IDRiM 2018 Conference

Data Driven Approaches to Integrated Disaster Management

Dates: 2-4 October 2018
Venue: Leighton Hall, John Niland Scientia Building,
University of New South Wales (UNSW), Sydney, Australia

Official Site : Here

The 9th Conference of the International Society for Integrated Disaster Risk Management (IDRiM2018) will be hosted by CSIRO Date61 in cooperation with IDRiM Society in Sydney, Australia.

The vision for this year's event is to put data driven approaches at the epicentre of disaster mitigation, management, and resilience appealing across all disciplines and extending through to practitioners, academics, industry and Government.

The scientific and organizing committees are proud to present this program, that demonstrates how poignant and relevant this field is, now more than ever, and the importance of a cross disciplinary approach.

Over the three days, you will be able to attend upwards of 25 sessions, inclusive of presentations, plenaries and panel discussions. We would like to encourage you to deeply engage in the Young Scientist Sessions to ensure we are building the best and brightest players in this industry.

Australia is prone to a wide variety of hazards, most prominently bushfires, which are presently more intense and not just during summer. We would like to connect the IDRIM Society with the risks facing Australia, and with those who are at the frontier of these climatic issues. Sydney itself is surrounded by several bushfire prone regions, and we will be travelling to one of them to discuss approaches of the local communities, practitioners, and governments in these regions.

Overview

The overarching theme of IDRIM 2018 will be "**data driven approaches to disaster risk management**". Submissions with a key focus on data, data assimilation and integration, modelling and analytics are particularly encouraged. The emerging areas of machine learning and artifical intelligence in the context of integrated disaster management are also highly relevant.

Disaster risk management presents unique challenges that require truly multi-disciplinary perspectives and contributions emphasizing such aspects are most welcome.

A suggested list of relevant topics that will be discussed at the conference is provided below.

- Social and Behavioural aspects
- Climate change and its impact
- Natech, Natural Hazard Triggered Technological Accidents
- Early warning systems
- Community engagement and communication
- Economic aspects
- Compound/cascading disasters (simultaneous and/or co-located) and Mega-disasters
- Practical applications of Integrated Disaster Risk Management
- Resilience and Vulnerability
- Scientific evidence-based decision-making, modelling and analytics
- Cross-disciplinary challenges for integrated disaster risk management
- Archiving and knowledge management
- Connecting observed data and disaster risk management decision-making

Keynote speakers

***John Handmer**, RMIT School of Science; Geography, University of Melbourne; IIASA*

KEYNOTE PRESENTATION**:** Resilient Nation? Australia in the 21st Century.

Many in the emergency managements sector have argued that Australia and many Australians lack resilience. His talk will look at three dimensions of Australia as a resilient nation: the question of national resilience and what it might entail; ideologies, activities and trends that are supporting or undermining resilience in Australia; and the

situation of groups that would normally be seen as especially needing support for resilience. It will be argued that the situation of these groups can provide insights into a nation's resilience, and should be part of resilience assessments.

***Robert Glasser**, Australian Strategic Policy Institute (ASPI) and Australian National University*

KEYNOTE PRESENTATION**:** The Cascading Impacts of Climate Change: Implications for Disaster Management

Climate change is dramatically increasing the frequency and severity of many hazards, but it will be the greatly underappreciated *cascading* impacts of these hazards that will present the most profound challenges to society in general and disaster management agencies in particular. Dr Glasser will outline the links between climate change adaptation and disaster risk reduction, sketch the implications of cascading hazards and propose measures to prepare for the unprecedented disasters that will result if the planet warms well beyond the commitments countries made in the Paris Climate Agreement.

***Anne Hale**, Miglarese, Founder and CEO of Radiant*

KEYNOTE PRESENTATION: The Convergence of Computer Technology, Earth Observations, Unharnessed Innovation and Humanity

Until very recently, humanity had little ability to predict or respond to natural disasters. Our ancestors became paralyzed even at benign natural occurrences such as solar eclipses. Two things are true in 2018: 1) we are facing increasing disaster-related risks and 2) technology is evolving at lightning pace. Many of us today can easily access sophisticated weather data on our smart phones, allowing us to monitor changing phenomena by the hour. The data in our pockets is derived from Earth Observation (EO) satellites—something unimaginable fifty years ago. The volume of Earth Observation data and the ability to process it quickly is changing our world. These developments have led to an explosion in the use of EO data by companies, governments and other organizations across sectors and industries. Together, we are innovating to deliver new insights about the world around us. Climate change, similarly changing our world, presents a crucial challenge to us all. This is a challenge that must

take on as a community. Harnessing data for good will continue to be an important piece of this puzzle. Data gives us the ability to predict disasters with growing accuracy. We know when and where many disasters will happen—the next step is mitigation. Like our ancestors, we cannot imagine the advances in technology that lie ahead. The future presents a great challenge, but within that challenge lies great opportunity.

***Sarah Barker**, Special Counsel at MinterEllison*

KEYNOTE PRESENTATION: Climate change: why are financial markets getting involved?

Sarah Barker is one of the world's leading experts on climate change risk governance. She will provide a unique perspective on climate change-related risks through the lens of a corporate lawyer and institutional investor – and explain why some of the most important impacts for the disaster management sector are not scientific or physical, but financial and legal.

***Stephanie Chang**, University of British Columbia, Canada*

KEYNOTE PRESENTATION: Developing data-driven typologies of risk for resilience

This presentation focuses on a promising and under-explored approach to putting data-driven approaches at the center of disaster mitigation, management, and resilience: developing data-driven typologies of risk. I argue that while disaster risk for any city or community is multi-faceted, locally conditioned, dynamic, and in many ways unique, there are also many commonalities that can and should be systematically explored to identify common risk patterns. Empirical typologies are not new in the hazards and disasters field; for example, some researchers have developed typologies of post-disaster recovery trajectories. I argue, however, that there remains a gap in connecting patterns of risk to resilience-building objectives. This approach requires analytical approaches that are designed not only to describe risk but more deliberately to contribute to knowledge-sharing, learning, decision-making, and action. Three illustrative examples from the U.S. and Canada are presented that develop data-driven typologies to support resilience-building for coastal communities at risk of tsunamis and coastal flooding associated with sea-level rise. The presentation concludes by recognizing limitations, raising possibilities, and proposing a research agenda for the use of data-driven typologies of risk in disaster research and practice.

Ilan Noy, *Victoria University and the Chair in the Economics of Disasters*

KEYNOTE PRESENTATION: A Dismal Examination of a Boring Topic: An Economic Perspective on Disaster Insurance

The Christchurch Earthquake in New Zealand (2011) was one of the most insured disasters ever. Yet the insurance system there failed to deliver the best of all possible worlds, and in multiple ways. The lecture will focus on several observations on disaster insurance and its discontents.

Jean-Michel Tanguy, *CEO of the Group of Scientific Interest*

KEYNOTE PRESENTATION: Impact of new technologies and new data (related to DDM) in a fast-moving connected society

Disaster Risk Management implies all levels of the society : from the elected officials to the individuals, which must be in close contact when a disaster occurs. But to predict and characterize an incoming disaster, data are necessary. These data are traditionary obtained via physical gauges in the field : along rivers for inundation, coasts for storm surges or tsunamis, forests for bushfires, mountains for avalanches, steep slopes for landslides… But new technologies are rapidly arising with airborne data sensors on satellites, drones, planes as well as new data from people using smartphone : pictures or videos via Internet. The progress of Science produces faster and powerful algorithms and new tools from disciplines like Artificial Intelligence, Deep Learning, Robotics. These new products interfere and make people change their behavior, being more aware and informed, but loosing each day a parcel of freedom. The arrival of huge amount of heterogeneous data impose to rethink the classical technologies and infrastructure used by the risk analysis community. Moreover, a lot of questions regarding the society arise like the individual privacy and the change of paradigm in the next future. International strategies like Sendai framework which is the actualized doctrine of DDR, associated with Open Gov Partnership initiative promotes the opening of data bases, strengthening the interface between science and policy, enhances participation processes between all actors of DDR.

Important Dates

First Call for Papers	May 2018
Abstract deadline	Friday, 27th July 2018
Acceptances announcement	Monday, 13th August 2018
Early Bird Registration Ends	Sunday, 16th September 2018
Conference Bigins	Tuesday, 2nd October 2018

Organizing Committee

Mahesh Prakash	Data61, Local organizing committee co-chair
Vincent Lemiale	Data61, Local organizing committee co-chair
Raymond Cohen	Data 61, Young scientist session coordinator
Nikhil Garg	Data 61
James Hilton	Data 61
Leorey Marquez	Data 61
Leah Moss	Data 61
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Kelvin Berryman	GNS Science, NZ
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Matt Dorfstaetter	QFES, Australia
Michinori Hatayama	Kyoto University, Japan
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Junko Mochizuki	IIASA, Austria
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