



FUTURE OF CITIES CONFERENCE

**24 July 2017
1.00 – 6.00 pm
URA Function Hall**



Organised by Lee Kuan Yew Centre for Innovative Cities

For enquiries, please contact Denise Gan at lkycic@sutd.edu.sg or 6486 7039

Details

- Date:** Monday, 24 July 2017
- Time:** 1.00 to 6.00 pm
- Venue:** URA Function Hall
5th Storey, The URA Centre (Podium Block), 45 Maxwell Road, Singapore 069118
- Dress Code:** Office Attire

Synopsis

The Lee Kuan Yew Centre for Innovative Cities launched “The Future of Cities” program in November 2014 with seven studies. Funded by the National Research Foundation and the Ministry of National Development, these studies examined the opportunities and challenges for Singapore over the next twenty-five years in seven areas:

- Future Economy
- Future Society - Imagining the New Diversity (funded by National Population and Talent Division)
- The Data Economy: Implications for the Future
- Future Transportation
- Future Urban Typologies for Enhancing Liveability in Singapore
- Sustainable Futures
- Living with Technology - Future of Work, Education and Healthcare

The Principal Investigators for the studies will present their research findings during this conference. We hope these will contribute to a deeper understanding of Singapore’s economy and society, how Singapore can tackle technology disruption and transformation, and how Singapore can continue to be liveable and sustainable.

Moderators & Speakers



Prof Chan Heng Chee
Chairman, Lee Kuan Yew Centre for Innovative Cities
Singapore University of Technology & Design



Prof Lim Sun Sun
Professor & Head of Humanities, Arts and Social Sciences
Singapore University of Technology & Design



Dr Belinda Yuen
Research Director, Lee Kuan Yew Centre for Innovative Cities
Singapore University of Technology & Design



Dr Dawn Tan
Assistant Professor, Engineering Product Development Pillar
Singapore University of Technology & Design



Mr Dietmar Leyk
Scenario Coordinator for High-Density Mixed-Use Cities & Project Leader (Singapore) of The Grand Project, Future Cities Laboratory



Dr John Powers
Research Fellow, Lee Kuan Yew Centre for Innovative Cities
Singapore University of Technology & Design



Dr Lim Wee Kiat
Research Fellow, Asian Business Case Centre, Nanyang Business School
Nanyang Technological University



Dr Lyle Fearnley
Assistant Professor, Humanities, Arts and Social Sciences
Singapore University of Technology & Design



Dr Lynette Cheah
Assistant Professor, Engineering Systems & Design Pillar
Singapore University of Technology & Design



Dr Ng See Kiong
Professor of Practice, School of Computing,
National University of Singapore



Mr Poon King Wang
Director, Lee Kuan Yew Centre for Innovative
Cities
Singapore University of Technology & Design



Dr Sharon Siddique
Visiting Professorial Fellow, Lee Kuan Yew
Centre for Innovative Cities
Singapore University of Technology & Design



Mr Sree Kumar
Adjunct Senior Fellow, Lee Kuan Yew Centre
for Innovative Cities
Singapore University of Technology & Design



Prof Thomas Schroepfer
Professor and Director of the Advanced
Architecture Laboratory
Singapore University of Technology & Design



Assoc Prof Warren Chik
Associate Professor of Law, Singapore
Management University

Programme

<u>Time</u>	<u>Programme</u>
1.00pm – 1.30pm	Arrival of participants
1.30pm – 1.35pm	Welcome Remarks by Mr Lee Tzu Yang Chairman, Singapore University of Technology & Design
1.35pm – 1.40pm	Introductory Remarks by Prof Tom Magnanti President, Singapore University of Technology & Design
1.40pm – 1.45pm	Opening Remarks by Prof Chan Heng Chee Chairman, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design
1.45pm – 3.00pm	Panel 1: Economy and Society <i>The Future of the Economy</i> <u>Speaker:</u> Dr John Powers Research Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design <i>Singapore Society 2040: Imagining the New Diversity</i> <u>Speakers:</u> Dr Sharon Siddique Visiting Professorial Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design Prof Chan Heng Chee Chairman, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design <i>Discussion</i> <u>Moderator:</u> Mr Poon King Wang Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design
3.00pm – 3.15pm	Coffee Break
3.15pm – 4.30pm	Panel 2: Technology, Disruption and Transformation <i>The Data Economy: Implications for the Future</i> <u>Speakers:</u> Mr Sree Kumar Adjunct Senior Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design Dr Ng See Kiong Professor of Practice, School of Computing, National University of Singapore Assoc Prof Warren Chik Associate Professor of Law, Singapore Management University <i>Living with Technology: Future of Work, Education & Healthcare</i> <u>Speaker:</u> Mr Poon King Wang Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design Dr Lim Wee Kiat Research Fellow, Asian Business Case Centre, Nanyang Business School Nanyang Technological University

Discussion

Moderator:

Prof Lim Sun Sun
Professor & Head of Humanities, Arts and Social Sciences, Singapore
University of Technology & Design

4.30pm – 6.00pm

Panel 3: Liveability and Sustainability

On the Move in 2040: A Foresight Study on Urban Mobility in Singapore

Speaker:

Dr Lynette Cheah
Assistant Professor, Engineering Systems & Design Pillar, Singapore University
of Technology & Design

Future Urban Typologies for Enhancing Liveability in Singapore

Speakers:

Prof Thomas Schroepfer
Professor and Director of the Advanced Architecture Laboratory, Singapore
University of Technology & Design

Dr Belinda Yuen
Research Director, Lee Kuan Yew Centre for Innovative Cities, Singapore
University of Technology & Design

Mr Dietmar Leyk
Scenario Coordinator for High-Density Mixed-Use Cities & Project Leader
(Singapore) of The Grand Project, Future Cities Laboratory

Sustainable Futures

Speakers:

Dr Dawn Tan
Assistant Professor, Engineering Product Development Pillar, Singapore
University of Technology & Design

Dr Lyle Fearnley
Assistant Professor, Humanities, Arts and Social Sciences, Singapore
University of Technology & Design

Discussion

Moderator:

Prof Chan Heng Chee
Chairman, Lee Kuan Yew Centre for Innovative Cities, Singapore University of
Technology & Design

6.00pm

End of Conference

Moderators

Prof Chan Heng Chee

Chairman, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design

Ambassador Chan is Chairman of the Lee Kuan Yew Centre for Innovative Cities in the Singapore University of Technology and Design, Chairman of the National Arts Council, Member of the Presidential Council for Minority Rights, a Member of the Constitutional Commission 2016 and Deputy Chairman of the Social Science Research Council.

Ambassador Chan is a Member of the Board of Trustees of the National University of Singapore and a Member of the Yale-NUS Governing Board. She serves as a Member of the Executive Board of the Chinese Cultural Centre. She is a Member of the Advisory Council of Temasek Foundation Connects.

Ambassador Chan serves as a Trustee of the Asia Society, New York and a Member of the International Advisory Panel, AXA Group, GIE AXA, Paris (France).

She was Singapore's Ambassador to the United States and Singapore's Permanent Representative to the United Nations with concurrent accreditation as High Commissioner to Canada and Ambassador to Mexico.

Prof Lim Sun Sun

Professor & Head of Humanities, Arts and Social Sciences, Singapore University of Technology & Design

Prof Lim Sun Sun is Professor of Media and Communication and Head of Humanities, Arts & Social Sciences at the Singapore University of Technology and Design. She studies the social implications of technology domestication by young people and families, charting the ethnographies of their internet and mobile phone use. Her recent research has focused attention on understudied populations including youths-at-risk, migrants and international students. She also conducts research on new media literacies, with a special focus on literacy challenges in parental mediation and young people's internet skills. Her latest books are *Mobile Communication and the Family: Asian Experiences in Technology Domestication* (Springer, 2016) and *Asian Perspectives on Digital Culture: Emerging Phenomena, Enduring Concepts* (Routledge, 2016). She is Series Editor for *Mobile Communication in Asia: Local Insights, Global Implications* (Springer), featuring research by emerging scholars of mobile communication in Asia. See www.sunsunlim.com

Speakers

Dr Belinda Yuen

Research Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design

Dr Belinda Yuen is Professorial Fellow. She is a qualified urban planner. Aside from master planning practice, Belinda has extensive research and publication in spatial planning and urban policy analysis, most recently, on planning livable, sustainable cities. She has been elected to President, Singapore Institute of Planners (2005-08), and Vice-President, Commonwealth Association of Planners (South-east Asia) (2006-08; 2010-12; 2014-16). Belinda has served on various Singapore urban planning committees including as Planning Appeals Inspector, and on numerous international advisory committees including International Advisory Board of United Nations State of World's Cities Report 2008/09; United Nations Global Research Network on Human Settlements (2008-11); Working Group of United Nations Commission on Legal Empowerment of the Poor, Editorial Board of international journals – *Asia Pacific Planning Review*; *Regional Development Studies*; *Cities*; *Journal of Planning History*, *Journal of Comparative Asian Development*, among others. She has been a Juror, Shaikh Khalifa Bin Salman Al Khalifa Habitat Award, 2008-2009, and science reviewer of international pluridisciplinary research programmes. Belinda has worked with the university, public, private as well as international development organisations including Asian Development Bank, United Nations and The World Bank.

Dr Dawn Tan**Assistant Professor, Engineering Product Development Pillar, Singapore University of Technology & Design**

Dr Dawn Tan is an assistant professor at the Singapore University of Technology and Design. She leads the Photonics Devices and Systems Group which explores emerging nonlinear optical phenomena and methods to harness optical nanostructures for telecommunications, datacom, precision sensing, imaging and green data centers/lighting. Dr Tan received her doctorate in Electrical Engineering (Photonics) at the University of California San Diego where she was a Powell Fellow. She was previously a visiting professor at the Massachusetts Institute of Technology and part of the design team at Californian startup, Luxtera Inc. Dr Tan and her research have been featured in the Straits Times, the New Paper, USNews, the NSF and various media outlets. She was recently featured as one of Asia's rising scientists in Asian Scientist Magazine and was named an Innovator under 35 in Asia by MIT Technology Review, 2017.

Mr Dietmar Leyk**Scenario Coordinator for High-Density Mixed-Use Cities & Project Leader (Singapore) of The Grand Projet, Future Cities Laboratory**

Mr Dietmar Leyk studied architecture at the Architectural Association School of Architecture (AA) in London and at the Technical University in Braunschweig. He worked as project architect for Elia Zenghelis in London and Athens, and Daniel Libeskind in Berlin and Los Angeles. Dietmar Leyk taught and researched as assistant and interim professor at the ETH Zürich from 1996-2003 on a variety of issues concerned with the architectural and urban form. He published 'ParaForm', a research on morphological phenomena as a base for studying the interdependencies between architectonic fabric and metabolism of urban systems in order to establish models for the evaluation and improvement of their sustainable developments.

From 2005 until 2013, he was visiting professor at the Berlage Institute Rotterdam where he researched and taught about Knowledge Spaces –among others he questioned 'How does Architecture Augment Creative Thinking?' Dietmar Leyk teaches, publishes and lectures internationally. In 2010 he published 'Working and Living in the City of Knowledge'.

Since 2000, Mr Dietmar Leyk is founding director of Leyk Wollenberg Architects based in Berlin, accomplishing international projects in all scales. They received numerous prizes in international competitions and for their realised work, including the first prize for their project in the international competition for the Lecture Hall and Media Centre for the Technical University in Darmstadt/Germany.

Currently, Mr Dietmar Leyk is the project leader of 'The *Grand Projet* – Towards Adaptable and Liveable Urban Megaprojects' and research scenario coordinator for 'High-Density Mixed-Use Cities' at the Future Cities Laboratory.

Dr John Powers**Research Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design**

Dr Powers is a Research Fellow in the Lee Kuan Yew Centre for Innovative Cities (LKY CIC) and his research areas are in the fields of planning and economics. He is particularly interested in approaches to economic development in metropolitan regions that are rooted in theories of learning, and how human and organizational capabilities develop dynamically. Related to this, he is also researching how the process of innovation – in its scientific, technological, and organizational attributes – can support more equitable outcomes in cities.

In June of 2016, Dr Powers completed a twenty two month research project for the LKY CIC on the Future of the Economy of Singapore as part of the Centre's Future of Cities Project. This study had as its principal aim a forward looking investigation of Singapore's economic growth model in relationship to the key trends and the underlying sources of robustness for the economy. Publication is being planned while the Urban Redevelopment Authority is using the study to input into its Master Plan.

Dr Powers received his master's in city and regional planning from MIT, a master's from the Université de Paris I, and his PhD in 2013 in urban planning from Columbia University.

Dr Lim Wee Kiat
Research Fellow, Asian Business Case Centre, Nanyang Business School, Nanyang Technological University

Dr Lim Wee Kiat is a sociologist. Prior to his doctoral training, Dr Lim worked six years in Singapore, holding research and planning positions in telecommunications and national defense sectors. His research interests lie at the intersections of organizations, technology, and risk, with a special focus on crises and extreme events, such as natural and technological disasters. Being trained in both advanced quantitative techniques and qualitative methods, Dr Lim has developed a special interest in multi- and mixed research methods in the humanities and social sciences. He believes that research will become more multidisciplinary in the future, and requires researchers to be competent across multiple research methods, quantitative and qualitative.

Dr Lim has published in top peer-reviewed journals, such as the MIS Quarterly, Journal of Strategic Information Systems, and Journal of the Association for Information Systems. His article has also appeared in a practitioner-oriented journal, MIS Quarterly Executive. Over the years, Dr Lim has either presented or his papers accepted at top refereed and flagship conferences in sociology, management, and technology, including the American Sociological Association Annual Meeting, Academy of Management Meeting, and International Conference on Information Systems. He has also won several accolades, including best papers awards in two consecutive years (2007 and 2008) and received an outstanding reviewer award from a cross-cultural management journal (2013).

Dr Lyle Fearnley
Assistant Professor, Humanities, Arts and Social Sciences, Singapore University of Technology & Design

Dr Lyle Fearnley is Assistant Professor of Anthropology at SUTD. Trained as an anthropologist of science and medicine, Dr Fearnley received a Joint Ph.D. in Medical Anthropology from the University of California, Berkeley and San Francisco. His fieldwork-based research explores the assemblages of science and rural life in contemporary China, where agricultural modernization projects are giving rise to new environmental and health risks. His book project — *The Influenza Epicenter: Rural China and Animal Disease in an Age of Emerging Pandemics* — analyzes the encounters of global health and China's livestock farms during the avian influenza crisis. Currently, he is developing a new project on the contested futures of rice breeding and genetics in China. The project analyzes the intersections of Chinese rice genome research, food safety movements, and the human-environment configurations of wet-rice paddy agriculture.

Dr Lynette Cheah
Assistant Professor, Engineering Systems & Design Pillar, Singapore University of Technology & Design

Dr Lynette Cheah is an Assistant Professor in Engineering Systems and Design at the Singapore University of Technology and Design (SUTD).

Modern-day transportation is heavily dependent on petroleum, which presents challenging energy and environmental problems. Lynette is passionate about achieving sustainable mobility, and her research has focused on developing models and tools to assess the impacts of road transport.

Prior to joining SUTD, Lynette was a research scientist with the Institute of Chemical and Engineering Sciences, part of the Agency for Science, Technology and Research (A*STAR) in Singapore. She was also a Postdoctoral Research Associate at the Materials Systems Laboratory at MIT, and a research assistant at the Sloan Automotive Laboratory at MIT. She is a Singapore National Science Scholar and a Fellow with the Martin Family Society for Sustainability. Lynette holds a B.S. in civil and environmental engineering from Northwestern University, an M.S. in management science from Stanford, and a Ph.D. in engineering systems from MIT.

Dr Ng See Kiong**Professor of Practice, School of Computing, National University of Singapore**

Dr Ng See Kiong is currently Professor of Practice at the Department of Computer Science of the School of Computing, National University of Singapore (NUS), and Director, Translational Research for the university's Institute of Data Science. Prior to joining NUS, Dr Ng was the Programme Director of the Urban Systems Initiative by the Science and Engineering Research Council of the Agency of Science, Technology and Research (A*STAR). The Initiative was a pioneering research program that developed technologies and innovations for smart cities to address the many new challenges of the rapidly urbanising world. Dr Ng was also a Principal Scientist and the founding head of the Data Analytics Department at A*STAR's Institute for Infocomm Research. The department rapidly became a prominent leader of applied data mining research, with possibly the largest number of data scientists locally, and successful research collaborations with industry from a wide array of verticals.

Dr Ng's diverse and cross-disciplinary research interests — Bioinformatics, Smart Cities, Text Mining, Social Network Mining, and Privacy-Preserving Data Mining — revolve around advancing the science of data. His primary research objective is to unravel the underlying functional mechanisms of dynamic real-world networks and complex systems through the practice of data science.

As a practising data scientist, Dr Ng is constantly in search of big data and never afraid to cross over into other disciplines for it. From using data mining to unravel the biology of the human body (bioinformatics), to applying machine learning to understand the "biology" of large-scale urban systems for complex human cities (smart cities), Dr Ng has shown that there are always much values in data to be created and harvested through data science, translational research, and a spirit of adventure.

Mr Poon King Wang**Director, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design**

Mr Poon King Wang is the Director of the Lee Kuan Yew Centre for Innovative Cities (LKY CIC) at the Singapore University of Technology and Design (SUTD). He is concurrently Director – Strategic Planning at SUTD, and Co-Director of the SUTD-JTC Industrial Infrastructure Innovation Centre. He also sits on the Board of Directors of the BCA Centre for Sustainable Buildings Ltd (a collaboration between Singapore's Building and Construction Authority and United National Environment Programme).

Prior to SUTD, he served in the public sector in the Economic Development Board; Ministry of Law; Agency for Science, Technology and Research (A*STAR); and the Competition Commission of Singapore. His areas of responsibilities included cluster development, intellectual property, technology futures, STEM outreach, technology commercialization, ASEAN collaborations, and international trade agreements. In the private sector, he was head of business analytics at one of Singapore's largest regional banks, and was a strategy advisor to a mobile local search startup.

He holds a MSc in Industrial Engineering and Engineering Management from Stanford University, a BSc in Electrical Engineering from the University of Illinois (Urbana-Champaign), and a Certificate in Rocket Engineering from Moscow State Technical University.

Dr Sharon Siddique**Visiting Professorial Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design**

Dr Sharon Siddique is currently Visiting Professorial Fellow at Lee Kuan Yew Centre for Innovative Cities and a director of Singapore-based Sreekumar.Siddique & Co., a regional research-consulting firm established in 1993. Prior to this, she was a Senior Research Fellow and Deputy Director of the Institute of Southeast Asian Studies (ISEAS). She was also a founding member of the Malay Heritage Board, which was constituted to manage the Malay Heritage Centre.

At ISEAS she was in charge of coordinating regional research, and also Chairman of the Institute's Publications Unit Review Committee. At Sreekumar.Siddique & Co, she has provided customised research consulting services and private briefings for company boards, senior managers and public policy officials, with a focus on Southeast Asia (see website for more details (www.sreekumar-siddique.com)).

Dr Siddique is a noted authority on Islam and socio-cultural change, and has written extensively on social restructuring and urban planning. She has degrees in development sociology, Malay Studies and linguistics from the Universities of Bielefeld (Germany), Singapore and Montana (USA).

Mr Sree Kumar**Adjunct Senior Fellow, Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology & Design**

Mr Sree Kumar is a Senior Adjunct Fellow of the Lee Kuan Yew Centre for Innovative Cities and a Director of Sreekumar Siddique & Co, a regional research and consulting company. He has consulted on public policy, economic modelling for urban planning, and strategy and operations improvements for a variety of clients in Europe, Asia, Africa and the Middle East. At the LKY CIC he is the principal investigator of the study on the "Data Economy".

Mr Kumar has a background in engineering, economics, law, English, and management from universities in the UK and Singapore. He is a Barrister (Middle Temple), a Fellow of the Royal Statistical Society, Member of the Royal Economics Society, and an Associate Member of the London Mathematical Society.

Prof Thomas Schroepfer**Professor and Director of the Advanced Architecture Laboratory, Singapore University of Technology & Design**

Prof Thomas Schroepfer is Professor and Director of the Advanced Architecture Laboratory at SUTD. His work investigates the increasingly complex relationship between design and technology in architecture related to advances in environmental strategies, structure and form, performance and energy, computer simulation and modeling, digital fabrication and building processes. He has been recognized as a creative leader in the industry and has been sought-out as a keynote speaker at international symposiums and workshops. His work has been exhibited at important international venues, including at the World Architecture Festival, Venice Architecture Biennale and World Congress of Architecture. His book publications have been translated into several languages and include *Dense + Green: Innovative Building Types for Sustainable Urban Architecture* (2016), *Ecological Urban Architecture: Qualitative Approaches to Sustainability* (2012) and *Material Design: Informing Architecture by Materiality* (2011). In 2011, he was named Author of New and Notable Books on Architecture, Culture and Design by Metropolis Magazine. His work has been covered by a variety of media including The New York Times, Neue Zürcher Zeitung, Channel NewsAsia, The Straits Times, El Mundo, Berliner Zeitung, Tagesspiegel, Bauwelt, Metropolis and Harvard Design Magazine.

Prof Schroepfer is the recipient of prestigious awards and recognitions including the World Architecture Festival High Commendation, A' Design Platinum Award, Architizer A+Awards Special Mention, Singapore Structural Steel Excellence Award, Singapore Design Gold Award, SG Mark Award, Singapore Institute of Architects Award, Gwangju Design Biennale Award and International Union of Architects Award.

Assoc Prof Warren Chik**Associate Professor of Law, Singapore Management University**

Warren Chik is the Associate Professor of Law at the Singapore Management University. He graduated with an LLB from the National University of Singapore (Second Upper Honours) in 1996. He obtained an LLM with a specialization in International and Comparative Law from the Tulane University of Louisiana with distinction and LLM in International Business Law at University College London in 2004 with merit. Warren served as a Deputy Public Prosecutor from 1996 to 1998, and then as a State Counsel and Advisor in International Affairs in Chambers from 1998 to 2003 in the Attorney-General's Chambers of Singapore. He is also an Advocate and Solicitor of the Singapore Supreme Court, an Attorney and Counsellor-at-law of the Bar of the State of New York, and a Solicitor in England & Wales. Warren is a member of the Singapore International Law Society, the Law Reform Committee of the Singapore Academy of Law and the Creative Commons Movement in Singapore. His personal interests are in sports instruction and diving.