceding the Nuclear Power Plant Accident

13:30-16:30	<p>Toshiharu IKAGA, AIJ Vice President, Professor of Keio University Presentation Title:Development and Validation of Regional Environment Assessment System for Promotion of Healthy City</p> <p>Kim, Donyun, Professor of SungKyunKwan University Presentation Title:Digital Transformation and Smart City</p> <p>Moon, Hyeun-Jun, Professor of Dankook University Presentation Title:Intelligent building energy and environment management(iBEEMS) for residential buildings using reinforcement learning</p>
Special Forum (Healthy Building)	Moderator: Gui Xuewen
13:30-16:30	<p>Lin Borong, Deputy Dean and Professor, School of Architecture, Tsinghua University Presentation Title:Intelligent Design and Smart Operation for Green Building and Carbon Neutrality</p> <p>Zhang Lei, Director, China National Engineering Research Center for Human Settlements and Secretary General, Committee of Healthy Habitat-ASC Presentation Title:Research and Practice of Healthy Housing in China</p>

13:30-16:30	<p>Yasuaki ONODA, AIJ Vice President, Professor of Tohoku University and Honorary Editor of JAABE Editorial Board Presentation Title:Healthy Architecture from the Perspective of Subject's Actions in Space</p> <p>Moriko KIRA, Director of Moriko Kira Architect Presentation Title:From architecture to neighborhood</p> <p>Park, Jun-Seok, Professor of Hanyang University Presentation Title:Occupant behavior for natural ventilation in buildings</p> <p>Song, Hayub, Professor of Chung-Ang University Presentation Title:Redemption of Bukchon Topography; the Rehabilitation of a High School into the Seoul Craft Museum</p>
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ACADEMIC SESSIONS

(all indicated in Beijing Time)

Note: Presenters are marked by the underline

Academic Session A: Architectural Planning and Design

A-1 Architectural Planning and Design

Moderator: Li Minzhi, Associate Professor, School of Architecture, South China University of Technology

Xiao Jing, Associate Professor, School of Architecture & Urban Planning, Shenzhen University

Date/Time: December 2 Friday 13:30—17:00

1-1	On Urban Gap: The Uncertainty-oriented Urban Design <u>Keqing Tang</u> Tongji Architectural Design (Group) Co.,Ltd
1-2	Assessing M-port Cohousing Project Issues in Kumamoto, Japan Then and Now <u>Minayo Takeichi</u> , Rei Shiraishi, Setsuko Isoda, Shinji Ikaruga, Takeshi Kobayashi Yamaguchi University
1-3	An Analysis of the Effect of Void Area on Evacuation Routes in a Multi-Complex Building Using the Cellular Evacuation Cost Evaluation Method <u>Minseok Kim</u> , Youngsun Kim, Jieun Cha Pukyong National University

1-4	<p>A Survey on the Actual Situation of the Offender Rehabilitation Facilities in Japan</p> <p><u>Zhang Jialin</u>, Sun Bingxun, Ishigawa Hiroyasu, Suzuki Hiroki Chiba University</p>
1-5	<p>The Application of "Addition and Subtraction" in Urban Renewal—Take Yangquan Community Renewal in Yixing City as an Example to Discuss the Three-level Solution in Urban Renewal</p> <p><u>Ji Yonghui</u>, Lu Hang Jiangsu Longteng Engineering Design Co.,Ltd.</p>
1-6	<p>Conservation of Cultural Landscape in Sumiyoshiyamate, Kobe, Focusing on Mansion Residential Areas</p> <p><u>Ayaka Takeuchi</u>, Juichi Yamazaki Kobe University</p>
1-7	<p>Abstract Architecture: Building Recognition Method with Toy Brick Models</p> <p><u>Ryouta YATABE</u>, Yuji KATAGIRI, Katsuya FUKUSHIMA Tokyo City University</p>
1-8	<p>Analysis on the Design Scheme of the Ecological Honeycomb Apartment with Multiple Functions</p> <p><u>Meirui Wu</u> Chongqing University</p>
1-9	<p>Contiguous and Hinder Factors for Intergenerational Exchange in Terms of the Attitudes of Facility Staffs for the Children</p> <p><u>Yuki Munemasa</u>, Ryosuke Tomiyasu, Yukako Tanimoto, Akihiko Iwasa, Masayuki Sato Yamagata University</p>

1-10	<p>Concepts and Facilities of Cooperative Housing Projects in Zurich</p> <p><u>Shinpei Miki</u>, Rei Shiraishi, Shinji Ikaruga, Takeshi Kobayashi Yamaguchi University</p>
1-11	<p>Inspiration of Francis Keré's Regional Architectural Place Spirit Strategy for Pastoral Settlements</p> <p><u>Hu Jiaqi</u>, Bai Liyan Inner Mongolia University of Technology</p>
1-12	<p>Facilities Management and Using of the Integrated Elementary and Junior High Schools — Case Study on 3 Schools in Sanin Region</p> <p><u>Amane Yamamoto</u>, Tomohisa Hosoda, Sachiko Mishima Shimane University</p>
1-13	<p>Lighting Installation Methods Focusing on Nighttime Visibility in Residences</p> <p><u>Emi Murayama</u>, Takafumi Shimizu, Jaeyoung Heo Nara Women's University</p>
1-14	<p>Research on the Design Strategies of Kindergarten Playing Space Based on Children's Experiential Perspective</p> <p><u>Shanghong Ai</u>, Zhe Liu Tong Yuan Design Group Co. LTD</p>
1-15	<p>A Study on the Environmental Satisfaction of School for Special Needs Education in Hokuriku, Japan</p> <p><u>Minjung Bae</u>, Keita Imamura University of Fuku</p>
1-16	<p>Parametric Design and Lighting Analysis Based on Rhino and Grasshopper Platform</p> <p><u>Yi Zhang</u>, Hui Zhai</p>

1-17	<p>The Operations of the New Housing Safety Net System: Case Study of the Chugoku, Shikoku, and Kyushu Regions</p> <p><u>Natsuki Sakata</u>, Tomoko Ohba Kyushu Sangyo University</p>
1-18	<p>Research on the Design of Community Shared Space Guided by Behavioral Activities By Case of Grange Pavilion Community Centre</p> <p><u>Siyan Tao</u> Jinan University</p>
1-19	<p>A Consideration on the Relationship between Experiences and Ideals in Housing</p> <p><u>Nonoka Tazaki</u>, Syoken Koh, Akira Ushijima Yamaguchi University</p>

A-2 Architectural Planning and Design

Moderator: Deng Zhaohua, Associate Professor, School of Architecture, South China University of Technology

Huang Quanle, Associate Professor, School of Architecture and Allied Art, Guangzhou Academy of Fine Arts

Date/Time: December 2 Friday 13:30—17:00

1-20	<p>Study on Optimal Design of Interior Sports Space Natural Light Environment Translucent Interface for Air-supported Membrane Structure</p> <p>Ying Liu, <u>Rulin Li</u>, Ge Yu Harbin Institute of Technology</p>
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1-21	<p>History and Current Situation on Cultural Areas Located in High-Risk Disaster Zones: Case of the Black Salt in Sacapulas, Guatemala</p> <p><u>Luis Pablo Yon Secaida</u>, Suguru Mori, Rie Nomura Hokkaido University</p>
1-22	<p>Satisfaction with and Preferences for Residential Spaces of Apartment Dwellers in Seoul During the COVID-19 Pandemic</p> <p><u>Ji-Eun Park</u>, Ye-Bin Jeon, Mi-Kyung Kim Chungbuk National University</p>
1-23	<p>Spatial Composition of Alleys in Ube-Kotoshiba Area</p> <p><u>Akiho Kawaguchi</u>, Akira Ushijima, Koh Shoken Yamaguchi University</p>
1-24	<p>Research on the Interaction between Urban Universities and “Middle-aged” Communities——Investigation and Analysis of the Surrounding Communities of Harbin Institute of Technology</p> <p><u>Tian Wang</u>, Zhaopeng Zuo, Shanshan Zhang Harbin Institute of Technology</p>
1-25	<p>Reorganization of Public Utility Facilities Focus on School Facilities in Mountainous Area— Case Study on Unnan City, Shimane Prefecture</p> <p><u>Tomohisa Hosoda</u>, Sachiko Mishima, Akira Ushijima, Mahito Nakazono Shimane University</p>
1-26	<p>Habitability Evaluation Evaluation of Habitability on Informal Settler Families Relocation Projects</p> <p><u>Ryota Shide</u>, Rei Shiraishi, Melissa Q. Navarra, Shinji Ikaruga, Takeshi Kobayashi Yamaguchi University</p>

1-27	<p>Design Innovation of Service Core: A Case Study of 18-Storey Residential Units</p> <p>Jun Guo, <u>Renzhi Zeng</u>, Tao Chen</p> <p>Research Institute of China Construction Fifth Engineering Bureau</p>
1-28	<p>Evaluation of Ventilation Methods of University Lecture Rooms During COVID-19 Crisis</p> <p><u>Tomoki Miyake</u>, Makoto Koganei, Hyuntae KIM</p> <p>Yamaguchi University</p>
1-29	<p>Unique Expression Method of Architecture and Urban Planning Presentation Used [Imaginary Coloring]</p> <p><u>Sora Araki</u>, Osamu Tsukihashi, Tohru Horiguchi</p> <p>Kobe University</p>
1-30	<p>Power of Lightness, Diversity of Tectonics: Toward Dual Carbon Goals</p> <p><u>Yuhao He</u></p> <p>Southeast University</p>
1-31	<p>Composition of Three-Dimensional External Spaces in Commercial Buildings</p> <p><u>Ye Chen</u></p> <p>Nagoya Institute of Technology</p>
1-32	<p>Research on Space Design of Workshop for Learning —Focusing on the Workshops Held at Yamaguchi Center for Arts and Media(YCAM), Japan</p> <p><u>Sakura Hara</u>, Michio okamoto, Junhwan Song</p> <p>Yamaguchi University</p>

1-33	<p>The Compare Study of Large-scale ICU Spacial Layout Based on Quantitative Analysis——A Case Study of a General Hospital in Nanjing, China</p> <p><u>Yuxuan Chen</u> Tsinghua University</p>
1-34	<p>Characteristics and Issues of Public-Private Partnership Management in Urban Farms that Utilize the Rooftops of Public Facilities</p> <p><u>Kasane Yuasa</u> Chiba University</p>
1-35	<p>A Study on the Typology of Spatial Composition Forming a “Sense of Unity as a School Building” in Junior and Senior High Schools in Japan</p> <p><u>Tetsu NAKAE</u>, Shingo SUEKANE, Ryo MASUOKA, Sara GOTO Mukogawa Women’s University</p>
1-36	<p>Adaptive Revitalizing of Deltaic Dwelling for Atypical Inundation under Climate Change: Gunma-based Applied Art Production for Enhancing of Waterfront Knowledge Inheritance in Ayuddhaya</p> <p><u>Terdsak Tachakitkachorn</u>, Tanaka Mari Chulalongkorn University</p>
1-37	<p>Location and Transition of Housing Cooperatives Developments in Zurich</p> <p><u>Itsuki Onita</u>, Rei Shiraishi, Shinji Ikaruga, Takeshi Kobayashi Yamaguchi University</p>

A-3 Architectural Planning and Design Moderator: Li Qiong, Professor, School of Architecture, South China University of Technology Liao Wei, Post-doctor, School of Architecture, South China University of Technology Date/Time: December 2 Friday 13:30—17:00	
1-38	Syntactical Analysis of Japanese Schools as a Catalyst for Socialization <u>Mohammad Sayed Ahmad</u> , Fujiyama Mamiko, Ishida Toshikazu Tohoku University
1-39	Design Strategies for the Pedestrian Space Environment of Cognitive Friendly Streets: Literature Review from the Perspective of Independent Living in People with Cognitive Impairment <u>Geng Yunqi</u> , Lian Fei, Yang Wenbin Harbin Institute of Technology
1-40	A Study on the Typology of Decision-makers Deviating from the “Level” Structure in the OPEN BUILDING: A Case Study of the System of Housebuilder in Japan <u>Nobuhiro Hasegawa</u> , Kozo Kadowaki Meiji University
1-41	Architectural Design Education: Case of Design Computing Class Applying IC-PBL Model <u>Hyungmo Yang</u> , Mi Jeong Kim University of New South Wales
1-42	Adaptive Revitalizing of Water-coexisting Dwelling under Climate Change —Comparative Significant Characteristics on Flood Recognition and Adaptation Measures in Riverine Village in Central Thailand and Japan <u>Mari Tanaka</u> , Terdsak Tachakitkachorn Gunma University

1-43	<p>Research on the Design of Urban Community Outdoor Exercise Environment Based on the Integration of Sports and Medicine</p> <p><u>Chen Liu</u>, <u>Xiao-Lu Zhou</u>, Xiang-Ning Zhang Harbin Institute of Technology</p>
1-44	<p>Living Function in the Sub-bases in Villages of Mountainous Area — Case Study on Okuizumo Town, Shimane Prefecture</p> <p><u>Mizuki Inai</u>, Tomohisa Hosoda, Sachiko Mishima, Akira Ushijima, Mahito Nakazono Shimane University</p>
1-45	<p>Design Thinking on Materiality Regarding Contemporary Renovated Houses</p> <p><u>Kazuyuki TAKEDA</u>, <u>Jorge ALMAZÁN</u> Keio University</p>
1-46	<p>Inclusive Renewal Strategy of Old Communities in Northern China under the Concept of Healthy Community</p> <p><u>Jingyi Mu</u>, Zheng Sui, Minghui Xue Harbin Institute of Technology</p>
1-47	<p>House in Tan Uyen—A Passive Design Housing Model Responding to the Tropical Climate in Vietnam</p> <p><u>Van Khang Huynh</u>, <u>Naoshi Kaneko</u> The University of Shiga Prefecture</p>
1-48	<p>Reflections on the Phenomenon of Architects’ “Residency” in the Countryside in the Context of Urban-rural Integration</p> <p><u>Hongyu Chen</u>, Yi Yang Kunming University of Science and Technology</p>
1-49	<p>Transition of Housing Quality from the View of LDK Composition and its Relationship with Adjacent Spaces Including External Spaces</p> <p><u>Masaki Sadamoto</u>, Michio Okamatsu, Junhwan Song Yamaguchi University</p>

1-50	<p>Research on the Reality and Issues of Building Rituals During Construction</p> <p><u>Hajime Akisada</u>, Michio Okamatsu, Junhwan Song Yamaguchi University</p>
1-51	<p>User Satisfaction Evaluation and Improvement Strategies of Sports Space in Commercial Complexes from a National Health Perspective</p> <p><u>Chen Xiaoyan</u>, <u>Hu Yanzhe</u> Tongji University</p>
1-52	<p>The New Normal in Peripheral Societies in Southeast Asia—An Attempt to Extend the Range of Focus in Architecture</p> <p><u>Ikuro SHIMIZU</u> Shibaura Institute of Technology</p>
1-53	<p>A Research on Reuse of Emergency Temporary Housing Using Trailer Houses in Nagano City after the Reiwa 1 East Japan Typhoon</p> <p><u>Shin Tsuchiya</u>, Toshikazu Ishida Tokyo Metropolitan University</p>
1-54	<p>Multi-module Facade Response Optimization Model for Office Buildings in Severe Cold Area Based on Neural Network</p> <p><u>Qing Yin</u>, Ying Liu, Binhui Sao, <u>Yuhan Pu</u> Harbin Institute of Technology</p>
1-55	<p>Study on the Cooling Effect and Optimal Operation Method of Transpiration Cooling Building Materials</p> <p><u>Koki Meichin</u>, Makoto Koganei, Hyuntae Kim, Tetsuo Yamashita, Kazuo Nagahashi, Itsuki Tsunemori Yamaguchi University</p>
1-56	<p>Study on Energy Consumption Reduction of Desiccant Air Conditioner with Variable Air Volume Control</p> <p><u>Ryoko Inoue</u>, Makoto Koganei, Hyuntae Kim, Yoshimasa Arai, Fujio Tamura, Tatsumi Doki, Noboru Natsumeda, Takao Yagi Yamaguchi University</p>

Academic Session B: Architectural History and Theory

B-1 Architectural History and Theory

Moderator: Li Hua, Professor, Deputy Director of the Institute of Architectural History and Theory, School of Architecture, Southeast University

Date/Time: December 2 Friday 08:30—11:30

2-1	Regionalism and Modernism: The Rurality of the Horizontal City ‘Roq and Rob’ by Le Corbusier Shoichiro Sendai, <u>Taisei Furusawa</u> Shimane University
2-2	From Vitruvius to Le Corbusier: A Study of the Evolution of “Empathy” Architectural View Based on the Architectural Meme Theory and Method <u>Qiang Yao</u> , Na An Tongji University
2-3	The Museum of Modern Art Kamakura(1951), as an Example of the Japanification of Le Corbusier’s Museum Prototype <u>Yasuhiro MANDAI</u> , Genta KOKUBU, Yoshiyuki YAMANA Tokyo University of Science
2-4	Building Tradition of Tibetan-yi Corridor Residence of Di-qiang Ethnic Group Based on Prototype Thinking <u>Fu Jiaqi</u> Chongqing University
2-5	The Transformation of the Spacial Composition of Siem Reap/ Angkor During 1900s to 1930s <u>Chihiro Kuroiwa</u> Waseda University

2-6	<p>Planar Composition of Buddha Hall and Assembly Hall in Inner Mongolian Tibetan Buddhist Temple</p> <p><u>ENKEHAORIBAO</u>, Shinichi HAMADA, Kazuyoshi FUMOTO ITO ARCHITECTURE&ENGINEERS INC</p>
2-7	<p>Research on the Spatial Pattern of Bohai City Sites Based on Different Scales</p> <p><u>Zhou Yuan</u>, Dong Jianfei Harbin Institute of Technology</p>
2-8	<p>Peach Blossom Land: Symbolic Forms of Ideal Space Analogized from Nature</p> <p><u>Fu Wenwu</u> Southeast University</p>
2-9	<p>Dugnad: How Voluntary Collaboration Within Communities Shapes Well-Being of Architectural Practice in Norway</p> <p><u>Kaoru Iwanaga</u> The University of Tokyo</p>
2-10	<p>Research on Development Factors of Historical City in Ulanqab Region</p> <p><u>Li Yuan</u>, <u>Han Yuqing</u>, Kong Jing Inner Mongolia University of Science& Technology</p>
2-11	<p>A Preliminary Study on the Spatial Characteristics of Niufo Historical Town from the Perspective of Settlement Changes</p> <p><u>Liu Jing</u>, Zhang Yu, Li Minjie Southwest Jiaotong University</p>
2-12	<p>A Study on Traditional Mosques of Herat Old City, Afghanistan</p> <p><u>Ghulam Mohammad ASIM</u>, SHIMIZU Hajime University of the Ryukyus</p>

2-13	<p>Study on the Traditional Cham Muslim Villages and Housing in the Context of the Diversity of Ethnic Architecture in the Mekong Delta</p> <p><u>Van Khang Huynh</u> The University of Shiga Prefecture</p>
2-14	<p>Case Study of the Kinetic Assembly Theory through Tabibito-an</p> <p><u>Yusuke Koshima</u> Kobe University</p>
2-15	<p>Characteristics of 1950s Pedestrian Mall as a Solution for a Healthy Shared Public Space in the 21st Century Post-pandemic Era: the Case of Gaborone Main Mall</p> <p><u>Segofalang Modisenyane</u>, Boseatleng Lekgoa, Mamiko Fujiyama, Toshikazu Ishida Tohoku University</p>
2-16	<p>The Research on the Function and Form of Huabiao in Chinese Traditional Urban Space and Architectural Complex</p> <p><u>Liu Shuo</u>, Sun Xiaoqian, Li Xinjian Southeast University</p>

B-2 Architectural History and Theory

Moderator: Sun Xiaoqian, Research Associate, School of Architecture, Southeast University

Date/Time: December 2 Friday 13:30—16:45

2-17	<p>Study on the Plant Efficacy in Improving Micro-environment of the Confucian Temple -- A Case Study of the Confucian Temple in Yunnan during the Ming and Qing Dynasties (14th -19th Centuries)</p> <p><u>Chen Xing</u> Southeast University</p>
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2-18	<p>Diachronic Evolution and Spatial Changes of Digital Heritage Architecture: A HBIM Study of Baoguo Temple in Ningbo (CE1013-CE1948)</p> <p><u>Qiang Xu</u>, Xin Wu, Jinghan Pan Fuzhou University</p>
2-19	<p>The Research and Practice of Urban Planning by Chinese Architecture Students Studying in Japan in the First Half of the 20th Century</p> <p><u>Fangxing LI</u>, Yasuhiko Nishizawa Nagoya University</p>
2-20	<p>Nikko Kanaya Hotel as a Cultural Apparatus in the International Tourist City</p> <p><u>Daizaburo Yoneyama</u>, Genta Kokubu, Yoshiyuki Yaman Tokyo University of Science</p>
2-21	<p>The Spatial Usage Pattern of Tourism Amenities in Mon Cham, Chiang Mai</p> <p><u>Kunlanun Sukpinij</u>, Shoichi Ota Kyoto Institute of Technology</p>
2-22	<p>Evolution of the Material Space Form of Qingdao Liyuan from the Perspective of Property Rights and Users</p> <p>Xu Feipeng, <u>Feng Chaoyu</u>, Jiang Zhengliang Qingdao University of Technology</p>
2-23	<p>The Evaluations of the Historic Sites in Nagasaki as Shared Heritage</p> <p><u>Hana Aitani</u>, Genta Kokubu, Yoshiyuki Yamana Tokyo University of Science</p>

2-24	<p>A “Pure Space” for Fumai Matsudaira—Through the Survey of the Tea Ceremony Room of Kezo-ji Temple</p> <p><u>Koki Makiyama</u>, Shoichiro Sendai Shimane University</p>
2-25	<p>The Composition of the Apertures and the Frame Structures of the Case Study Houses—A Closer Look at the Detached Housing Projects of R. Soriano, C. Ellwood, and P. Koenig</p> <p><u>Ryo MASUOKA</u>, Shingo SUEKANE Otemae University</p>
2-26	<p>A Study on the Relationship between Jun Itami’s Architectural Theory and “Mono-ha”</p> <p><u>Sara Goto</u>, Shingo Suekane, Ryo Masuoka Kobe University</p>
2-27	<p>Study on Protection and Reuse of Modern Educational Historical Buildings in Tianjin</p> <p>Zhang Hui, <u>Wang Jin</u> Hebei University of Technology</p>
2-28	<p>Survey Research on the Programs that Inherit the Memory of the Community Using Cultural Heritage as Teaching Materials</p> <p><u>Tadashi Saito</u> Yamaguchi Prefectural University</p>
2-29	<p>Rethinking and Isomorphism of Collective Life: Study on the Sharing Prototype System and Renewal Strategy of Fujian Tulou</p> <p>Yang Huagang, <u>Liu Yang</u>, <u>Zhang Kehan</u>, Wang Shaosen Xiamen University</p>

2-30	Research on the Causes of the Appearance and Popularization of Yingshan <u>Hong Yun</u> , Jia Tingli, Li Xinjian Southeast University
2-31	The Concepts and Techniques of Rockery in Xian Qing Ou Ji <u>Ziyi Ge</u> , Yoshinori Natsume, Shiniti Hamada, Kazuyoshi Fumoto Nagoya Institute of Technology
2-32	Stone Building and its Industry in Stone Towns Based on Comparison of Oya, Boshu, and Izu-stone in Kanto and Neighbor Region in Japan <u>Akio Yasumori</u> , <u>Motosumi Kobayashi</u> Chiba University, Oyama College
2-33	Analysis of the Spatial Pattern of the Maitreya Pure Land World of the Dunhuang Grottoes Zhao Xiaofeng, <u>Yan Wei</u> Hebei University of Technology

Academic Session C: Urban Planning and Design

C-1 Urban Planning and Design Moderator: Chen CHEN, Associate Professor and Associate Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University Li ZHANG, Associate Professor, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University Date/Time: December 2 Friday 08:30—11:30	
3-1	F-AHP Technique for Managerial Purposes of Rural Settlement <u>Ashutosh Shukla</u> , Ono Hiroko University of the Ryukyus

3-2	<p>Theoretical Research about Self-organized Public Space Behavior</p> <p><u>Jiankun LIU</u>, Nan ZHANG, Anqi WANG, Yang CHEN, Rui REN Tianjin University</p>
3-3	<p>Structuring of Sense of Place Factors Using Network Analysis: Discovery of Sense of Place Factors and Next Generation Variables in the Republic of Korea 2000-2022</p> <p><u>Changguk Kim</u>, Dongyun Kwak Chiba University</p>
3-4	<p>Planning and Governance of Urban Gardens from the Perspective of Space Justice</p> <p><u>Zhou Yang</u> Hebei Engineering University</p>
3-5	<p>A Physical Analysis on the Typology of Courtyard Houses in the Old City of Kandahar: A Case Study of the 1st Quarter of Ahmad-Shahi City</p> <p><u>Farooqi Javed Ahmad</u>, Hiroko Ono University of the Ryukyus</p>
3-6	<p>Evaluation of the Psychological Perception of Sidewalk Visual landscape—Taking the Core Area of the Capital as an Example</p> <p>Yu Li, <u>Maiqi Li</u>, Yuejia Xu, Jinyao Tao Beijing University of Civil Engineering and Architecture</p>
3-7	<p>Spatial Characteristics of Tokyo Based on Views from JR Station Platforms</p> <p><u>Nanami Chida</u>, <u>Ryuichi Inamochi</u> Ibaraki University</p>

3-8	<p>Urban Renewal under the Integration of Urban-rural Development: A Case Study of Urban Renovation in Huanbi Park Area, Lujian</p> <p><u>Chunni Zhou</u>, <u>Han Chen</u></p> <p>Zous Architects</p>
3-9	<p>A Study on Changes in the Community and the Residents' Awareness Before and After the Selection of Important Preservation Districts for Groups of Traditional Buildings</p> <p><u>Yoshimi Matsunoo</u>, Yuusuke Ohishi</p> <p>Kyushu Sango University</p>
3-10	<p>Conservation and Renewal of Port Industrial Heritage Based on Heritage Corridor Concept -- A Case Study of Dagang District, Qingdao</p> <p>Guo Yacheng, <u>Tong Yehui</u>, Wang Ran, Wang Tingting</p> <p>Qingdao University of Technology</p>
3-11	<p>Relationship Between Locational Characteristics and Utilization of Complex Libraries</p> <p><u>Aya Hagihara</u>, Shinji Ikaruga, Takeshi Kobayashi, and Rei Shiraishi</p> <p>Yamaguchi University</p>

C-2 Urban Planning and Design

Moderator: Chen CHEN, Associate Professor and Associate Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Li ZHANG, Associate Professor, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Date/Time: December 2 Friday 13:30—15:40

3-12	<p>Value Evaluation for the Use of Historical Buildings in Kobe City, Japan</p> <p><u>Naoko KURIYAMA</u> Kobe University</p>
3-13	<p>Planned Layout of Public Housing Complexes</p> <p><u>Hiroki Ogawa</u> Tokushima University</p>
3-14	<p>Evaluation of the Street Characteristics Affecting Thermal Environments in the Downtown of Hiroshima</p> <p><u>Tomoya, Migitera</u>, Shota Tamura, Takahiro Tanaka, Kaoru Matsuo, Makoto Yokoyama Hiroshima University</p>
3-15	<p>Evaluation of Local Characteristics and Basic Policies for “Non-Aggregation Area” of Compact City Plan</p> <p><u>Nobuchika Hata</u>, Shinji Ikaruga, Takeshi Kobayashi, Rei Shiraishi Yamaguchi University</p>
3-16	<p>Renewing and Revitalising Waterfront Industrial Heritage under the Influence of Youth Needs: A Case of Wuhu Shipyard Regeneration</p> <p><u>Wang Jingzhao</u>, Peng Ran Wuhan Institute of Technology</p>
3-17	<p>Risk Management of Nuclear Hotspots in a Village of Fukushima—Using a Map with Air Dose Rates Created by the Residents</p> <p><u>Shiori Suzawa</u>, Masanobu Kanno, Mayumi Kanno, Mariko Sadayuki Japan Women’s University</p>

3-18	<p>Residential Differentiation Evaluation from the Perspective of Public and Private Goods: A Comparison between Affordable Housing and Real Estate Properties in Xiamen, China</p> <p><u>Zhang Jiaqian</u>, Li Sijing, Wu Xin and Zheng Qishan Fuzhou University</p>
3-19	<p>A Study on the Water Balance of the Ryukyu Limestone Plateau in Urban Areas Using Continuous Measurement Data in the Ni-shi-Futenma Residential Area, Okinawa, Japan</p> <p><u>Hiroko ONO</u>, Yuya ENOKAWA and Shunta OSHIRO University of the Ryukyus</p>

C-3 Urban Planning and Design

Moderator: Jie YIN, Assistant Professor and Assistant to the Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Huang HUANG, Assistant Professor and Assistant to the Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Date/Time: December 2 Friday 08:30—11:30

3-20	<p>Study on Layout Features and Influential Factors of Old Catering Brands</p> <p><u>Hu Yuanmeng</u>, Zhang Liheng, Feng Ran Inner Mongolia University of Technology</p>
3-21	<p>Evacuation and Business Continuity Issues from the Viewpoint of Location and Building Characteristics of Nursery Schools</p> <p><u>Kazuki NISHIDA</u>, <u>Junko KANAI</u>, Hiroki OGAWA, Atsuko SHIRAYAMA Tokushima University</p>

3-22	<p>The Future City: A New Perspective on the Future of Healthy City Design</p> <p><u>Yuxin Zhao</u></p> <p>Lancaster University</p>
3-23	<p>Possibility of Redesigning Walkable Daily Life in Local Cities: Insights From the Leading Model case of Japanese Compact City</p> <p><u>Yuriko Takayanagi</u></p> <p>University of Toyama</p>
3-24	<p>A Study on Community Gardens Utilization of Disaster Prevention Open Spaces in Dense Urban Area at Foot Of Mountain</p> <p><u>Kazuki Isomura</u>, <u>Kento Shu</u>, Osamu Tsukihashi</p> <p>Kobe University</p>
3-25	<p>A Study on Spatial Evaluation of Cuba's Traditional Seaside Road "Malecon" Given by Architectural Façade Components</p> <p><u>Alejandro Cesar Baez Rodriguez</u>, Hiroki Suzuki</p> <p>Chiba University</p>
3-26	<p>Study on the Influence of Urban High-Density and High-Floor Area Ratio Development Model on the Microclimate Regulation of Water Bodies in Summer: A Case Study of Wuhan</p> <p><u>Shuai Zhang</u>, Xuefan Zhou</p> <p>Huazhong University of Science and Technology</p>
3-27	<p>Study on Formation Process of Akabanedai Danchi Using Space Syntax Theory</p> <p><u>Pengzheng Yu</u>, Da Huo, Shuai Shao</p> <p>Hosei University</p>

3-28	<p>A Study on the Style of Adventure Playground Utilizing Vacant Land</p> <p><u>Yuka Sakagami</u>, Osamu Tsukihashi, Yoshifumi Okage Kobe University</p>
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C-4 Urban Planning and Design

Moderator: Jie YIN, Assistant Professor and Assistant to the Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Huang HUANG, Assistant Professor and Assistant to the Department Chair, Department of Urban Planning, College of Architecture and Urban Planning, Tongji University

Date/Time: December 2 Friday 13:30—16:00

3-29	<p>Research on the Optimization of Riverfront Spatial Form Based on the Concept of Healthy City</p> <p><u>Zhe Liu</u>, Shanghong Ai Shandong Jianzhu University</p>
3-30	<p>An Integrated Evaluation of Urban Development Suitability Based on the Developmental Factors: A Multicriteria Assessment Through Analytic Hierarchy Process and GIS Technique for Kabul City</p> <p><u>Said Mustafa Habibi</u>, Hiroko Ono University of the Ryukyus</p>
3-31	<p>Green Infrastructure Planning for Mitigating and Adapting Urban Warming</p> <p><u>Riki Yamaga</u>, Ryota Araki, Shota Tamura, Takahiro Tanaka, Kaoru Matsuo, Makoto Yokoyama, Toru Sugiyama Hiroshima University</p>

3-32	<p>A Study of Residential Suburbs in the Hanshin Area Developed Before World War II, Focusing on the Pre-Development Context</p> <p><u>Hidefumi Yamaguchi</u>, Atsuki Yamamoto</p> <p>Kobe University</p>
3-33	<p>Research on the Actual State and Possibility of the Suburban Residential Area Mixed with Farmland in Yokohama</p> <p><u>Jonghoon Han</u>, Minoru Takamizawa</p> <p>Yokohama National University</p>
3-34	<p>Landscape Characteristics Based on Spatial Structure</p> <p><u>Kaho Muraoka</u>, Shinji Ikaruga, Takeshi Kobayashi, Rei Shiraishi</p> <p>Yamaguchi University</p>
3-35	<p>Study on Gardening Activities and Water Sources in Tokyo During the Early Meiji period (1868-1898)</p> <p><u>Keita Naito</u></p> <p>Hosei University</p>
3-36	<p>The Distribution and Use of Public Religious Spaces in the Northeast of Kyoto City</p> <p><u>Zhang Pingxing</u></p> <p>Tokyo University of Agriculture</p>
3-37	<p>Transformation of Traditional Mosques in Bardurani Quarter of Herat Old City, Afghanistan</p> <p><u>Ghulam Mohammad ASIM</u>, SHIMIZU Hajime</p> <p>University of the Ryukyus</p>
3-38	<p>Research on Placemaking with Multi-subject Partnership for Central Shopping Street in the City (part1)</p> <p><u>Osamu Tsukihashi</u>, Sayaka Inoue, Fumitaka Yano</p> <p>Kobe University</p>

Academic Session D: Construction Engineering and Management

D-1 Construction Engineering and Management

Moderator: Ke Cao, Associate Professor, School of Management Science and Real Estate, Chongqing University

Date/Time: December 2 Friday 08:30—12:00

4-1	Experimental Study on Shear Strength for Reinforced Concrete Column with Wing Wall on Either One Side <u>Yutaka Matsumoto</u> , Shuichi Uehara, OH Jewon, Akihito Noguchi Kurume Institute of Technology
4-2	Anticorrosion Properties of Na₆[(PO₃)₆] Treated Arc spray Al Coating <u>Adnin Raihana Jannat</u> , Han-Seung Lee Hanyang University
4-3	Stress Increase in Seismic Design of Pile Foundations Using Separation Model Tomofusa AKITA, <u>Masaki NAKAO</u> Yamaguchi University
4-4	Evaluation of Dynamic Modulus of Elasticity and Vibration Damping Performance of Cement Mortar According to SBR-based Polymer Mixing Ratio <u>MinGoo, Jeong</u> , JongMin, Jang, HanSeung, Lee Hanyang University
4-5	A Construction-support Tool Based on 4D-BIM with VR <u>Kento Senoo</u> , Kazuhiko Yamada Yamaguchi University
4-6	Cyclic Behavior of RC and HPFRCC Corner Beam-column Joints Subjected to Bidirectional Loading <u>Kang, Min Ki</u> , Han, Sang Whan Hanyang University

4-7	<p>Emergency Safety Assessment of Buildings based on Photo Image Analyses</p> <p><u>Koki Kawano</u>, Kazuhiko Yamada, Sayuri Honma Yamaguchi University</p>
4-8	<p>An Experimental Study on the Accuracy of Mortar Unit-Water Content Using Frequency Domain Reflectometry Sensors</p> <p><u>Jiwon Youn</u>, Seungyeop Lee, Hyunmin Yang, Hanseung Lee Hanyang University</p>
4-9	<p>A Study of Building Components, Joint and Structural Features of South Manimanpada in the Historic City of Patan (Kathmandu Valley, Nepal)</p> <p><u>Fumito Nakaba</u>, Mohan Moorti Pant, Kyota Yamada University of Tsukuba</p>
4-10	<p>Concrete Crack Prediction and Performance Evaluation Using Deep Learning Models</p> <p><u>Juhee Choi</u>, Han-Seung Lee Hanyang University</p>
4-11	<p>Flexural Strengthening of Beam-column Joints Using Steel Plate in Reinforced Concrete Frame Structures</p> <p><u>Shuichi Uehara</u>, Yutaka Matsumoto Kurume Institute of Technology</p>
4-12	<p>Cyclic Behavior of Reinforced Concrete Columns with Short Lap Splices Subjected to Uniaxial and Biaxial Loadings</p> <p><u>Hojae Kang</u>, Sang Whan Han Hanyang University</p>

4-13	<p>Reduction Effect of Seismic Input Motion to Structure by Sparse Ground Improvement</p> <p><u>Ryousuke Shiga</u>, Kazuhiko Yamada, Sayuri Honma Yamaguchi University</p>
4-14	<p>Verification of Vertically Divided Walls through Finite Element Analysis</p> <p><u>Hanbit, Kim</u>, Chang-Sik Choi , Seungwook Seok , Donghee Son, Li-Hyung Lee Hanyang University</p>
4-15	<p>Evaluation on Corrosion Behavior of Hot-dip Galvanized Rebar in Concrete</p> <p><u>Hongbok Choe</u>, Manabu Kanematsu, Hideyuki Kinugasa Tokyo University of Science</p>
4-16	<p>Field Applicability of the Settimeter to Predict the Surface Finish Time of Concrete</p> <p><u>Soo Hwan, Han</u>, Jong Kim, Min Cheol, Han, Cheon Goo Han Cheong-ju University</p>
4-17	<p>Exploring the Effect of Graphene Oxide Nanoribbons–Functionalized Carbon Nanotubes–Graphene Oxide (GNFG) Complex on Cementitious Composites’ Fire Resistance</p> <p><u>Peiqi Li</u>, Junxing Liu, Sungchul Bae Hanyang University</p>
4-18	<p>Binder Jetting 3D Printing of TiO₂-reinforced Cementitious Materials</p> <p><u>Junxing Liu</u>, Peiqi Li, Sungchul Bae Hanyang University</p>

4-19	<p>Structural Performance Evaluation of Reinforced Concrete Members Subjected to Combined Loads Considering Monotonic and Cyclic Loadings</p> <p><u>Dong-Hwan Kim</u>, Hyeong-Gook Kim, Yong-Jun Lee, Jae-Seong Jeon, Ga-Yeong Lee, Kil-Hee Kim</p> <p>Kongju National University</p>
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Academic Session E: Big Data and Interdisciplinary Collaboration

<p>E-1 Big Data and Interdisciplinary Collaboration</p> <p>Moderator: Han Yunsong, Vice Dean and Professor, Harbin Institute of Technology</p> <p>Date/Time: December 2 Friday 08:30—11:00</p>	
5-1	<p>Research on Big Data Application of Chinese Modern Architectural Cultural Heritage Under the Concept of Healthy City</p> <p><u>Yuheng Chen</u>, <u>Qiaochu Jiang</u>, Qi Zhou, Xueyun Sun</p> <p>Southeast University</p>
5-2	<p>Measuring Walk Score and its Correlation with Various Facilities and Street Connectivity: A Multi-Scale Analysis in a Multi-Nuclear Cooperation City</p> <p><u>Qiaohui Zhou</u>, Riken Homma</p> <p>Kumamoto University</p>
5-3	<p>AI-based Building Energy Metamodel for Architectural Massing Study</p> <p><u>Abhishek Mehrotra</u>, Hwang Yi</p> <p>Ajou University</p>
5-4	<p>Characteristics of COVID-19 Spatial-temporal Transmission in Urban Areas through Epidemiological Case Survey</p> <p><u>Qianqian Zhang</u>, Haida Tang</p> <p>Shenzhen University</p>

5-5	<p>Construction Worker's Awkward Posture Recognition Using Wearable Sensors</p> <p>Seongeun Park, <u>Mingi An</u>, Huarui Xu, Changbum R. Ahn, Munseo Park</p> <p>Seoul National University</p>
5-6	<p>Digital Renaissance: Digital Reform and Innovation of Construction Industry in China</p> <p><u>Zhuohui Zhu</u>, Shuying Ning, Yanyan Huang</p> <p>Central-South Architectural Design Institute Co.,Ltd.</p>
5-7	<p>Research on Standardized Design of Prefabricated Steel Structure Medical Buildings</p> <p><u>Sihang Zeng</u>, <u>Hui Gao</u></p> <p>China Southwest Architectural Design and Research Institute CORP.LTD (CSWADI)</p>
5-8	<p>The Distribution Characteristics of Industrial and Agricultural-related Buildings under the Background of Industrial Transformation in Beijing</p> <p><u>Che Jing</u>, Huang Wenzhe, Yang Yanlin</p> <p>Beijing University of Civil Engineering and Architecture</p>
5-9	<p>Spatio-temporal Heterogeneity of Urban Population Mobility Before and after Epidemic Based on Big Data: a Case Study of Hohhot City</p> <p><u>Chen Yi</u>, Gao Pengfei</p> <p>Inner Mongolia University of Technology</p>

Academic Session F: Architectural Programming and Post-Occupancy Evaluation

F-1 Architectural Programming and Post-Occupancy Evaluation Moderator: Zhang Wei, Director, Architectural Programming and Design Center, Architectural Design and Research Institute, Tsinghua University Date/Time: December 2 Friday 08:30—12:00	
6-1	Analysis of POE and Federal Regulations of Public School Buildings in Brazil <u>Gabriela Yoshitani da Luz</u> , Kaname Yanagisawa Chiba University
6-2	The “15-minute Sports Life Circle” in the Post-Epidemic Context: A Study on Community Sports Facilities Enhancement and Architectural Planning <u>CHENG Zinuo</u> , QU Zhang Tongji University
6-3	Social Housing Supply Methods to Promote Residents’ Social Mix in France <u>Hana Sekikawa</u> Kindai University
6-4	Research on Post-use Evaluation of University Campus Public Space Based on Space Syntax and TOPSIS Method Li You Fang, <u>Gao Yuan</u> Hebei University of Technology
6-5	The Early Attempts of Elderly Shared Housing in Japan and Its Habitation Limits for Elderly Residents <u>Junko Miyano</u> Mukogawa woman’s University

6-6	Evaluation on Spatial Characters of Old High-rise Urban Residential Buildings in Beijing <u>Yuhan Guo</u> , Sisi Liang Tsinghua University
6-7	Digitalization & Vacant Housing as a Catalyst for Rural Growth <u>Justin Heller</u> , Masami Kobayashi Meiji University
6-8	Post-occupancy Evaluation of Urban Public Space: A Case Study of Beijing Panjiayuan Antique Market, China <u>Mo Han</u> , <u>Bing Han</u> , Ziwen Sun, Siyi Liu Beijing Institute of Technology
6-9	A Mathematical Procedure for Plugging Rooms into Module-based Area <u>Kosuke Narano</u> , Kazuhiko Yamada Yamaguchi University
6-10	Study on Post Occupancy Evaluation and Optimization Strategy of Building Exterior Spaces Under the Guidance of Health <u>Jia Yuan</u> Beijing University of Civil Engineering and Architecture
6-11	Research Course and Development Trend of Healthy Campus Liu Kai, <u>Xu Jiejing</u> Huazhong University of Science and Technology
6-12	Practice-based Rethinking of Healthy Housing Evaluation Standards in China: A Case Study of Chongqing City Park Project <u>Kai Liu</u> , Jiangwu Huang London School of Economics

6-13	<p>A Study on the Activity Behavior Characteristics of Residents in Winter Community Public Fitness and Sports Venues Based on Snapshot Method</p> <p><u>Sun Zhenxin</u>, Liu Pinghao, Li Yu, Xu Yuejia Beijing University of Civil Engineering and Architecture</p>
6-14	<p>Study on Planning and Programming of Health Innovation Community in East Asia A Case Study of Northern Osaka Health and Biomedical Innovation Town, Osaka, Japan</p> <p><u>Mao Junya</u>, Yang Shize East China Jiaotong University</p>
6-15	<p>Research on the Application Framework of Digital Technology in the Process of Public Participation in Architectural Programming</p> <p><u>Wenming Shi</u>, Xuelang Wang Lanzhou University of Technology</p>
6-16	<p>Research on Optimal Design of Photothermal Performance of Shenyang Jianzhu University Museum Based on Post-use Evaluation</p> <p>Deming Wang, Yanhua An, <u>Anqi Wang</u> Tianjin University</p>
6-17	<p>Post-use Evaluation of the Second Affiliated Hospital of West China with Maternal and child Patients as the Research Focus (Architectural Planning and Post-evaluation)</p> <p><u>Yubei Huang</u>, Junfeng Yang, Mengyuan Zhang China Southwest Architectural Design and Research Institute Corp. Ltd (CSWADI)</p>
6-18	<p>Architectural Programming and Design of Modern Bio-medicine Scientific Research Building Park</p> <p><u>Jingxian Zhao</u>, <u>Xinting Gao</u> Tsinghua University</p>

GUIDELINES FOR PRESENTATION

Presentation

All presenters are asked to observe their presentation time strictly as assigned. Presenters are requested to be in their symposium room at least 10 minutes before the start of the session and check with the session chairman.

Language

The official language of ISAIA is English. There will be simultaneous translation service between Chinese and English for the opening ceremony, keynote speeches and special forums. The academic sessions will be fully in English.

Presentation time

Keynote speeches	40min. each
Special speeches	30min. each
Academic sessions	10min. each (including 2 minutes Q&A time)

**Thanks go to all participants and staff members
to 13th ISAIA for your participation and contribution.**

Wish the ISAIA better and better.