

9TH INTERNATIONAL SOCIETY FOR
**INTEGRATED
 DISASTER RISK
 MANAGEMENT**

2ND - 4TH OCTOBER 2018
SYDNEY, AUSTRALIA



DATA DRIVEN
 APPROACHES
 TO INTEGRATED
 DISASTER
 MANAGEMENT

IMAGE: DESTINATION NSW

Day 1 – TUESDAY 2 OCTOBER

Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
8:00am to 8:30am	Registration			
8:30am to 9:00am	Leighton Hall Inaugural Speeches and Welcome (Data61, IDRIM) Co-Chairs: Ana Maria Cruz and Vincent Lemiale			
9:00am to 9:45am	Leighton Hall Plenary			
9:45am to 10:30am	Keynote 1: Robert Glasser Title: The Cascading Impacts of Climate Change: Implications for Disaster Management <i>Chair: Matt Dorfstaetter</i>			
	Keynote 2: Prof. Ilan Noy Title: A Dismal Examination of a Boring Topic: An Economic Perspective on Disaster Insurance <i>Chair: Ana Maria Cruz</i>			
10:30 am to 11:00 am	Morning Tea			

11:00 am to 12:40 pm	Parallel Sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P1 Focused Session: Comprehensive Framework for Disaster-Related Migration: Lessons from Katrina and Fukushima disasters Convenor/Chair: Shingo Nagamatsu	P2 Data and disaster risk management decision making Chair: Vincent Lemiale	P3 Scientific evidence-based decision making: flood modelling and analysis Chair: Stefan Hochrainer-Stigler	P4 Infrastructure Resilience Chair: David Bristow
11:00am to 11:20am	<i>1. Adam Rose</i> Toward a Theory of Population Repatriation from Disasters	<i>1. Robert Power</i> Data Integration for Decision Making: The importance of data in understanding emergency events	<i>1. Raymond Cohen</i> Flood modelling of the Copiapó basin in Chile using Swift.	<i>1. David Bristow</i> Accelerating urban disaster recovery through multi-lifeline restoration simulation and planning
11:20am to 11:40am	<i>2. Jonathan Eyer</i> What Influences Disaster Migrants? Evidence from Fukushima and New Orleans	<i>2. Michinori Hatayama</i> Data Science for Disaster Response -Current Status and Prospect in Japan	<i>2. Yunze Wang</i> Urban flood risk probability analyses with an ensemble of synthetic rainfall events: a case study of the City of Port Phillip, Australia Strategic Perspective	<i>2. Nazli Aydin</i> Managing recovery and resilience of rural road networks after earthquakes and earthquake-triggered landslides
11:40am to 12:00pm	<i>3. Shingo Nagamatsu</i> Return Migration after Fukushima Nuclear Accident.	<i>3. Shigeru Kakumoto</i> Happiness and Disaster for Humans by Location-based Analysis of Regional Difference of Culture	<i>3. Valentijn Pauwels</i> Improving flood forecasting skill using remote sensing data	<i>3. Yolanda Alberto</i> Decision support system for recovery of the water distribution system after a seismic event

12:00pm to 12:20pm	4. <i>Kenji Koshiyama</i> , (Kansai University) Sheltering Characteristics after the Great East Japan Earthquake -Special session: A Comprehensive Framework for Assessing and Responding to Disaster-Related Migration	4. <i>Jean-Paul Pinelli</i> Cloud-based Data Analysis, Integration, and Publishing, using the DesignSafe Cyberinfrastructure for Natural Hazards Engineering	4. <i>Mahesh Prakash</i> Evaluating flood adaptation in coastal cities utilising CSIRO's City Flood Adaptation Solutions Tool (C-FAST)	4. <i>Ylenia Casali</i> The impact of flooding on the road infrastructure network: A topological characterization.
12:20pm to 12:40pm		5. <i>Simon Dunstall</i> Informing and guiding infrastructure change, industry practices, and emergency response resourcing in wildfire		5. <i>Maruf Rahman</i> A Common Integrative Model for Combining Transdisciplinary Expertise to Study Mitigation Options for Lifeline Infrastructure against Rare Hazards
12:40 pm to 1:40 pm	Lunch			
1:40 pm to 2:40 pm	Panel Discussion: The role of Data in Integrated Disaster Risk Management			
2:45pm to 4:25pm	Parallel Sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P5 Featured session: The big picture in IDriM Chair: James Goltz	P6 Participatory disaster risk management Chair: Katsuya Yamori	P7 Featured Session: Climate Change Adaptation: Issues related to integrated research among science and policy studies Convenor and chair: Hirokazu Tatano	P8 Critical analysis of disaster response and recovery Chair: Tomohide Atsumi

2:45pm to 3:05pm	<i>1. Norio Okada</i> "SMART Governance to Survive Persistent Disruptive Stressors (PDS)- A Field Based Strategic Perspective "Build Back Better even Before" ("B4")	<i>1. Yoko Matsuda</i> Co-learning of small rivers' behavior for flood preparedness by residents and experts	<i>1. Ian Turner</i> Coastal Impacts of the June 2016 East Coast Low storm event in southeast Australia: lessons learnt for future early warning	<i>1. Kiyomine Terumoto</i> A study on victims' perceptions of disaster recovery process after the Great East Japan Earthquake
3:05pm to 3:25pm	<i>2. Myriam Merad</i> About evolution and revolution in risk, resilience, safety and reliability community: A diachronic contribution	<i>2. Wei Xu</i> A perspective of community-based disaster risk reduction: building pilot resilient communities in China	<i>2. Tomohiro Yasuda</i> Projection of future change in storm surge and estimation of aggregate loss by inundation in coastal cities	<i>2. Shoko Miyagawa</i> Visualizing Non-Government Disaster Relief Activities for Smooth Coordination
3:25pm to 3:45pm	<i>3. Peijun Shi</i> Flood-induced mortality across the globe: spatiotemporal pattern and influencing factors	<i>3. Nickola Loodin</i> Fostering children participation in DRR with LEGO	<i>3. Stefan Hochrainer-Stigler</i> Country Risk Assessment of Drought events under Climate Change: A case study on Austria	<i>3. Tadashi Ise</i> Current Status of Disaster Information Sharing System in Japan and Introduction of Efforts in South West Rescue
3:45pm to 4:05pm	<i>4. Hitomi Murakami</i> Urban Development in Flood Plain Mabi District, Kurashiki City and Human Casualty in the July 2018 Heavy Rainfall Disaster in Japan	<i>4. Mamoru Yoshida</i> Sheltering behaviors after an earthquake: A case study of 2016 Kumamoto earthquake	<i>4. Hirokazu Tatano</i> Some concerns for climate change adaptation policies in Japanese case	
4:05pm to 4:25pm	<i>5. Emmanuel Garnier</i> A Memory for a better resilience to contemporary risks	<i>5. Subhajyoti Samaddar</i> The role of pioneers to overcome implementation challenges for disaster preparedness: Insights from arsenic and salinity affected coastal Bangladesh		
4:25pm to 4:45pm	Afternoon Tea/Poster Session			

4:45pm to 6:25pm	Parallel sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P9 Featured Session: Economic Analyses of Risk Reduction, Recovery Policies and Growth Chair: Muneta Yokomatsu	P10 Focused Session: Encouraging Collaborative Practice and Action Research after Great East Japan Earthquake Convenor/Chair: Motohiko Nagata	P11 Featured Session: Hazards & Risk Communication Convenor/Chair: Ana Maria Cruz	
4:45pm to 5:05pm	<i>1. Stefan Hochrainer</i> Risk Layering under Ambiguity: An Application to Farmers exposed to drought risk	<i>1. Toshikazu Kangyu</i> Recovery through Local History and Culture with Disaster Volunteers	<i>1. Mika Shimizu</i> Risk Communication under Deep Uncertainty in a Modern Risk Society: Roles of Resilience-based Public Policy in relation with Emerging Technologies/AI	
5:05pm to 5:25pm	<i>2. Muneta Yokomatsu</i> Multi-region dynamic stochastic macro-economic model of disaster recovery and mitigation with a focus on households' migration	<i>2. Motohiko Nagata (Kyoto University)</i> What factors make life after a huge disaster positive?	<i>2. Ana Maria Cruz</i> Natech Disaster Risk Reduction: Moving towards comprehensive risk management and communication	
5:25pm to 5:45pm	<i>3. Geoffrey Lee</i> Real Options: what are they and how are they useful for making decisions under uncertainty in disaster management	<i>3. Young-Jun Lee (Hirosaki University)</i> Displaced by Disaster, Recovery and Human Networks	<i>3. Giuseppe Aliperti</i> Tourists' risk information seeking processing: A cross-cultural study from Japan	

<p>5:45pm to 6:05pm</p>	<p><i>4.Hitomu Kotani</i> What Psychological Factors Motivate Disaster-affected People during the Recovery Process? A Case Study of Rural Community in Nepal</p>	<p><i>4.Shinji Kawamura</i> (National Institute of Technology, Hachinohe College) A Case Study of Community-based Recovery Processes in Langtang Village, Nepal - As comparison and for partnership with Noda village</p>	<p><i>4.James Goltz</i> Strong Ground Motion and Human Behavior: Using DYFI Data to Assess Behavioral Response to Earthquakes</p>	
<p>6:05pm to 6:25pm</p>		<p><i>5.Tomohide Atsumi</i> (Osaka University) 7 Years in Noda: Education and Community Radio Project</p>		
<p>6:40 pm</p>	<p>IDRIM General Assembly (for IDRIM members, but other participants interested in learning about and /or joining IDRiM are invited to attend)</p>			
<p>7:30 pm</p>	<p>Close of Day 1</p>			

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Day 2 WEDNESDAY 3 OCTOBER

Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
9:00 am to 9:45 am	Keynote 3: John Handmer Title: Resilient Nation? Australia in the 21st Century Chair: <i>Adam Rose</i>			
9:50 am to 11:20 am	Parallel sessions			
	Young Scientist Session 1 Chair: Ray Cohen See separate Young Scientist Programme for details	Young Scientist Session 2 Chair: Wei Xu See separate Young Scientist Programme for details	Young Scientist Session 3 Chair: Muneta Yokomatsu See separate Young Scientist Programme for details	
11:20 am to 12:30 pm	Poster Session YSS/ Morning Tea			
12:30 pm to 1:30 pm	Lunch			
1:30 pm to 2:15 pm	Keynote 4: Sarah Barker Title: Climate change: why are financial markets getting involved? Chair: <i>Mahesh Prakash</i>			

2:15 pm to 3:00 pm	Keynote 5: Anne Hale Miglarese Title: The Convergence of Computer Technology, Earth Observations, Unharnessed Innovation and Humanity Chair: <i>Leah Moss</i>			
3:00 pm to 3:30 pm	Afternoon Tea/Poster Session			
3:30 pm to 4:15 pm	Panel Discussion The role of hazard, vulnerability, and risk data in urban and policy development			
4:20 pm to 6:00 pm	Parallel Sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P12 Featured Session: Economic Impact Analysis of Natural Disasters Chair: Hirokazu Tatano	P13 Integrated Disaster Risk Assessment Chair:	P14 Disaster Evacuation Chair: Leorey Marquez	
4:20pm to 4:40pm	<i>1. Yoshio Kajitani</i> A Spatial Computable General Equilibrium Model for Disaster Impact Analysis: Short-run approach and the role of recovery investments	<i>1. James Hilton</i> Integrated ensemble modelling of wildfires using the Spark framework	<i>1. Nobuhito Ohtsu</i> Mutual Reflection of Training and Planning Using Data: Tsunami Evacuation Support System for Vulnerable People in a Community on Disaster	
4:40pm to 5:00pm	<i>2. Yasuhide Okuyama</i> Disaster and Economic Growth: Evidence and Theory	<i>2. Marco Torbol</i> Earthquake early warning system framework using neural network	<i>2. Katsuya Yamori</i> Development and social implementation of smartphone app "Nige-Tore" for improving tsunami evacuation drill	
5:00 pm to 5:20 pm	<i>3. Yasuhiro Akakura</i> Basic Impact Analysis of Maritime Global Critical Infrastructure Disruption Caused by Disasters on the Global Trade and Economy	<i>3. Jean-Paul Pinelli</i> Data management for the development, validation, calibration, and operation of a hurricane vulnerability model	<i>3. Makoto Okumura</i> Can we expect altruism of car drivers in tsunami evacuation? Analyzed by a tri-modal optimal evacuation model	

5:20pm to 5:40pm	<i>4. Shingo Nagamatsu</i> Preserving disaster monument: a price worth paying?	<i>4. Kam Tara,</i> Travel Behavioural Assumptions for Agent-Based Models of Flood Evacuation Management in Australia: The Evidence?	<i>4. Leorey Marquez</i> Decision Support System for bushfire evacuation	
5:40pm to 6:00pm		<i>5. Ratih Indri Hapsari</i> Debris Flow Disaster Mitigation in Merapi Volcanic Rivers Indonesia by Using X-band Polarimetric Radar	<i>5. Kensuke Takenouchi</i> Creating a local disaster response “switch” for early evacuation: Synergistic integration of professional disaster information and local precursory phenomena	
6:00pm	Close of sessions Day 2			
7:00 pm onwards	Dinner and Awards Ceremony The Roundhouse, UNSW			

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Day 3 (4th October)

Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
9:00 am to 9:45 am	Keynote 6: Prof. Stephanie Chang Title: Developing data-driven typologies of risk for resilience Chair: <i>Norio Okaka</i>			
9:50 am to 11:10 pm	Parallel sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P15 Featured Session: Integrated disaster risk management and policy Chair: <i>Myriam Merad</i>	P16 Featured Session: Resilience of Humanitarian Sector in a Complex World Chair: <i>Junko Mochizuki</i>		
9:50am to 10:10am	1. <i>Michael Eburn</i> Post event inquiries as a data source for future learning	1. <i>Junko Mochizuki</i> Data Driven Exploration of Cyclone Risk Heterogeneity in Madagascar		

10:10am to 10:30am	<i>2. Kham Jin Lee</i> The enablers and barriers of inter-organisational collaboration in disaster management	<i>2.Hideyuki Ito</i> A Discussion on Efficiency of the Supply Chain of Relief Goods and the Role of Involved Sectors		
10:30am to 10:50am	<i>3. Manas Chatterji</i> Regional Science, Peace Science and Disaster Management	<i>3.Allison Rifai</i> The Queensland Disaster Management Research Framework and the Disaster Management Officer Network		
10:50am to 11:10am	<i>4. Mika Shimizu</i> Risk Communication under Deep Uncertainty in a Modern Risk Society: Roles of Resilience-based Public Policy in relation with Emerging Technologies/AI	<i>4. Adriana Keating</i> Disaster resilience measurement: data for both science and practice		
11:10am to 11:40am	Morning tea			
11:40am to 12:25pm	Keynote 7: Jean-Michel Tanguy Title: Impact of new technologies and new data in a fast-moving connected society <i>Chair: Vincent Lemiale</i>			
12:25 pm to 1:30 pm	Lunch			
1:30 pm to 2:15 pm	Student Awards			
2:15 pm to 3:15 pm	Parallel sessions			
Time	Leighton Hall	Gallery 1	Gallery 2	Room 4
	P17 Featured Session: Economics of Terrorism Convenor: Glyn Wittwer	P18 Environment and ecological challenges in DRR Chair: Norio Okada		

2:15pm to 2:35pm	1. <i>Glyn Wittwer</i> The Economic Effects of a Hypothetical Nuclear Attack on Downtown LA	1. <i>Tomohiro Ichinose</i> Land use scenario analysis for ecosystem-based disaster risk reduction (Eco-DRR): a case study in Mikatagoko Area, Fukui Pref., Japan.		
2:35pm to 2:55pm	2. <i>Maureen Bleazby</i> Using a regional CGE model for rapid assessments of the economic implications of terrorism events: creating GRAD-ECAT	2. <i>Yumi Yamada</i> Integrated quantification of flood damage risk and habitat gain potential		
2:55pm to 3:15pm	3. <i>John Madden</i> Modelling the economic impacts of pandemics – a linked disease-CGE model approach			
3:15 pm to 3:35 pm	Afternoon Tea			
3:35 pm to 4:30 pm	Closing remarks Announcement of Next Conference End of Conference			