A Workshop Jointly Organised by



NUS National University of Singapore School of Design and Environment

# BUILDING RESILENT NEIGHBOURHOODS THE CONVERGENCE OF POLICIES, RESEARCH, AND PRACTICE

**7 APRIL 2017** SEMINAR ROOM 3-5, MANASSEH MEYER BUILDING LEE KUAN YEW SCHOOL OF PUBLIC POLICY NATIONAL UNIVERSITY OF SINGAPORE (BUKIT TIMAH CAMPUS)

# 远亲不如近邻

There is a proverbial Chinese axiom that says having a close neighbour is better than having a distant relative. This aphorism aptly captures the ongoing shift in Singapore's contemporary residential arrangements.

Traditional and multi-generational households are on the decline, as social values evolve and more young couples and unmarried singles move out of their parents' homes. But in our high-density city-state, neighbours remain.

The landscape of local neighbourhoods has increasingly reflected the changing fabric of the nation. For instance, mature housing estates are given makeovers when needed, so that amenities cater to the needs of the majority of residents. Changes to neighbourhoods can be socially enriching for most but can also be uncomfortable for others who want familiarity or who feel that their needs are not being met.

Robust and timely research on emerging trends and changing values will provide crucial guidance to the transformation of our neighbourhoods. It will ensure that the impact from every successive wave of change is moderated with an eye to preserving Singapore's unique multicultural composite.

This workshop, titled "Building Resilient Neighbourhoods", is the 2017 iteration of the IPS Social Lab's annual workshop series. Jointly organized with the Centre for Sustainable Asian Cities (School of Design and Environment, NUS) this year, it will examine how features at the

# **SYNOPSIS**

neighbourhood level can contribute to social resilience. This necessitates consideration of the socio-demographic makeup of the area's constituents, as well as the infrastructure, design, and urban layout of the surrounding built environment.

The topics that will be covered at this workshop are thus organised into three themes: planning (design-centric), infrastructure (place-centric), and community (people-centric).

The planning and design aspect studies the interface between infrastructure and people, and in particular, how urban design can play a role to enhance social interactions. The infrastructure theme examines how features of the built environment influence neighbourliness and resilience, such as parks, street connectivity, and location of amenities. The community aspect focuses on policies and practices that work to forge tight social bonds among neighbours, be it through ethnic integration, grassroots activities, or social services.

To ensure a holistic view of the issues, this workshop features speakers who cover the domains of policymaking, research, and practice. This diversity will hopefully encourage greater cross-domain cooperation and collaboration.

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IPS respects your privacy. The personal information you provide to us will be used for event registration and administration, and will not be given to external parties. This event is open for media coverage under the Chatham House Rule. IPS may also produce a report summarising the event, and publish it, with photos, on the IPS website. By registering for this event, we understand that you have consented to the above.

- Registration (refreshments provided) 09.00 Welcome Address 09.20 Dr Lai Choo MALONE-LEE Director, Centre for Sustainable Asian Cities (CSAC) Session 1 - Resilient Planning & Design Chairperson Dr Lai Choo MALONE-LEE Director, Centre for Sustainable Asian Cities (CSAC) Presenters Place Familiarity and Community Ageing-in-Place 09.30 **FUNG John Chye** Director, Centre for Ageing Research in the Environment (CARE) Associate Professor, Department of Architecture, NUS 10.00 Impact of the Built Environment on Community Bonding and Participatory Design Approach Dr CHO Im Sik Assistant Professor, Department of Architecture, NUS Centre for Sustainable Asian Cities (CSAC)
  - 10.30 *Communities by Design* SIEW Man Kok Chairman and Founding Director, MKPL Architects
  - 11.00 Panel Discussion
  - 11.30 Lunch Break (catered)

Session 2 - Resilient Infrastructure Chairperson Dr LEONG Chan-Hoong Head, IPS Social Lab

<u>Presenters</u>

12.45 Understanding Neighbourhood Infrastructure using GIS: Case Study on Singapore's Transport Networks Song Siqi Ph.D Candidate, Department of Geography, NUS A Workshop Jointly Organised by IPS Social Lab and CSAC

- 13.15 Social Resilience through Common Recreational Spaces: The Role of Singapore's Parks
   Angelia SIA
   Deputy Director, Research Division, Centre for Urban Greenery & Ecology (CUGE), National Parks Board

   13.45 Neighbourhoods of the Future: Planning of Punggol Town
   Dr CHONG Fook Loong
   Group Director, Research & Planning Group, Housing &
- 14.15 **Panel Discussion**

**Development Board** 

14.45 Coffee/Tea Break (refreshments provided)

	Session 3 - Resilient Communities <u>Chairperson</u> <b>Prof. CHUA Beng Huat</b> Provost's Chair Professor, Department of Sociology, NUS
15.15	<u>Presenters</u> Forging Resilience in the Neighbourhood: Emerging Faultlines and the Policies that Mitigate Them <b>Dr LEONG Chan Hoong</b> Head, IPS Social Lab
15.45	Building and Bridging Communities through Grassroots Engagement Desmond TAN Chief Executive Director, People's Association
16.15	Bringing Arts Closer to Local Communities: Opportunities and Impacts on Community Bonding Dr Zdravko TRIVIC Assistant Professor, Department of Architecture, NUS Centre for Sustainable Asian Cities (CSAC)
16.45	Panel Discussion

17.15 End

# PROGRAMME

# RESILIENT PLANNING & DESIGN

# **RESILIENT** INFRASTRUCTURE

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Photos: CSAC

## PLACE FAMILIARITY AND COMMUNITY AGEING-IN-PLACE

#### **FUNG John Chye**

Population ageing is a global phenomenon in which the most sustainable form leverages on community-centric support for elderly residents in the neighbourhood. The three aspects of environment, health and social are active components integral to successful community ageing-in-place.

Most elderly prefer to age in the place where they grew up, and it is crucial that the planning and design of neighbourhoods promote cognizable settings closely supportive of the residents' activities of daily living. Place familiarity is essential to the formation of enduring bonds between residents, and entrenching that in the neighbourhood they reside. It contributes to the forging of place identity and long-term memories. For elderly residents, the deep association with places in their life-space realm engenders a sense of rootedness in old age, especially for people with dementia. However, rapidly transforming urban environments often result in the erasure of familiar landmarks, identifiable structures, functions and spaces that collectively pose tremendous challenges to the cultivation of social-environmental resilience.

This paper discusses the salient issues, challenges and possibilities in creating age-friendly environments that support neighbourhood resilience.

## IMPACT OF THE BUILT ENVIRONMENT ON COMMUNITY BONDING AND PARTICIPATORY DESIGN APPROACH

#### Dr CHO Im Sik

The Housing & Development Board and the National University of Singapore embarked on a research project in 2012 to study the impact of the HDB built environment on community bonding. The study shed light on how existing facilities and amenities are used by residents, how effective they have been in fostering social interactions amongst neighbours, and the current state of neighbouring. Nine design strategies and six typologies were developed from these observations and a followup study was recently conducted to implement two recommended design typologies: Neighbourhood Incubator and Social Linkway. Other than validating the effectiveness of these two typologies in promoting bonding, this follow-up study put to test a three-pronged approach to community building, encompassing attention to not just the Hardware (Design), but also the Software (Programmes) and Orgware (Policies and Organisational support). Warmly-coined the "Hello Neighbour" project, the study adopted a new participatory design approach to co-creating with Tampines residents a unique Neighbourhood Incubator and a Social Linkway with interventions at various points along a walkway that runs through Tampines Central. The outcomes of this project are two-fold. One relates to the effectiveness of the typologies in encouraging deeper social interaction among neighbours and the other to the success of the co-creation and engagement process.

# **COMMUNITIES BY DESIGN**

#### SIEW Man Kok

The close relationship between the developments of public housing and the rising aspirations of the people has evolved and is demonstrated in the overall master planning of the entire island nation, the integrated planning of new towns down to the design of the open spaces, social communal facilities and dwelling units.

These daring design visions are bold interpretations and creative outcomes of public housing policies and schemes aimed at promoting greater resilience and sustainability as the nation grows. Recently built projects and those that will be completed over the next 5 years exemplify some of the ambitions shared by all Singaporeans. They address many relevant matters of concern as the society at large faces challenges such as an ageing population, depletion of natural resources and land scarcity.

The paper explores and focuses on planning and design interventions as the main catalyst for social interactions that influence the way communities interact and bond, as well as provide a setting that promotes community resilience and inclusivity. The presentation will elaborate on the role of the architect as one of the key drivers for successfully reimagining public housing, and as an instigator of its sustainable impact to the larger social and urban fabric of Singapore.

## UNDERSTANDING NEIGHBOURHOOD INFRASTRUCTURE USING GIS: CASE STUDY ON SINGAPORE'S TRANSPORT NETWORKS

#### **SONG Siqi**

Geographic information systems (GIS) is a computer system that enables the understanding of the geographic and temporal trends in the world. It is now an indispensable spatial decision tool for urban planners as its capability to integrate a multitude of data, e.g., spatial and land use data, socioeconomic data, transport data or environment data, analyze their spatiotemporal characteristics across multiple scales, and simulate changes into the future based on various scenarios. Its capability to support geo-visualization enables easy access to spatiotemporal patterns of interests to urban planners, which improves the understanding of the urban dynamics and thereby informing better urban planning strategies and policies.

Our research integrates the network analysis function in GIS with statistical analysis to evaluate the influence of public transport supply and transport pricing on vehicle usage in Singapore. Information about built environment (e.g., land use mix, transit accessibility, expressway accessibility) was firstly extracted from the land use map and transport network by using GIS, and then incorporated into the statically modelling. It is found that in the context of Singapore transport pricing has a more substantial influence on vehicle usage reduction as compared with transit accessibility. Expressway accessibility, on the contrary, prompts additional vehicle travel. Our study offers some new evidence which supports the effectiveness of economic measures and public transport supply in reducing the levels of car dependency.

### SOCIAL RESILIENCE THROUGH COMMON RECREATIONAL SPACES: THE ROLE OF SINGAPORE'S PARKS

#### **Angelia SIA**

There has been extensive research that revealed the environmental benefits provided by urban nature, such as improved air and water quality, energy savings, as well as reduced urban heat island effects. More recently, social sciences provide a new dimension of nature's benefits – in that the experience of nature in the built environment is important to human functioning and health.

Given that 100 percent of Singapore's population lives in urban areas, it is important to create healthy places for our people to live, work, worship, learn, and play, and experience an overall improved quality of life. The National Parks Board, the government agency set up to provide and enhance the greenery of Singapore, is starting a new exciting journey to create gardens as healthy places for all our people, regardless of physical capabilities. This initiative is supported by a series of research studies carried out in collaboration with medical professionals. This is complemented by research on the human dimensions of urban greening, to understand people's perceptions and behaviour regarding nature in our city.

# NEIGHBOURHOODS OF THE FUTURE: PLANNING OF PUNGGOL TOWN

#### Dr CHONG Fook Loong

Public housing in Singapore houses more than 80 percent of the population, who live in close to 1 million Housing & Development Board (HDB) flats across the island. More than just fulfilling the housing needs of our residents, the public housing programme implemented by the HDB over more than 50 years has provided affordable housing and a quality living environment, with more than 90 percent of the resident households living in HDB flats owning their homes.

The planning and rejuvenation of HDB towns have progressed tremendously over the last five decades and is a continuously evolving process. This presentation will discuss the concept of Comprehensive Town Planning and its principles that have been adopted in the planning of HDB townships, as well as how these principles have contributed towards the sustainability of HDB towns.

Punggol town will be used as a case study to illustrate how comprehensive town planning and urban design are carried out and how from its humble beginnings, Punggol has been transformed into Singapore's first ecotown as the "Sustainable Waterfront Town in the Tropics". The principles of sustainability and community-centric design will be elaborated on to underpin its importance in the offering of a total urban solution to Singapore's unique high-rise, high-density model.

# FORGING RESILIENCE IN THE NEIGHBOURHOOD: WHAT ARE THE EMERGING FAULTLINES AND THE POLICIES THAT MITIGATE THEM?

#### **Dr LEONG Chan-Hoong**

Singapore demography is undergoing a seismic change due to a rapidly ageing population, reduced fertility, and widening income divide. These changes are further compounded by shifts in personal and societal values as young couples and unmarried singles move out of their parents' home to create their residential sanctuary. As the demographic fabric of our society changes, so does the profile of our neighbourhoods in Singapore. Studies in other countries have demonstrated profound effects of residential environment on substance abuse, health, and educational attainment, to name a few. In Singapore, what are the hallmarks of resilient neighbourhoods in Singapore, and how does it shape the experience of individuals and their families? Very little is known about our residential space and its impact on societal fault lines. This paper will explore the geographic and temporal data on Singapore family structures, ethnic and income distribution, and the cost of living, and how these attributes collectively influence the well-being of Singaporeans, at both the geographic and personal levels.

# **BUILDING AND BRIDING COMMUNITIES THROUGH GRASSROOTS ENGAGEMENT**

#### **Desmond TAN**

As part of its mission to build and bridge communities, the grassroots movement, together with the People's Association, focuses on three forms of community engagement. First, we help residents in a community know each other better and strengthen community bonds. Second, we build our connections with residents, so that we understand their fears, concerns and aspirations, and are able to communicate these to the Government. Third, we help to communicate government policies which have a direct impact on residents' lives. In doing so, we aim to improve social cohesion and strengthen the social fabric.

Regardless of gender, age, ethnicity, or housing type, we aim to engage as wide a profile of residents as possible. At the same time, our engagement efforts are guided by the principle of resident-centricity. This means that our programmes and activities also differ based on the resident profile within each estate.

This presentation shares some examples of our engagement strategies for different groups of residents, and some ongoing challenges that we encounter as society's needs and expectations change. The presentation will also invite the audience to explore the meaningfulness of volunteering within the community where one lives, as well as the impact of community engagement on building resilient neighbourhoods.

# BRINGING ARTS CLOSER TO LOCAL COMMUNITIES: OPPORTUNITIES AND IMPACTS ON COMMUNITY BONDING

#### Dr Zdravko TRIVIC

The last few decades witnessed an increased interest in investigating the impacts of arts on shaping perception, use and experience of neighbourhood public spaces and creating stronger and more resilient local communities. In 2011, National Arts Council Singapore started Community Arts and Culture Nodes initiative that extends beyond the formal art venues, with an aim to bring the quality arts closer to local communities and to increase the opportunities for residents, artists and arts hobby groups to bond over their arts interests. Besides partnerships with libraries, community clubs, recreational clubs and non-government organisations, nodes also involve various informal venues, such as open public spaces and amenities in the neighbourhoods. This paper discusses the strategies employed to activate public spaces through arts and culture initiatives in five local neighbourhoods, focusing on identifying and measuring their success and impacts on neighbourhood spaces and local communities through spatial opportunities analyses, surveys, interviews and focus group discussions with node partners and the residents. Bringing stronger sense of neighbourhood identity through arts, boosting social interaction, public participation and bottom-up initiatives, increasing spatial adaptability, activating underused or neglected spaces, maximising synergies between spaces, amenities and arts and culture programming, are some of the impacts discussed.

**Dr CHO Im Sik** is an Assistant Professor in the Department of Architecture, School of Design and Environment, at the National University of Singapore where she serves as the leader for urban studies research and teaching and as principal investigator for many research projects, related to urban space planning for sustainable high-density environments and design for social sustainability involving community-based, participatory approaches. Her research interests address the challenges and opportunities that Asian cities face with accelerating social change, especially in the context of neighbourhood planning, focusing on the social dimension of sustainable development. Her recent publications as lead author include *Re-framing Urban Space: Urban Design for Emerging Hybrid and High-Density Conditions* (Routledge, 2016), *Community-based Urban Development: Evolving Urban Paradigms in Singapore and Seoul* (Springer, 2017), and *Changing approaches to community participation for social sustainability: Neighbourhood planning in Singapore and Seoul* in Caprotti and Yu (eds), *Sustainable Cities in Asia* (Routledge, forthcoming).

**Dr CHONG Fook Loong** is Group Director (Research & Planning Group), Housing & Development Board (HDB). In this capacity, he leads and manages the Research & Planning Group to provide directions in terms of strategic planning, comprehensive town planning and urban design for projects which range from the macro regional and town level to the local level. The Group also carries out social and economic research and surveys to gather feedback.

Dr Chong joined HDB in 1990 as an Architect in the former Architecture Department, with a B. Arch (Honours) from NUS. He was awarded the HDB overseas postgraduate scholarship and attained his Ph.D in Architecture from the University of Sheffield, UK in 1997. For his noteworthy contributions to HDB, he was conferred the Public Administration Medal (Bronze) at the National Day Awards in 2002.

From 2003 to Sep 2014, Dr Chong had served as Deputy Director, then Director (Physical Planning). In 2006, he restructured the master plan for Punggol with the planning and urban design of the Punggol Waterway and in 2012, the Punggol master plan and urban design were refreshed under the banner of "Punggol: Discover Possibilities". More recently, in Sep 2016, the master plan for Tengah town was launched as Singapore's brand new town, as part of the urban transformation in the Western Region.



**Professor CHUA Beng Huat** is Provost's Chair Professor, Department of Sociology, National University of Singapore (NUS). He received his Ph.D from York University, Canada. Before joining NUS, Prof Chua was director of research at the Housing and Development Board. His research areas include housing and urban studies, cultural studies in Asia, East Asian pop culture and comparative politics in Southeast Asia. He is a founding co-editor of Inter-Asia Cultural Studies and has a forthcoming book titled *Liberalism Disavowed: Communitarianism and State Capitalism in Singapore* (NUS Press, forthcoming).

Associate Professor FUNG John Chye is Director of the Centre for Ageing Research in the Environment (CARE) at the School of Design and Environment. National University of Singapore (NUS). Since 1998 he has taught design in the Department of Architecture, joining the university as a full time faculty in 2015 to direct research on ageing and the environment. Prof Fung is actively engaged in research on community, housing, ageing, dementia and healthcare. He has experience in the design research of nursing home, dementia care, ageing-in-place, integrated elder-and-child care, public health screening and palliative care. His publications include a design sourcebook on nursing homes in 2014, and another on dementia design in 2015. Before joining NUS, Prof Fung was a professional architect with 30 years of practice experience in a wide range of projects and was partner of a firm that he co-founded. He served as a Council Member of the Singapore Institute of Architects (SIA) for eight years, chairing its Special Projects, Housing and Urban Design, and Publications committees. He was Co-Chairman of the joint SIA-NUS initiative, EDITT, which promotes ecological design in the tropics; and has written extensively for the Singapore Architect as its Executive Editor.

**Dr LEONG Chan-Hoong** is Head, IPS Social Lab and Senior Research Fellow at the Institute of Policy Studies (IPS). Chan-Hoong received his Ph.D in psychology from Victoria University of Wellington, New Zealand, and holds an MSc in statistics from the National University of Singapore. He is Principal Investigator for the IPS Survey on National Service (Commissioned by the Committee to Strengthen National Service) 2013, the Applied Study in Polytechnics and ITE Review (Commissioned by the Ministry of Education) 2014, and Social Lab's flagship Panel Study on Social Dynamics, launched in 2014. He has consulted for various government agencies, including the National Library Board, and the National Population and Talent Division (Prime Minister's Office).

Chan-Hoong is a board member of the National Integration Workgroup on Community, under the purview of the Ministry of Culture, Community and Youth, and the immediate past member of the Research and Advisory Panel at the National Council of Social Service (2014–2016). He was Consulting Editor for the International Journal of Intercultural Relations (2013–2014), and Editor for the 2013 Special Issue, "Multiculturalism: Beyond Ethnocultural Diversity and Contestations." **Dr Lai Choo MALONE-LEE** is Director of the Centre for Sustainable Asian Cities (CSAC), at the School of Design and Environment, National University of Singapore (NUS). She read her Ph.D in Tokyo, Japan, under a RONPAKU Fellowship awarded by the Japan Society for Promotion of Science (JSPS). She is a Colombo Plan Scholar and a JSPS gold medallist. Her current research focuses on urban planning policies and strategies for sustainable cities, with specific attention to the impacts of city growth, development and urbanisation on urban density and quality of life, social wellbeing and resilience, city liveability and resource optimisation. She has worked previously with the public sector, in the areas of strategic planning, planning policies and heritage conservation. She serves on various government boards and advisory committees, and contributes to think tanks on urban policy and planning issues. Regionally, she consults with international agencies such as the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

**Ms Angelia SIA** is Deputy Director of the Centre for Urban Greenery and Ecology, Research branch, of the National Parks Board. She graduated from the National University of Singapore. Further to her first degree in Science, she received post-graduate training in Business Administration at the Imperial College. Her research interest is the connection between health and nature. Besides papers and book chapters, Angelia has been the editor of CITYGREEN for more than five years, an award winning biannual publication of the Centre for Urban Greenery and Ecology, where she oversees its content and audience development.

**Mr SIEW Man Kok** is the chairman of MKPL Architects, which he co-founded with Cheng Pai Ling in 1995. Starting with small dwellings, successful and innovative designs have enabled MKPL's body of works to expand to include projects ranging in scale and type of form high-rise residential towers, university buildings, master planning and public housing. Most recently, Man Kok was honoured the President's Design Award for the past two consecutive years: in 2014 Kent Vale Faculty Housing received the Design of the Year, and in 2015 he received the prestigious Designer of the Year accolade for his outstanding contribution to design and culture in Singapore.

He has taught at his alma mater, the National University of Singapore, as a part-time tutor from 1994 to 2010, and served as an examiner from 2002 to 2004. He had also contributed his time as a member of the Architectural Design Panel of the Housing & Development Board and was a member of the Preservation of Sites & Monuments Advisory Board. He now serves as a member of the Design Advisory Committee of the Urban Redevelopment Authority, and a member of the Future City Sub Committee of the Ministry of National Development.

**Ms SONG Siqi** (Grace) is a current Ph.D student from the Department of Geography, National University of Singapore (NUS). She graduated with honours from Wuhan University, China with dual degrees: Bachelor of Engineering in Urban Planning and Bachelor of Economics in Finance. Before joining NUS, Siqi worked with some Professors in Wuhan University and participated in several planning projects in China. Her research interests fall broadly under transportation and urban planning, with a special focus on sustainable transport policies and the interaction between land use and travel behaviour. Her Ph.D project emphasizes on the transport policies (land use planning and transport pricing) in Singapore and attempts to evaluate their respective effects on people's travel behaviour.

**Mr Desmond TAN** was appointed Chief Executive Director of the People's Association in Jan 2017. Prior to joining PA, Desmond held various key appointments in the Ministry of Defence (MINDEF) and the Singapore Armed Forces. These include Commanding Officer of 1st Battalion Singapore Infantry Regiment, Commander of 3rd Singapore Infantry Brigade, Director of MINDEF Public Affairs, Chief Guards Officer, Director of Joint Operations and Chief of Staff of the General Staff (COS-GS).

As Director of Joint Operations from 2014 to 2016, he was involved in multiple Humanitarian Assistance and Disaster Relief missions such as the relief operations for the Nepal earthquake, fire fighting efforts in Chiangmai, as well as Search and Rescue efforts for QZ 8501. He also supervised the SAF's participation in the counter-ISIS coalition. As COS-GS, Desmond assisted the Chief of Army to ensure that the different functional groups (i.e. Manpower, Intelligence, Operations, Plans, Training etc.) were operating at the optimal level.

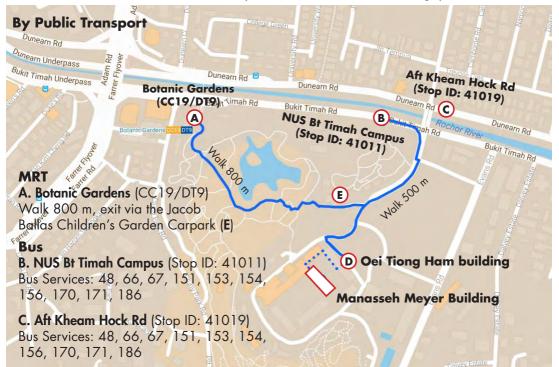
Desmond obtained a Bachelor of Engineering with First Class Honours in Engineering from the Victoria University of Manchester, United Kingdom. He subsequently obtained a Master of Business Administration (Nanyang Fellows) conferred by the Nanyang Technological University.

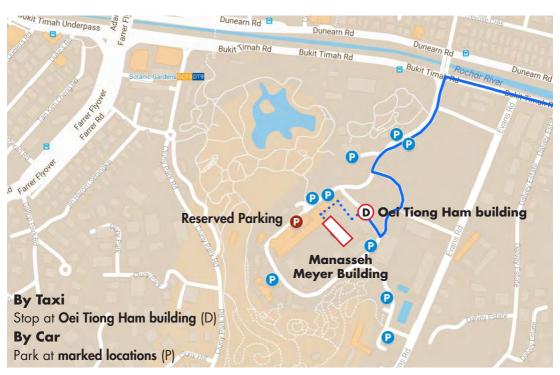
**Dr Zdravko TRIVIC** is an Assistant Professor in the Department of Architecture, School of Design and Environment, at the National University of Singapore. His key research interests include planning and design of contemporary urban spaces in high-density environment, health, well-being and ageing-friendly design, arts and placemaking, and underground space development. In collaboration with the National Arts Council, Singapore, Zdravko is currently leading a research project called "Arts and Culture Nodes in the Heartlands of Singapore".

Some of his most recent publications include the book *Re-Framing Urban Space: Urban Design for Emerging Hybrid and High-Density Conditions* (Routledge, 2016; coauthored with Cho I. S. and Heng C. K.), and a journal article "Towards an Integrated *Urban Space Framework for Emerging Urban Conditions in High-Density Context"* in Journal of Urban Design (2015; co-authored with Cho I. S. and Nasution I.).

### VENUE: Seminar Room 3-5, Level 3, Manasseh Meyer Building

Lee Kuan Yew School of Public Policy, 469C Bukit Timah Road, Singapore 259772





### **IPS SOCIAL LAB**

The IPS Social Lab is an independent centre for social indicators research at the Institute of Policy Studies (IPS). The centre conducts research on social perceptions, attitudes and behaviours in Singapore using the most robust standards in survey methodology and statistical analysis. Established in November 2013, IPS Social Lab seeks to understand Singapore society through survey-based research.

#### **INSTITUTE OF POLICY STUDIES (IPS)**

The Institute of Policy Studies (IPS) was established in 1988 as an independent think-tank to study and generate public policy ideas in Singapore. IPS became an autonomous research centre of the Lee Kuan Yew School of Public Policy at the National University of Singapore in 2008. Today, IPS continues to analyse public policy, build bridges between thought leaders, and communicate its findings to a wide audience. The Institute examines issues of critical national interest across a variety of fields, and studies the attitudes and aspirations of Singaporeans through surveys of public perception. It adopts a multi-disciplinary approach in its analyses and takes the long-term view in its strategic deliberation and research. For more information about IPS, visit <u>www.lkyspp.nus.edu.sg/ips/</u>.

### **CENTRE FOR SUSTAINABLE ASIAN CITIES (CSAC)**

The Centre for Sustainable Asian Cities (CSAC) is a research platform to develop advanced and innovative urban planning and design solutions for sustainable cities. Its research efforts tend to focus on the critical social and environmental issues in high density environments such as those in Asian cities and developing countries. The Centre is also a research nexus that draws together the complementary strengths of researchers from the various schools and faculties within the National University of Singapore to collaborate on inter-disciplinary responses to the complex challenges of sustainable cities.

Its current research program encompasses a number of interlinked projects that relate to city growth, efficiency, functionality, livability and quality of life.

The focus is cross-disciplinary research that applies a variety of tools and research methods, including design explorations, computer simulations, social surveys, statistical analysis, scenario planning and GIS mapping.

For more information about CSAC, visit <u>http://www.sde.nus.edu.sg/csac/index.html</u>.







Workshop Convenors:

Institute of Policy Studies Social Lab: Dr LEONG Chan-Hoong

Dr LEONG Chan-Hoong Mr Eugene TENG Ms Lynn LEE Ms Michelle TEO Ms OH Zi Qi Centre for Sustainable Asian Cities: Dr Lai Choo MALONE-LEE Mr Ivan NASUTION Ms Agnes CHOE