

# WHAT'S UP?

Vol. 04 July 2018

The ageing population is a common phenomenon in many countries, and many problems arose from it with different complexity. This symposium gathers the best and most knowledgeable international experts on issues relating to ageing and housing to lend their expertise and encourage the exchange of innovative and practical ideas to a common goal.



A full spread of research was shared and discussed ranging from issues in the room, dwellings, neighborhoods to regions. There were topics discussed from how to design home environment that are safe for independent elderly and maintain activities of daily living, how to assist consumers make their homes more functional, housing typology and ageing in place in Australia, hard and soft design to move homes and cities from vicious to virtuous,



**Kyushu University  
and University of New South Wales presents**

## **From Room to Region: Age Friendly Environmental Design and Planning in the Western Asia-Pacific SYMPOSIUM**

### **13 - 15 March 2018**

The Faculty of Design at Kyushu University and the Faculty of Built Environment at University of New South Wales co-organized this two days symposium and a field trip on the third day which attempted to cover the breadth of environmental design and planning for population ageing, rather than merely the sum of its parts. It included contributions from researchers from selected countries in the Western Asia-Pacific region including Japan, China, Australia and New Zealand.



analysis of the cause of conflicts and solutions between embedded facilities for the elderly in Chinese urban communities and the community residents, ageing in sprawling cities: population dynamics, urban form and the challenges for age-friendly planning, ageing and depopulation in a mountain village in Spain and Japan, etc.

Panel discussions with representatives from Australia, New Zealand, China and Japan, provide understandings to the current state of housing design for ageing in place in their country and exchanging of ideas of possible solutions. The research presented in this symposium will be published as a book. Do keep a look out for it!



On the third day, a visit to Kyushu University Research Center for Human Environmental Adaptation and Experimental House for Living Space Design was organized and led by Professor Satoshi MURAKI. The main purpose of the center is to clarify conditions necessary for healthy human environmental adaptability. There are nine climatic chambers altogether, namely, Hyper and Hypobaric Chamber, Water Immersion Chamber, Illumination Chamber, Combined Factor Chamber, Thermal Chamber, Living Environment Chamber, Thermal Radiation Chamber and two Chambers of Noise Reduction and Radio Shield. Assistant Professor LOH Ping Yeap introduced the different chambers and its uses and possibilities to the participants.

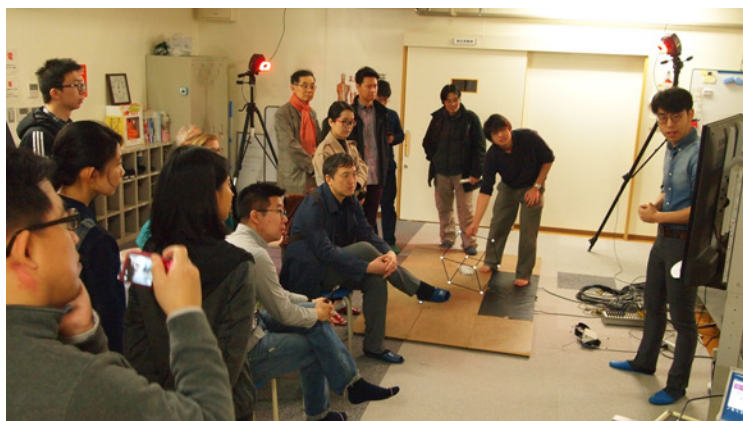


This is the Hyper and Hypobaric Chamber where an aircraft environment can be stimulated.



This is the Illumination Chamber where different light colours can be adjusted for various testing.

The Experimental House for Living Space Design is 160 m<sup>2</sup> house which contains two rooms with catwalks. Motion analysis using 3D analyzers as well as physiological measurements of everyday activities (such as bathing, cooking, walking) are possible in this house.



Professor Muraki's PhD students shared about their projects, gave demonstrations on the various equipment and brought the participants around to see the facilities.

After that, Professor Kenichi TANOUE led the group to Muromi Danchi to meet and hear from the residents who faced issues with their apartment as they aged. It was a good exchange and kicked off the exploration of possible solutions to the problem encountered by the residents. The visit concluded the three days of professional sharing.



Discussion session with the Muromi Danchi's residents.



### The Presenters for the Symposium were:

**Doctor Mariana ATKINS**, Discipline of Geography and Planning, School of Agriculture and Environment, University of Western Australia, Perth, Western Australia

**Professor Catherine BRIDGE**, Associate Dean Research, Director Enabling Environments, Director Home Modification Information Service, Faculty of Built Environment, UNSW, Sydney, Australia

**Emeritus Professor Bruce JUDD**, City Futures Research Centre, Faculty of Built Environment, UNSW, Sydney, Australia

**Emeritus Professor Satoshi KOSE**, Graduate School of Design, Shizuoka University of Art and Culture, Hamamatsu, Shizuoka, Japan

**Doctoral Student, Li Xiao Ming**, School of Architecture, Southeast University, Nanjing, China (On behalf of Associate Professor Li Xiang Feng)

**Research Fellow, Doctor Edgar LIU**, City Futures Research Centre, Faculty of Built Environment, University of NSW, Sydney, Australia

**Professor Satoshi MURAKI**, Department of Human Science, Faculty of Design, Kyushu University, Fukuoka, Japan

**Doctor Kay SAVILLE-SMITH**, Director, Centre for Research, Evaluation and Social Assessment (CRESA), Wellington, New Zealand

**Associate Professor Yasushi SUKENARI**, Department of Sociology, Graduate School of Humanities and Sociology, The University of Tokyo, Japan

**Prof Masakazu TANI**, Dean, Faculty of Design, Kyushu University, Fukuoka, Japan

**Prof Kenichi TANOUE**, Department of Environmental Design, Faculty of Design, Kyushu University, Fukuoka, Japan

**Doctor ZHANG Song**, School of Architecture, Southeast University, Nanjing, China



## About...

# Professor Naoyuki OI

He is the Department Head for the Undergraduate Programme on Environmental Design in the Faculty of Design. He specialised in Urban and Building Environment, and Environmental Psychology and his research interest lie in the Studies of Environmental Psychology for Evaluation of Built Environment.



Professor OI is interested in research methods to elicit evaluation structures to be used in a various situation in the field of environmental evaluation. His recent research looks at the development of a new method to elicit cognitive structures related to the evaluation of environment that is difficult to verify using the Evaluation Grid Method (EGM). It is found that EGM is suitable to be used for a specific environment or space. However, it is not suitable to be used for eliciting cognitive structures on a concept of a space. Hence, this study attempt to draw out the evaluative structure of healthy living environment which is a concept of a space, through the Image Grid Method (IGM).

IGM was developed based on EGM and the concept of Behavior settings. It is found to be advantageous at

times in eliciting "image structures" for the concept such as "health" or "healthy environment" which respondents can recollect multiple behaviour settings related to the concept. Even in living environment planning, which is the original objective of EGM, IGM could have some advantage. This is because designers often want to know the behaviour setting which users of the environment need rather than the needs for a specific space. As image structures from IGM enable designers to play with knowledge which is independent of a specific space, and to design multi-purpose spaces or multiple spaces for single behaviour setting.

Professor OI has also done many types of research to quantify the correlation of impressions with the luminance of various lighting environment. This year, he has presented

his research titled "Impressions and Luminance Distribution of Outdoor Illumination for Winter Events" at the 8th Lux Pacifica: Life and Lighting. This study was to clarify the correlation between impressions and luminance distribution with histograms and track specific trends of them, especially in outdoor illumination for winter events and testify the possibility of reproducibility of the exterior light environment on a visual display unit. The results showed that luminance histograms of outdoor illumination seem to be able to reproduce on a visual display unit when the proper class interval is applied. However, the correlation between impressions and luminance histograms is less promising than in the interior environment. It seems that colour of illumination could be more influential on some factors of impression.



# Joint Research

## Assessment of Energy precarity and Heat-related Health Risks from Climate Change in Asia Cities (Taipei, Hanoi, Fukuoka)

Through the Wellcome Trust Seed Awards in Humanities and Social Sciences in 2017, Dr Leslie MABON from Robert Gordon University (Principal Investigator), Dr SHIH Wan Yu from Ming Chuan University, Dr NGUYEN Hoai Son from University of Science and Technology Hanoi and Dr Kayoko KONDO from Kyushu University, collaborated in this project.

This project develops and pilots a model for assessing the impact of energy policy on vulnerability to heatwaves within cities, using Hanoi, Fukuoka and Taipei as case studies. It is widely acknowledged that rising temperatures due to climate change pose a major urban health risk, and that increased use of mitigating technologies like air conditioning have a knock-on effect on energy consumption. Not so well understood, however, is how citizens' capacity to adapt to rising temperatures may be affected by the cost or availability of electricity – particularly as many low-carbon energy technologies designed to mitigate climate change may result in more expensive and/or intermittent electricity supply. Such integrated assessment of exposure to excess heat, socio-economic vulnerability and future energy mixes is important to allow planners and health/social welfare policy-makers to identify areas in cities most vulnerable to negative health effects from heatwaves, and to understand potential effects of future energy policies on capacity to adapt to climate change.

For this project, Kyushu University surveyed the citizen attitudes to and understanding of urban heat and energy consumption in Fukuoka City. It is accompanied by policy analysis and interviews undertaken



by Robert Gordon University (RGU), that form the basis of lessons in effective urban heat governance from Fukuoka which can be applied to Hanoi and Taipei; and a pilot of social science research which may be applied to Hanoi and Taipei in future project. RGU also look at developing indicators for social vulnerability to heat.



Ming Chuan University undertook remote sensing and spatial analysis to understand how urban development patterns might influence thermal distribution across urbanized areas in the Hanoi and Taipei cities.

University of Science and Technology Hanoi modelled energy precarity based on heat exposure, income, weather, housing conditions and related socio-economic factors to look at how energy consumption varies across spaces within in Hanoi and Taipei.

The team came together to share their findings at Kyushu University, Ohashi Campus, Fukuoka, on 26th April 2018. The sharing was fruitful and encouraging. The team is currently looking at continuing the research and expanding the scope of research.





# What are the thoughts of the young Asian Architects?

In conjunction with the celebration of the Faculty of Design 50th Anniversary, eghub and Alumni Association Konton-Kai has invited 3 young architects, Shunri Nishizawa, Yu Momoeda and Pornpas Siricururatana, to share about their works and thoughts on architecture. The lecture hall was packed with people who were interested to hear from the speakers, their perspectives of different countries, context and culture.



Shunri Nishizawa is a Japanese architect born in Tokyo in 1980. He studied architecture in University of Tokyo and then worked at the studio of Tadao Ando from 2005-2009. In 2015 he founded his firm NISHIZAWAARCHITECTS in Ho Chi Minh City, Vietnam.

He gave an introduction about the people and culture of Vietnam, a glimpse of the city and rural Vietnam and the architecture of the past and the new generation architecture. He briefly introduced some of his past works but explained in detail two of his latest projects – House in Chau Doc and Ben Thanh Restaurant.

House in Chau Doc is a house shared by three nuclear families who are kin. Though the house was built with thin corrugated metal panels that blended with the surrounding environment, it has also satisfied the rich lifestyle in which is fulfilled by sunlight, greenery and natural ventilation, as it were, living in a half-outdoor garden.

Ben Thanh Restaurant is a restoration project that creates something new but embellishes the old. The design objective was to “update the space in a sensitive way, where both past and present times flow smoothly and continuously enrich the space”.

Yu Momoeda was born in Nagasaki in 1983. He was graduated from the Kyushu Institute

of Design, Environmental Design (currently known as Faculty of Design, Kyushu University) and Yokohama National University. He has established his Design Office known as Momoeda Yu Architecture Office in 2014 and has been serving as a part-time lecturer at Kyushu University, Faculty of Design.

Yu Momoeda project sites are mainly in Nagasaki and Fukuoka. He shared the concept of his works, “architecture as a litmus paper”, since the establishment of his company and, his two recent projects – Agri Chapel and Memolead Hall Kasuga.



Agri Chapel has a design space that is like the gothic pendentive dome but created from tree-like units extending upwards. These tree-like units and the pillars were constructed using the Japanese wooden system. The chapel sits on a site that is surrounded by a large park and is close to the sea. It is designed to connect the activity of the chapel to the natural surroundings seamlessly.

Memolead Hall Kasuga is a funeral house with four halls. It has a shared foyer with a window on the roof for light to enter and for people to look up and above, reminiscing memory of the dead.

Pornpas Siricururatana was born in Bangkok in 1985. She studied in the University of Tokyo as International students. After graduating, she worked as an architect at the Ministry of Culture of Thailand. Currently,

she is a lecturer at Kasetsart University. She is also doing different forms of designing work.

Pornpas Siricururatana started with her reflection on disasters and design. In 2011, the year she graduated, East Japan Earthquake and great flood in Bangkok happened. Though these disasters, especially the flood which she experienced, she has observed and learnt to see things in different light. She saw that people around are positive despite the circumstance, creative to improvise solutions and able to adapt to situation to make life better for themselves.

She shared in detail on two of her projects that she was involved - Rachadamundun Contemporary Art Center and 999/84.

Rachadamnoen Contemporary Art Center is the embodiment of old buildings presented under a new given value, standing gracefully and appositely as a part of the new social, cultural and urban context of Bangkok. 999/84 is a residential project. The 30 years old house was given a new look, to be consistent with the modern life.



The talk concluded with a discussion helmed by the invited speakers and eghub members, Professor Doi and Assistant Professor Iwamoto. A wide range of topics were discussed, such as the globalization of Asian cities, sensibility to regional communities, historical sensibility to restore and refurbish of the urban heritages in Asia, etc.



## Open Lectures

# Designing Resilience for Community at Disaster Sites

Assistant Professor Oscar Carracedo Garcia-Villalba  
National University of Singapore

Associate Professor Asahiro and Professor Tanoue  
Kyushu University

March  
2



**DESIGNING RESILIENCE IN ASIA**

シンガポール国立大学環境設計学部  
× 環境設計グローバル・ハブ  
「被災地でのレジリエンスのデザイン」  
2018年3月2日（金）3:00-4:30 PM  
九州大学大橋キャンパス2号館3階会議室

**Designing Resilience for Community at Disaster Sites**

Oscar Carracedo Garcia-Villalba, National University of Singapore  
DRIA (Designing Resilience in Asia) Research Programme  
Kenichi Tanoue, Environmental Design Global Hub, Kyushu University  
Planning for the Milieu of Evacuees in a Post-disaster Environment  
Kazuo Asahiro, Environmental Design Global Hub, Kyushu University  
Report on Flood Disaster in Kyushu

2. March 2018, 3:00-4:30 PM  
Conference room, 3F, Bldg.2, Ohashi Campus, Kyushu University

Organized by: Environmental Design Global Hub | Admission Free | [www.egghub.design/kyushu2018](http://www.egghub.design/kyushu2018) | [www.facebook.com/egghub.ju](https://www.facebook.com/egghub.ju)

We have Assistant Professor Oscar Carracedo Garcia-Villalba from National University of Singapore (NUS) to share with us about The Designing Resilience in Asia (DRIA). It is an International Research Programme on urban and architecture resilience launched in 2014, in notably the International Symposium and Design Competition which he oversees. This event gathers professors and students from all over the world to contribute to the debate on how to create strategies to prevent, prepare and respond to the environmental effects caused by climate change through diverse approaches such as design, planning, technology, management, policies or community involvement.

He also shared with us some of the solutions proposed by the team for the competitions held over the years. With the opportunity to visit the site, talk to the

locals, understanding the problem on site and knowing the people needs, the students could identify the cause and proposed systemic solutions to improve the lives of people at the given site. However, though the proposals have been presented to the local government, it does not guarantee the implementation of the proposals.

His talk was followed sharing by Associate Professor Asahiro and Professor Tanoue from Kyushu University. Associate Professor Asahiro shared about the damage caused by torrential rain in Asakura, Fukuoka and how NPO and volunteers help the farmers to restore their farmlands. Professor Tanoue shared his experience as a volunteer during the Kumamoto earthquake and his research interest to investigate post-disaster recovery plan.

## The Methodology of Workshop for Education

by Professor Satoru Yamashiro,  
Shibaura Institute of Technology

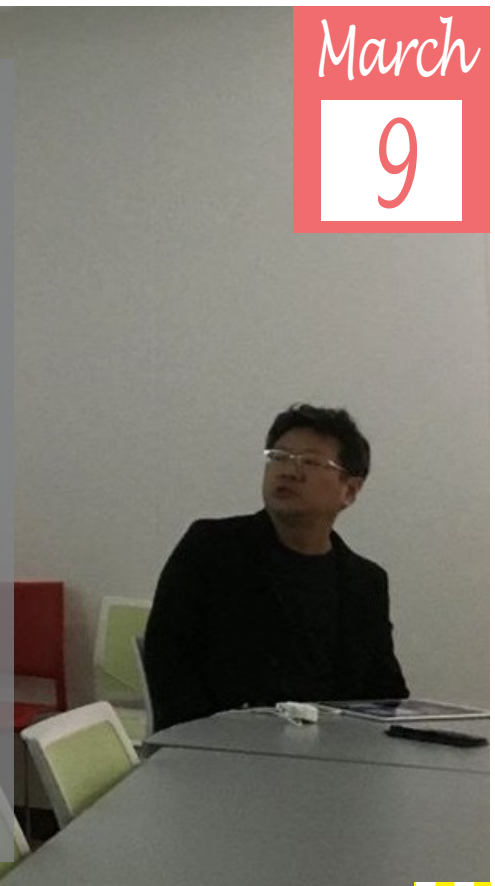
Professor Satoru Yamashiro from Shibaura Institute of Technology gave a talk on the City -Switch Programme which he collaborated with Dr Joanne Jakovich from the University of Technology Sydney.

The programme switches students between two cities to give new perspectives to the problem in each city. About 20 architecture and urban design students from Japan and Australia will go to each city for 5 days and collaborate with local stakeholders on the urban issue. The collaboration started

between Japan and Australia, then move to Dalian in China. The projects and outcomes in Izumo in Japan, New Castle in Australia and Dalian in China were shared. Such international collaboration allows students to learn about different context and culture, develop creativity and build ideas together.

He also shared on challenges faced such as resources and fixing the project dates between the countries. Overall, it's worthwhile experiences, and he emphasised the importance of the long-term relationship with the counterparts.

March  
9



# British Colonial Residential Bungalow

## Thought • Technique • Construction

Associate Professor Mamiko MIYAHARA  
Saga University

April  
27

Dr Mamiko MIYAHARA is interested in the development of Bungalow. Together with Dr Ayano TOKI from Tohoku University, they traced the origin of the bungalow which is in India. In this lecture, she shared about their findings of Bungalow houses in the India tea gardens during the 1850s and how the Bungalow design is brought back to the United Kingdom (UK) and adapted as a leisure residence at the coastal resort Birchington-on-Sea, which was developed in the late 1860s, and as a weekend house at the recreation resort Bellagio Estate, now called Dormans Park, in 1890s.

The word Bungalow holds the meaning of “Bengal-like” in Bengali and is said to have started when the features of a local farm house were introduced to the British homes to adapt to the unique climatic condition in India through local construction methods and materials. The Bungalow, originally

based on the Bengalian farm house, inherited British housing culture of its floor plan, functionally partitioned with a central hall and surrounded verandah. The other feature of the bungalow is the “Aloofed” concept where wall and fence are built surrounding the property to create a secure and independent environment.

In the case of Birchington-on-Sea, it is the very first bungalow built in the UK. The research looked at the establishment of the Bungalow and the characteristics of the Bungalow. The development of Birchington-on-Sea is linked to the development of railway and the formation of recreation of the middle class. It was inspired by Indian bungalows conveyed by the media and veterans, and are called detached leisure houses for medical treatment at coastal resorts then. The other distinct feature observed was the use of prefabrication construction methods.

Also, it can be observed that the features of such bungalows were formed in relation to the artists of those days.



May  
18

## Resilience of Shrinking Rural Communities in Japan

by Dr Chang Heuishilja,  
University of Oxford

Dr Chang has recently completed her Doctoral Thesis with the University of Oxford and currently, a senior visiting researcher at Keio University, Kanagawa, Japan. Her research interest lies in the well-being of depopulating and ageing societies. In this lecture, she shared with us her current research and findings on the community resilience of shrinking rural towns.

As cities grew to larger urban metropolises, shrinkage in terms of demographic, economic, environmental and social, becomes the norm for many of the countries' rural areas. The symptoms of rural shrinkage are far-reaching and

include the weakening of the local economy and employment, vacant buildings, abandoned farm lands, fiscal difficulties, less public services, and decay in social cohesion. Small rural communities in Japan that have experienced for decades depopulation and its consequences are harbingers of acute shrinkage. Drawing upon panarchy theory in evolutionary resilience, Dr Chang investigates how Japanese rural communities have responded to shrinkage, and whether the approach of Cittaslow (Slow City) – an international sustainable rural development movement – can help these communities to be more resilient to shrinkage.





# Disasters Prevention of Cultural Assets in Asia

May  
30

Associate Professor LIN Yuchang  
National Taipei University of Technology

Associate Professor Lin Yu Chang from National Taipei University of Technology has always had a keen interest in fire safety prevention for the historical buildings in Taiwan. He is concerned that the materials used for the building structure and interior decoration are mostly flammable materials, the walkways are narrow, and there are insufficient stairs for escape when there is an outbreak of fire. Furthermore, there is no firefighting equipment such as smoke detectors, fireproof doors, windows and smoke exhausting equipment, etc., to enhance the safety of historic buildings and human lives. These buildings do not meet the fire safety requirements.

With the improvement in construction techniques, it is possible to improve the fire protection for these buildings. However, nothing has been done to protect the buildings due to the purist mentality which believes that any changes done to the historical building will impair the appearance and value of the historical buildings.

To resolve this issue, he first, researched about other countries' fire safety approaches to protect the historical buildings or national cultural treasures. He shared his findings on the following historical buildings:

- 1) George Town in Penang, Malaysia,
- 2) Old shophouses in Shanghai,
- 3) Toji Temple, Kiyomizu Dera, Machiya in Kyoto, Japan,
- 4) Tokyo University Museum, Koshikawa Annex, Tokyo, Japan and
- 5) Himeji Castle, Himeji, Japan.

It was found that these buildings installed smoke detectors, fire hydrant and surveillance cameras. Himeji Castle which was recently renovated has also installed the water sprinkler system, but they have camouflaged it well, hence reducing the damage to the appearance of the castle.

Associate Professor Lin very much agree with the fire protection methods adopted by the various countries to protect their historic buildings and national treasures, instead of the purist method as adopted in Taiwan currently.

アジアにおける文化財の防災

台北科技大学・林裕昌先生

eghub·lecture

環境設計グローバル・ハブ公開講座



2018年 5月 30日 (水) 16:30 - 17:30

九州大学大橋キャンパス  
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無料入場 申込不要

Organized by Environmental Design Global Hub  
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Coming  
UP!

## July 2018

- Joint Workshop between Kyushu University and Technological and Higher Education Institute of Hong Kong from 23 July to 1 August 18.

## August 2018

- Joint Workshop between Kyushu University and National University of Singapore

## September 2018

- Joint Workshop between Kyushu University and University of Loughborough

CONTACT  
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