

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, IDRIIM) Co-Chairs: Ana Maria Cruz and Vincent Lemiale		
9:00am to 9:45am	Keynote 1: Robert Glasser Title: The Cascading Impacts of Climate Change: Implications for Disaster Management Chair: Matt Dorfstaetter		Leighton Hall Plenary	
9:45am to 10:30am	Keynote 2: Prof. Ilan Noy Title: A Dismal Examination of a Boring Topic: An Economic Perspective on Disaster Insurance Chair: Ana Maria Cruz			
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	1. <i>Adam Rose</i> Toward a Theory of Population Repatriation from Disasters	1. <i>Robert Power</i> Data Integration for Decision Making: The importance of data in understanding emergency events	1. <i>Raymond Cohen</i> Flood modelling of the Copiapó basin in Chile using Swift.	1. <i>David Bristow</i> Accelerating urban disaster recovery through multi-lifeline restoration simulation and planning
11:20am to 11:40am	2. <i>Jonathan Eyer</i> What Influences Disaster Migrants? Evidence from Fukushima and New Orleans	2. <i>Michinori Hatayama</i> Data Science for Disaster Response -Current Status and Prospect in Japan	2. <i>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	2. <i>Nazli Aydin</i> Managing recovery and resilience of rural road networks after earthquakes and earthquake-triggered landslides
11:40am to 12:00pm	3. <i>Shingo Nagamatsu</i> Return Migration after Fukushima Nuclear Accident.	3. <i>Shigeru Kakimoto</i> Happiness and Disaster for Humans by Location-based Analysis of Regional Difference of Culture	3. <i>Valentijn Pauwels</i> Improving flood forecasting skill using remote sensing data	3. <i>Yolanda Alberto</i> Decision support system for recovery of the water distribution system after a seismic event

12:00pm to 12:20pm	<p><i>4. 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</p>	<p><i>4. Jean-Paul Pinelli</i> Cloud-based Data Analysis, Integration, and Publishing, using the DesignSafe Cyberinfrastructure for Natural Hazards Engineering</p>	<p><i>4. Mahesh Prakash</i> Evaluating flood adaptation in coastal cities utilising CSIRO's City Flood Adaptation Solutions Tool (C-FAST)</p>	<p><i>4. Ylenia Casali</i> The impact of flooding on the road infrastructure network: A topological characterization.</p>
12:20pm to 12:40pm		<p><i>5. Simon Dunstall</i> Informing and guiding infrastructure change, industry practices, and emergency response resourcing in wildfire</p>		<p><i>5. Maruf Rahman</i> A Common Integrative Model for Combining Transdisciplinary Expertise to Study Mitigation Options for Lifeline Infrastructure against Rare Hazards</p>
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
	<p>P5 Featured session: The big picture in IDRiM Chair: James Goltz</p>	<p>P6 Participatory disaster risk management Chair: Katsuya Yamori</p>	<p>P7 Featured Session: Climate Change Adaptation: Issues related to integrated research among science and policy studies Convenor and chair: Hirokazu Tatano</p>	<p>P8 Critical analysis of disaster response and recovery Chair: Tomohide Atsumi</p>

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

Parallel sessions				
4:45pm to 6:25pm	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</i> (Kyoto University) 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</i> (Hirosaki University) Displaced by Disaster, Recovery and Human Networks	<i>3. Giuseppe Aliperti</i> Tourists' risk information seeking processing: A cross-cultural study from Japan	

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

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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 <i>Chair: Adam Rose</i>			
9:50 am to 11:20 am	Parallel sessions			
	Young Scientist Session 1 <i>Chair: Ray Cohen</i> See separate Young Scientist Programme for details	Young Scientist Session 2 <i>Chair: Wei Xu</i> See separate Young Scientist Programme for details	Young Scientist Session 3 <i>Chair: Muneta Yokomatsu</i> 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? <i>Chair: 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 <i>Chair: 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	1. <i>Yoshio Kajitani</i> A Spatial Computable General Equilibrium Model for Disaster Impact Analysis: Short-run approach and the role of recovery investments	1. <i>James Hilton</i> Integrated ensemble modelling of wildfires using the Spark framework	1. <i>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	2. <i>Yasuhide Okuyama</i> Disaster and Economic Growth: Evidence and Theory	2. <i>Marco Torbol</i> Earthquake early warning system framework using neural network	2. <i>Katsuya Yamori</i> Development and social implementation of smartphone app “Nige-Tore” for improving tsunami evacuation drill	
5:00 pm to 5:20 pm	3. <i>Yasuhiro Akakura</i> Basic Impact Analysis of Maritime Global Critical Infrastructure Disruption Caused by Disasters on the Global Trade and Economy	3. <i>Jean-Paul Pinelli</i> Data management for the development, validation, calibration, and operation of a hurricane vulnerability model	3. <i>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	2. <i>Khiam Jin Lee</i> The enablers and barriers of inter-organisational collaboration in disaster management	2. <i>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	3. <i>Manas Chatterji</i> Regional Science, Peace Science and Disaster Management	3. <i>Allison Rifai</i> The Queensland Disaster Management Research Framework and the Disaster Management Officer Network		
10:50am to 11:10am	4. <i>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	4. <i>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		