



International Symposium and Workshops

# A SMART SUSTAINABLE FUTURE FOR ALL

Enhancing Resilience in a Changing Landscape

MELBOURNE, AUSTRALIA | 24 - 26 SEPTEMBER 2018

## SYMPOSIUM DAY 1

**PROGRAM DAY: Tuesday 25<sup>th</sup> September 2018**

**Venue:** Melbourne School of Design, The University of Melbourne

### TIME DETAILS

**8.30am-9.00am** Arrival and Registration

### OPENING SESSION AND PLENARY 1

**9.00am-10.30am** B117 Theatre

#### Welcome Remarks

Prof. Abbas Rajabifard and Prof. Greg Foliente

#### Official Opening

#### Keynote 1

Ms Anna Wellenstein, Director of Strategy and Operations, Global Practice of Social, Urban, Rural and Resilience (SURR), The World Bank Group  
*World Bank Vision and Improving Resilience*

#### Keynote 2

Mr Mark Croweller, Head of National Resilience Taskforce, Australian Government Department of Home Affairs  
*Disaster Resilience, Policy and Ethics*

#### Launch of SDGs and Disaster Management Blueprint

Centre for Disaster Management and Public Safety, The University of Melbourne

**10.30am-11.00am** Morning Tea Break

### PARALLEL SESSION 1

B120 Singapore Theatre

#### Session 1A: Smart Cities and 3D Models

Chair: Dr Mohsen Kalantari

- Mr Craig Sandy, Surveyor General, Land Use Victoria  
*Is Data the Key to a Smart Sustainable Future? A Surveyors Perspective*
- Mr Tan Boon Khai, Chief Executive, Singapore Land Authority  
*Spatially-Enabled Cities of the Future*
- Prof. Stephan Winter, The University of Melbourne  
*A University Living Lab Approach for Urban Mobility*
- Mr Mark Briffa, Manager Electronic Subdivisions Unit, Land Use Victoria,  
*An Overview of the Victorian 3D Digital Cadastre Roadmap*

B121 Malaysian Theatre

#### Session 1B: Land Resilience 1

Chair: Dr Mika-Petteri Törhönen

#### Introduction to the project: Improving Land Resilience and Resilience Impact of Land and Geospatial Systems

- Dr Mika-Petteri Törhönen, Lead Land Administration Specialist, The World Bank  
*Project Impetus and Context*
- Prof. Abbas Rajabifard, The University of Melbourne  
*Project Overview and Plan for the Land Resilience Stream*
- Dr Amor Laaribi, UN Retiree – International Independent Consultant in Geospatial Information/Statistics at Freeland

**11.00am-12.30pm**

11.00am-12:30pm

**5 Minutes Presentations**

- Dr Mahsa Salehi, Monasha University  
*Safer Roads for Smart Cities*
- Dr Farhad Laylavi, The University of Melbourne  
*A Linked Open Data Roadmap for Smart City Development*
- Ms Laura Knoth, Salzburg University  
*4D Data Infrastructures to Support Smart Cities*
- Dr Behnam Atazadeh, The University of Melbourne  
*3D Spatial Models as a Foundation for Development of 3D Digital Cadastral Database: A Victorian Case Study*
- Dr Yiqun Chen, The University of Melbourne  
*Three-dimensional (3D) Analytics Platform for Smart Liveable City Planning in Singapore*
- Ms Maryam Rabiee, The University of Melbourne  
*Using 3D Digital Building Models in Support of Sustainable Development Goals*

*Geospatial Technology for the Integration of Geospatial and Statistical Information in Support of Disaster Resilience*

- Dr Serene Ho, The University of Leuven  
*Smart Sustainable Futures in Land Administration: A Role for Emerging Technologies*

12.30pm-1.15pm

**Lunch Break**

**PARALLEL SESSION 2**

**B120 Singapore Theatre**

**Session 2A: Spatial Data Infrastructures and Data Platforms**

Chair: Dr Serene Ho

1.15pm-2.45pm

- Mr Craig Sandy, Intergovernmental Committee on Surveying and Mapping  
*Finding Our Place - Next Steps for the Intergovernmental Committee on Surveying & Mapping*
- Prof. Robert Stimson, Director of AURIN, The University of Melbourne  
*Smart Cities and Big Data*
- Mr Chris Body, Chair, Standards Australia  
*Standards Development Organisations Assisting with our Data and Information Interoperability for our Smart Sustainable Cities*
- Dr Mohsen Kalantari, The University of Melbourne  
*Blockchain in Land Administration*
- Dr Michael Rigby, The University of Melbourne  
*Spatial Data Infrastructure Challenges for Addressing the Sustainable Development Goals in Australia*

**5 Minutes Presentations**

- Dr Soheil Sabri, The University of Melbourne  
*Three-Dimensional (3D) Analytics in Crime Prevention: The Role of Building Information Modelling (BIM) in Addressing Crime Prevention Through Environmental Design (CPTED) Principles*
- Ms Piret Veeroja, The University of Melbourne  
*The Role of Social and Built Environments in Supporting Older Adults' Social Interactions*
- Mr Raul Marino, The University of Melbourne  
*Low Carbon Futures: Scenarios for Metropolitan Melbourne Energy and GHG transitions*

**B121 Malaysian Theatre**

**Session 2B: Land Resilience Session 2**

Chair: Mr Alvaro Federico Barra

**Country Case Studies**

- Dr Katie Potts, The University of Melbourne  
*Overview of Case Study Method and Case Results*
- Dr Muyiwa Agunbiade  
*Nigeria Case Study Overview*
- Mr Bal Krishna  
*India Case Study Overview*
- Dr Heri Sutanta  
*Indonesia Case Study Overview*
- Dr Kate Rickersey, Land Equity International  
*Land Administration Action Plan*
- Ged Griffin  
*Australia Case Study Overview*

2.45pm-3.15pm

Afternoon Tea

## PARALLEL SESSION 3

B120 Singapore Theatre

B121 Malaysian Theatre

### Session 3A: Urban Systems and Analytics

Chaired: Dr Soheil Sabri

### Session 3B: Land Resilience Session 3

Chair: Dr Muiyiwa Agunbiade

3.15pm-4.00pm

- Mr Mark Allan, Program Manager for Planning and Design, City of Melbourne  
*Sustainable Precincts – Designing the Public Realm for Social Interaction*
- Dr Zaffar Sadiq Mohamed-Ghouse, President, SSSI  
*Experiences from Developing Spatial Master Plan in Developing Countries to Support Future Cities*
- Mr Tian Kuay Lim, Deputy Director, National Environment Agency of Singapore  
*An Integrated Multi-scale Quantitative Urban Environmental Modeling & Simulation of Thermal Comfort on Pedestrian Mobility in Singapore*

### Country Case Studies (cont.)

- Dr Minh Nguyen, CSIRO  
*Needs of Responsive Governance and Livelihood Transformation in Adaptation to Extreme Droughts in the Mekong Delta*
- Dr Takako Izumi, Tohoku University  
*Role and Initiatives of Civil Societies in Climate Change and DRR in Asia*
- Mr Peter Elias, The University of Lagos  
*Disaggregating Urban Data for Implementing Sustainable Development of Goal 11 in Africa*

4.00pm-4.10pm

Move to Plenary (B117 Theatre)

## PLENARY 2 & PANEL DISCUSSION

B117 Theatre

4.10pm-5.30pm

### Keynote 3

Mr Greg Scott, Inter-Regional Advisor, UN-GGIM

### Panel Discussion

Mr Greg Scott, Dr Mika-Petteri Törhönen, Dr Amor Laaribi, Mr Mark Allen, Mr Craig Sandy  
*Current Issues, Challenges, and Opportunities in our Current Environment*

6.00pm onwards

Networking Drinks and Conference Dinner (University House at Woodward, Level 10,185 Pelham Street, Carlton, VIC, 3053)



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# A SMART SUSTAINABLE FUTURE FOR ALL

Enhancing Resilience in a Changing Landscape

MELBOURNE, AUSTRALIA | 24 - 26 SEPTEMBER 2018

## SYMPOSIUM DAY 2

**PROGRAM DAY:** Wednesday 26<sup>th</sup> September 2018

**Venue:** Melbourne School of Design

### TIME

### DETAILS

8.30am-9.00am

Arrival and Registration

## OPENING SESSION AND PLENARY 3

B117 Theatre

9.00am-10.30am

### Keynote 4

The Hon. Nasrollah Jahangard, Deputy Minister, Ministry of Information and Communications Technology

*The Strategic Roadmap for ICT-enabled Government towards Sustainable Smart Cities*

### Keynote 5

Prof. Michele Acuto, Australian Urban Research Infrastructure Network

*Global Urban Issues and SDG Challenges*

### Keynote 6

Prof. Lisa Gibbs, Melbourne School of Population and Global Health

10.30am-11.00am

Morning Tea Break

## PARALLEL SESSION 4

B120 Singapore Theatre

### Session 4A: Disaster Management - Stakeholders Community

Chair: Prof. Lisa Gibbs

- Mr Robert Jensen, Senior Managing Director, STRAT3  
*5 Things to Think about when Integrating Smart City; Sustainability and Resilience Programs*
- Mr Andrew Rowlands, Leader of Monitoring & Assessment Centre, Victoria Police  
*Experience of using Event Prediction in a Monitoring Centre*
- Mr Chris Quin, Director, Resilient Projects,  
*Critical Infrastructure Resilience: Building a More Resilient; More Sustainable Future -*
- A/Prof. Cheryl Desha, Engagement Director (Industry), Griffith University  
*Applying Remote Immersive Collaboration Technology to Regional Disaster Response Initiatives: A Case*

B121 Malaysian Theatre

### Session 4B: Land Resilience Session 4

Chair: Mr Bal Krishna

### Improving Land Resilience

- Prof. Abbas Rajabifard, The University of Melbourne  
*Recap of Day 1 and Plan for Day 2*
- Dr Serene Ho, The University of Leuven  
*A practice-based framework and guidelines for national institutional arrangements in geospatial information management: insights from UN-GGIM Member States*
- Mr Ged Griffin, Victoria Police  
*Disaster Management Information for Enhanced Community Resilience*
- Dr Muyiwa Agunbiade, University of Lagos  
*Data Infrastructure Reverse Paradigm*
- Mr Joaquin Andres Franco Gantiva, Universidad de los Andes

11.00am-12.30pm

11.00am-12.30pm

*Study of the NSW Volunteer Rescue Association*

- Dr Jennifer Day, The University of Melbourne  
*Improving Humanitarian Response and Research: The Regional Studies Research Network on Academic-Practitioner Collaboration for Urban Shelter; South Pacific (APCUS-SP)*

#### 5 Minutes Presentations

- Mr Björn Rust, RMIT University  
*The Social Impacts of Distributed Ledger Technologies in Disaster Response and Development Interventions*
- Dr Kate Rickersey, Land Equity International  
*Exhibitor Presentation*

*Colombia Case Study, and measuring and predicting urban green space per capita in a land-use cover change model, and identifying the city areas which have the greatest potential for urban redevelopment project from the SDGs perspective in Colombia*

- Dr Ricardo Crespo, Universidad de Santiago  
*Chile Case Study*
- Dr Amor Laaribi, UN Retiree – International Independent Consultant in Geospatial Information/Statistics at Freeland  
*Tunisia Case Study*
- Mr Hans Guttman, Executive Director of Asian Disaster Preparedness Centre (ADPC)  
*Thailand Case Study*

12.30pm-1.15pm

Lunch Break

### PARALLEL SESSION 5

B120 Singapore Theatre

Room 448

#### Session 5A: Disasters and Infrastructure/Housing

Chair: Prof. Arun Kumar

1.15pm-2.45pm

- Prof. Tuan Ngo, The University of Melbourne  
*New Technologies for Building Resilient and Affordable Housing for the Asia Pacific Region*
- Prof. Anne Steinemann, The University of Melbourne  
*Safe and Sustainable Housing for the Tropics*
- Dr Chi-Hsiang Wang, Principal Research Scientist, CSIRO  
*Adaptation Policy Assessment for Australian Residential Buildings under Extreme Wind Hazard*
- Dr Massoud Sofi, The University of Melbourne  
*Structural Resilience of the Critical Port Structures due to Earthquake Hazard*

#### 5 Minutes Presentations

- Dr Ricardo Crespo, University of Santiago  
*A Methodological Proposal for Modelling Health Indicators in Urban Systems Using Spatial Microsimulation and Spatial Econometrics*
- Ms Jiawen Li, The University of Melbourne  
*Optimising Investment for Improving the Resilience of Roads Networks*
- Ms Naomi Borg, RMIT University  
*Building Career Resilience in Project Managers; Next Generation of Leaders for Project Delivery*
- Mr Muhammad Waqas, Ellenex  
*Exhibitor Presentation*
- Mr Jason Swaffield, Augmentive  
*Exhibitor Presentation*
- Mr John McGiffin, Deep Recognition  
*Exhibitor Presentation*

#### Session 5B: Land Resilience Session 5

Chair: Prof. Abbas Rajabifard

#### The Strategic Roadmap and Country Action Plans

- Prof. Abbas Rajabifard, The University of Melbourne  
*The Strategic Roadmap*
- Dr Katie Potts, The University of Melbourne  
*The Country Action Plan Template*
- Roundtable Discussion on Major Challenges faced in order to achieve/implement the Country Action Plans

2.45pm-3.15pm

Afternoon Tea

## PARALLEL SESSION 6

B120 Singapore Theatre

Room 448

### Session 6A: Disaster Management

Chair: Mr Ged Griffin

### Session 6B: Land Resilience Session 6

Chair: Dr Mika-Petteri Törhönen

3.15pm-4.00pm

- Mr Glenn Cockerton, Managing Director, Spatial Vision  
*Practical Spatial Approaches to Community Resilience*
- Dr Kam Tara, Director, Urban Research and Planning International  
*Travel Behaviour Assumptions for Agent-Based Models of Flood Evacuation Management in Australia: The Evidence?*
- Ms Angela Reidy, Principal Consultant, Inxure Consulting  
*Sustainability Benefits and Value: Reframing Investment Appraisal for Public Infrastructure*

### Discussion Session

Focus on World Bank project including: outcomes, context, case study results, strategic roadmap, and country action plans

### Wrap-up, Reflections and Next Steps

- Abbas Rajabifard, The University of Melbourne
- Mika-Petteri Törhönen, Lead Land Administration Specialist, The World Bank

4.00pm-4.10pm

Move to Plenary (B117 Theatre)

## CLOSING SESSION

B117 Theatre

Summary of Big Challenges

4.10pm-5.10pm

Panel Discussion

Closing Remarks