## **Conference Program**

## **Building Disaster Resilient Communities**

# The 5<sup>th</sup> Conference of the International Society for Integrated Disaster Risk Management (IDRIM 2014)

Pre-conference Event			
Wednesday 29 <sup>th</sup> October, 2014			
4:30 pm – 6:00 pm	IDRiM Society Board of Directors Meeting (SSC 5220)		
Conference			
Thursday 30 <sup>th</sup> Octobe	er, 2014 (Day One)		
7:30 am – 8:30 am	Registration Main Foyer – Social Sciences Building, Western University, Grant Reuber Theatre (Room 2050)		
8:30 am - 9:00 am	Opening Session (Grant Reuber Theatre – Room 2050) Chair: <b>Paul Kovacs, Executive Director, ICLR</b>		
	Welcome Address:		
	Amit Chakma, President, Western University		
	Norio Okada, President of the IDRiM Soceity		
9:00 am – 10:00 am	Keynote Lecture One: <i>TBA</i> Speaker: <b>Keith Hipel, Professor, University of Waterloo</b> Chair: <b>Stefan Hochrainer</b>		
10:00 am - 10:10 am	Coffee Break		
10:10 am – 11:20 am	<b>Plenary Session One</b> : Catastrophic Risk in North America Chair: <b>Keith Hipel</b>		
	Presentation 1: Operational Response Planning of Hospitals for Community Resilience During and After Mass Casualty Incidents Liping Fang, Ryerson University		
	(in collaboration with David Bristow, Marilyn Heng, Michele Bristow, Keith W. Hipel)		
	Presentation 2: <i>Measuring economic resilience to disasters</i> Adam Rose, Coordinator for Economics, CREATE, University of Southern California		

# Presentation 3: *Making cities resilient to disasters* William Siembieda

#### Questions and discussion

11:30 am – 1:00 pm

Parallel Sessions One

Room 2024	Room 2028	Room 2032	Room 2036
Making Cities and Communities Resilient	Disaster and Transportations System	Toward Resilient Humanitarian Relief	Towards NATECH Disaster Resilient
Chair: Bijay Anand Misra	Chair: Adam Rose	Coordination	Communities
		Chair: Junko Mochizuki	Chairs: Ana Maria Cruz and Elisabeth Krausmann
1. Community Disaster Management Assets: A Case Study of the Valley Community in Valea Ierii, Cluj-Napoca, Romania Yvonne Rademacher, Alexandru Ozunu, Camelia Botezan, Monika Meltzer	1. Modeling the Resiliency of Surface Freight Transportation Systems: A Simulation Approach with Application to Ontario Hanna Maoh, William Anderson, Charles Burke, Kevin Gingerich	1. Strengthening Disaster Resilience: Dealing with the priority for providing the basic relief supplies and preparing the related logistics Hideyuki Ito, Wisinee Wisetjindawat, Muneta Yokomatsu	<ol> <li>Frontiers of NATECH risk management Ana Maria Cruz</li> <li>Assessing the Natech risk in earthquake-prone areas: A Natech case-study application Elisabeth Krausmann,</li> </ol>
2. A case study of unsuccessful public discussion over a dam construction plan <b>Junichi Yoshitani</b>	<ol> <li>Analyzing and simulating supply chain disruptions on the automobile industry Kenji Ono, Yasuhiro Akakura, Msami Kanda</li> <li>Estimation of the Alternative Port for</li> </ol>	2. Strategic Decision- making about Fundraising: Comparison of Competitive and Joint Fundraising Modes Fuminori Toyasaki	3. Households' Risk Perception Variation in Natech Evacuation Process Junlei Yu, Akihiko Hokugo
<ol> <li>Community Preparedness in India Meda Gurudutt Prasada</li> <li>The Implementation and the Issues of Preventative Evacuation - A Case Study of Kumamoto Prefecture, Japan Kazuhiro Hoshide, Ryuji Kakimoto, Toshio Fujimi, Hwayoung Kim, Mamoru Yoshida</li> </ol>	Prevention of Container Transport Disruption after LSD Yasuhiro Akakura, Kenji Ono, Tomihiro Watanabe 4. The role of behavioural responses in the total economic consequences of terrorist attacks on U.S. Air travel targets. Adam Rose, Misak Avetisyan, Oswin Chan, and Heather Rosoff	<ol> <li>Between "efficiency" and "every last survivor": Comparative study of disaster relief volunteer coordination in the US and Japan Yoko Matsuda</li> <li>Benefits, Incentives and Trade-offs: Simulating Horizontal Cooperation among Disaster Relief Organizations</li> </ol>	4. Case Study on Applied Area Business Continuity Management in Industrial Agglomerations <b>Hitoshi Baba, Masafumi</b> <b>Nagaishi, Taisuke</b> <b>Watanabe, Katsuji Miyata,</b> <b>Hideaki Matsumoto</b>
		Junko Mochizuki, Fuminori Toyasaki, Ioanna, Falagara Sigala, Werner Jammernegg	

1:00 pm to 2:00 pm

Lunch

2:00 pm to 3:15pm **Plenary Session Two**: Risk management as the foundation for integrated disaster management

Chair: Adam Rose

Presentation 1: *Integrating disaster management and climate change* **Gordon McBean**, ICSU President

Presentation 2: Post-disaster business surveys in the area affected by the Great East Japan Earthquake: summary of the regional and sectoral impacts. **Hirokazu Tatano**, DPRI, Kyoto University

Presentation 3: Creating and enabling environment to achieve disaster resilience Joanne Linnerooth-Bayer, IIASA Vienna

Questions and discussion

3:15 pm – 3:30 pm Coffee break

3:30 pm – 5:00 pm

Parallel Sessions Two

Room 2024	Room 2028	Room 2032	Room 2036
Learning from the Canterbury Earthquake Sequence- Addressing Cascading Events Chair: Rebecca Teasley	Disaster Models and Loss Assessment Chair: Saini Yang and Norio Okada	Collaborative Practice and Action Research toward Recovery from the 3.11 Earthquake and Tsunami: Survivors' Centered Approach with Disaster Volunteers at Team North Rias Chair: Tomohide Atsumi	Conceptualizing and Modeling Disaster Resilience in the Context of Risk Chair: Stefan Hochrainer
1. William Siembieda	1. To Make it As Small and	1 Doving the Solt Dood:	1 Macouring and
2. Rebecca Teasley	Sustainable as Possible to Implement by Yonmenkaigi	1. Paving the Salt Road: Recovery through Local History and Culture with	1. Measuring and Operationalizing Flood Resilience and
3. Liam Wotherspoon	System Method (YSM)- a Gamification-based Win- Win Communication and Collaboration Workshop	Disaster Volunteers Toshikazu Kangyu 2. Sense of Life Recovery	Socioeconomic Development Adriana Keating, Reinhard Mechler
	Method for Disaster Reduction <b>Norio Okada</b>	and its Determinants Two Years after the Great East Japan Earthquake: A Case of Noda Village	2. Toward conceptual and modeling integration of risk and resilience approaches
	2. A new approach for multi- hazard risk assessment: case study of	Motohiko Nagata 3. The Determinants of	Junko Mochizuki, Adriana Keating, Wie Liu, Stefan Hochrainer, Reinhard
	meteorological hazards on transportation network in	Volunteer Work at the Disaster	Mechler
	Beijing Saini Yang, Jiayuan Ye,	Young-Jun Lee	3. A Risk-Layer Approach for Climate Adaptation
	Guofan Yin	4. Vicissitudes of the Relationship between	Stefan Hochrainer-Stigler
	3. Exceedance probability of multiple meteorological hazards: Risk assessment of China Wei Xu, Li Zhuo, Jing Zheng, Peijun Shi	Disaster Volunteers and Survivors: A Theoretical Framework based on 3-year Activities in Noda Village <b>Tomohide Atsumi</b>	4. An Economic Growth Model for Disaster Risk Reduction — Case Study of Pakistan <b>Muneta Yokomatsu,</b>

4. Physical damage and economic consequences of climate change on the coastal city areas of Shanghai, China <b>Jidong Wu</b>	5. Community Empowerment for Redesign through Processes of the Charrette-workshop in Noda Village <b>Shinji Kawamura</b>	Hiroyuki Wada, Hiroaki Ishiwata, Takeshi Kono, Katsumi Wakigawa 5. Compromise Not Consensus: Designing a Participatory Process for Landslide Risk Mitigation Scolobig, A., J. Linneroooth-Bayer, M. Thompson, L. Cascini, S. Ferlisi
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5:15 pm – 6:15 pm IDRiM Society General Assembly Meeting (Reuber Theatre 2050)

# Friday 31<sup>st</sup> October, 2014 (Day Two)

	9:00 am – 10:00 am Keynote Lecture Two: Speaker: <b>Bijay Anand Misra, School of Planning and Architecture,</b> <b>Delhi, India</b> <i>Creative Adaptation for Strategic Management: A Breakthrough in</i> <i>IDRiM Implementation and Building culture for Disaster Mitigation</i> Chair: <b>Norio Okada</b>	
10:00 am – 10:10 am	Coffee Break	
10:10 am – 11:20 am	Plenary Session Three : IDRiM methodological topics Chair: Norio Okada	
	Presentation 1: <i>Lessons learned from the</i> 2013 flooding events in <i>Canada</i> Paul Kovacs, Executive Director, ICLR	
	Presentation 2: Sample size computation for normal samples with environmental applications Ian Mcleod, Professor, Department of Statistical and Actuarial Sciences, Western University	
	Presentation 3: A Critical Review of the Literature on the Relationship of Inequality and Conflict and Disaster Management Manas Chatterji, Professor of Management, State University of New York at Binghamton	
	Questions and discussion	

11:30 am – 1:00 pm Parallel Sessions Three

Room 2024	Room 2028	Room 2032	Room 2036
Young Scientists Session 1	Young Scientists Session 2	Young Scientists Session 3	Young Scientists Session 4
Chair: Tao Ye	Chair: Wei Xu	Chair: Yoshio Kajitani	Chair: Muneta Yokomatsu
<ol> <li>A methodology for estimation of business interruption loss caused by flood disaster: A case study of TOKAI heavy rain Lijiao Yang, Yoshio Kajitani, Hirokazu Tatano, Xinyu Jiang</li> <li>Variability of Spatiotemporal Patterns of Precipitation Concentration Degree and Precipitation Concentration Period Between pre-1978 and post-1978 in China Feng Kong, Peijun Shi, Jiayi Fang</li> <li>Development of Inundation maps for the Vancouver coastline under a changing climate Nicholas Agam</li> <li>Risk assessment of agricultural production by crop forecast and prediction</li> </ol>	<ol> <li>Life Quality Impact of Japanese Energy Policy of Substitution of Nuclear Energy</li> <li>Eishiro Higo, Mahesh D. Pandey</li> <li>Linking Personal Social Network to Risk Attitude Using Simultaneous Equations Model Chenxue Gao, Ming Wang, Tao Ye</li> <li>Social network and the value of local assets in disaster-damaged community</li> <li>Hitomu Kotani, Muneta Yokomatsu</li> <li>Research on Spatial- temporal Regulation fo the Heat Wave in China Mengyang Li, Peijun Shi</li> <li>Assessing the Sustainability of Risk Management Strategies for</li> </ol>	<ol> <li>Chair. Foshio Rajitani</li> <li>Multi-objective model for residents' allocation to earthquake emergency shelters with the case study of the central districts of Beijing, China Xiujuan Zhao, Wei Xu</li> <li>Spatial Allocation Model for Storage of Relief Goods Tetsuro Kajihara, Muneta Yokomatsu, Hideyuki Ito, Wisinee Wisetjindawat</li> <li>Disaster Education: Becoming a supporter or a survivor? Yingying Sun</li> <li>Assessment of global heat health risk in RCPs and SSPs scenarios Zhao Liu, Peijun Shi</li> </ol>	<ol> <li>Circumstance of Disaster Victims According to Multiple Attributes based on Newspaper Articles Reporting the Past Earthquake in Japan.</li> <li>Takahiro Fujimori, Maki Koyama, Junji Kiyono</li> <li>Global trends in indices of daily temperature extremes for rice main growing seasons since 1981</li> <li>Xiao Song, Zhao Zhang</li> <li>Disaster Recovery in a Depopulated Region: A Field Study of the 2004 Nigata Chuetsu Earthquake Kimiyuki Sakihama, Tomohide Atsumi</li> <li>Estimation on the Compound Hazard Severity of Tropical Cyclones over Coastal China during 1949- 2011 with Copula Function Yanting Ye, Weihua Fang</li> </ol>
Xing Wei, Zhao Zhang 5. Cost-benefit Analysis of Reinforcement Policies on	Financing Natural Disaster Risks Naghmeh Pakdel-Lahiji, Mohsen Ghafory-		5. Logistics of Natech Evacuation in Great East Japan Earthquake and
Rammed Earth Dwellings in Yunnan Province of China Yaan Wang, Ming Wang, Tao Ye, Kai Liu	Ashtiany, Stefan Hochrainer-Stigler, Mehdi Sadeghi		Tsunami Junlei Yu, Akihiko Hokugo

1:00 pm to 2:00 pm Lunch

2:00 pm to 3:30 pm

Parallel Sessions Four

Room 2024	Room 2028	Room 2032	Room 2036
Young Scientists Session 5 Chair: Yvonne Rademacher	Young Scientists Session 6 Chair: Xinyu Jiang	Young Scientists Session 7 Chair: Yoko Matsuda	Facing Giant Forecasts: The Current State of Tsunami Disaster Prevention in Japan Chair: Katsuya Yamori
<ol> <li>Can University - Volunteer - Centers be a New Sector for Disaster Relief?</li> <li>Hiroaki Daimon</li> <li>The impact of natural disasters on China's international trade</li> <li>Yongchang Meng, Peijun Shi, Saini Yang, Man Li</li> <li>A Comparative study on key elements of post- disaster recovery process in the United States and China —Case study of Greensburg and Nanba Mimi Shi, Saini Yang, Juan Du, Xiaohua Sun</li> <li>Disaster Recovery by Restoration of Photos flooded by March 11 Tsunami: Opportunity to collaboratively remember the past even with those who passed away Ryohei Miyamae, Tomohide Atsumi</li> <li>Adapting to Climate Change: Local Governance and Municipal Planning in Nova Scotia Brennen Vogel</li> </ol>	<ol> <li>Vulnerability Assessment of Households Using Earthquake Risk Modeling in the Metropolitan Area of Shiraz, Iran Mehdi Sadeghi, Mohsen Ghafory-Ashtiany, Stefan Hochrainer-Stigler, Naghmeh Pakdel-Lahiji</li> <li>Relationship between Mortality Rate and Topography or Inundation Depth under the Great East Japan Earthquake</li> <li>Saki Yotsui, Maki Koyama, Aiko Furukawa, Junji Kiyono</li> <li>Study on the Occurrence Probability Model of Earthquake-Induced Landslides: A case of the Ms8.0 Wenchuan earthquake</li> <li>Shang Jinglu</li> <li>Catastrophe-linked Securities for Business Interruption loss Due to Earthquakes</li> <li>Tetsuya Tamaki, Hirokazu Tatano, Yumi Kohayakawa</li> <li>Evaluation of Effect of Measures Against Electric Power Supply Restriction Due to Nankai Through Earthquake</li> <li>Tetsuya Torayashiki, Yoshiaki Kawata</li> </ol>	<ol> <li>A New Method of Learning About the Experiences of Disaster: A Case Study of Fixed-Point Photographs after the Great Hanshin-Awaji Earthquake Junko Takamori, Hironori Yamaguchi, Tomohide Atsumi</li> <li>The Challenges Of Building Disaster Resillient Cities In Developing Nations – A case study of Nigeria Onalaja Oluwalana J.</li> <li>Reconstruction of historical paddy rice yield spatial distribution based on multi-year satellite images Miluo Yi, Tao Ye</li> <li>Contribution of climate change and technological progress to paddy rice yield in Hunan province, China Zhu Wang, Tao Ye, Jun Wang, Zhuo Cheng, Peijun Shi</li> </ol>	<ol> <li>Overview of tsunami evacuation initiatives in Japan</li> <li>Katsuya Yamori</li> <li>An Ethnographic Approach to Enhance Disaster Education and Tsunami Evacuation</li> <li>Yingying Sun, Seiji Kondo, Katsuya Yamori</li> <li>Impact Analysis of sampling error on the Behavior model of human concerning evacuation planning</li> <li>Fuko Nakai, Michinori Hatayama, Katsuya Yamori</li> <li>Tsunami evacuation evaluation system for plan development of community based evacuation</li> <li>Michinori Hatayama, Fuko Nakai, Katsuya Yamori</li> </ol>

3:30 pm – 4:30 pm Young Scientists Session: Poster and Discussion with Coffee

4:30 pm to 6:00 pm	Panel session: Disaster Risk from Different View Points Chair: Ana Maria Cruz
	Panelist: Andrew Collins, Elisabeth Krausmann, Tomohide Atsumi, Saini Yang, Stefan Hochrainer-Stigler

7:00 pm – 9:00 pm Conference Dinner – Great Hall

# Saturday 1<sup>st</sup> November, 2014 (Day Three)

9:00 am – 10:00 am	Keynote Lecture Three: Speaker: <b>Kathleen Tierney, University of Colorado</b> Chair: <b>Paul Kovacs</b>
10:00 am – 10:10 am	Coffee Break
10:10 am – 11:20 am	Plenary Session Four: Case Studies in Disaster Management Chair: Paul Kovacs
	Presentation 1: <i>Disaster management in Canada</i> <b>Lapo Calamai</b> , Director, Catastrophe Risk and Economic Analysis, Insurance Bureau of Canada
	Presentation 2: Sharing on the French experience of an integrated PPP national risk management system for natural hazards, from a risk transfer system to an IKMS for participative governance on risk reduction strategy implementation and financing. <b>Roland Nussbaum</b> , CEO Mission Risques Naturels
	Presentation 3: The evolving Canadian system for natural hazard risk management, with a focus on risk reduction and financing. Blair Feltmate, Associate Professor, University of Waterloo

Questions and discussion

Room 2024	Room 2028	Room 2032	Room 2036
Strategies for Post Disaster Mitigation Measures	Education, Tools, and Action for Supporting Safety	Disaster Risk Management and Governance	Natural Catastrophe and Climate Change Impacts
Chair: William Siembieda	Chair: Greg Oulahen	Chair: Manas Chatterji	Chair: Jonathan Lassa
<ol> <li>Overview of Japan's Public Support Systems for Housing Reconstruction from Disaster and Ongoing Challenges towards Overcoming of Their Limitations</li> <li>Shigeki Yamanaka, Norio Okada, Yoko Matsuda</li> <li>Understanding the political economy of flood disaster risk management in the Himalayan state of Uttarakhand in India Jyotiraj Patra</li> <li>Retrospective Analysis of Community's Concerns on Flood Risk and Its Reduction in Shiga prefecture, Japan Junho Choi, Subhajyoti Samaddar, Hirokazu Tatano</li> </ol>	<ol> <li>A Smartphone-based System for In-house Safety Using Augmented Reality Technology</li> <li>Maki Koyama, Naoto Yokomakura, Shigeyuki Okada, Tadayoshi Nakashima and Junji Kiyono</li> <li>The role of education and indigenous knowledge in disaster preparedness</li> <li>Sameen Masood, Muhammad Ali Jibran</li> <li>Structuralizing the emergency support functions for disaster waste management in Japan Ryo Tajima, Nagahisa Hirayama, Masahiro Osako</li> <li>Study on the Role of Private Sector to Support Disaster Evacuees Caused by the Fukushima Daiichi Nuclear Power Plant Ryosuke Aota</li> </ol>	<ol> <li>Frameworks for Building Disaster Resilient Societies from Policy Perspectives: Through Case Studies of Tohoku Disaster in Japan and "Sandy" in New York Mika Shimizu</li> <li>An international perspective on legislation for the management of human-induced safety risks Alfonso Niemand</li> <li>Development of a Disaster Risk Index for Sustainable Disaster Mitigation Shingo Nagamatsu, Keiichi Sato, Masahiro Ooi, U Hiroi</li> </ol>	<ol> <li>Assessing Loss and Damage of Food Crops from Climate Extremes Jonathan Lassa</li> <li>Water availability stress under climate change in San Paulo Brazil Andre Schardong</li> <li>Flood Disaster and Risk Mitigation in the Ganges- Padma River Basin in Bangladesh Shafi Noor Islam</li> <li>The typhoon XII in 2011 causing a great deal of damage with rain and flooding to the mountainous Kii Peninsula of Japan Baba Kensuke</li> </ol>

1:00 pm – 2:00 pm Lunch

Room 2024	Room 2028	Room 2032	Room 2036
Information Systems, Media, and Decision Making	Risk Management Case Studies	Economic Analysis of Disasters	Implementation toward Resilient Society
Chair: Michinori Hatayama	Chair: Andrias Jordaan	Chair: Joanne Linnerooth- Bayer	Chair: Andrew Collins
<ol> <li>Analysis of the assessment of the state of seismicity and frame and demographic vulnerability of Gorgan using Geographical Information System (GIS) Reza Valizadeh, Farhaad Roshani, Leila Fathi, Maruam Roshani, Vida Hoseinpour</li> <li>Earthquake Vulnerability Identification Modeling through Geographic Information systems. Januar H. Setiawan and Immaculata Christiana</li> <li>Building Community Engagement in an English Village through Social Media: Case Study of the Poo Patrol, Marsden, West Yorkshire, UK Julia Meaton, Lisa Stringer</li> </ol>	<ol> <li>Wildfire Risk Assessment Methodology: Case study of the Northern Cape Province, South Africa.</li> <li>Jordaan AJ, Jordaan AD, Procter M</li> <li>Hazard-forming environment analysis: a new methodology for hazard analysis Baoyin Liu, Yim Ling Siu, Gordon Mitchell</li> <li>Copula based rainfall analysis for Assessment of Spatial Distribution of Flood Risk: Considering Multiple Flood Sources Xinyu Jiang, Hirokazu Tatano</li> <li>Social vulnerability to flood hazards in Metro Vancouver, Canada Greg Oulahen</li> </ol>	<ol> <li>Production Function for the Assessment of Economic Impact of a Natural Disaster Yoshio Kajitani, Hirokazu Tatano</li> <li>Producer's Preferences for Paddy Rice Insurance Attributes and its implications for premium subsity policy Tao Ye, Yangbin Liu, Ming Wang, Peijun Shi</li> <li>Education and Micro- insurance: A tool for dealing with natural disasters to build disaster resilient societies Muhammad Ali Qamar and Sameen Masood</li> <li>CGE Study of Economic Damage Caused by a Huge Earthquake Masato Yamazaki, Yoshinori Sone</li> </ol>	<ol> <li>How communication research contributes to disaster management: Toward an inderdisciplinary study</li> <li>Chiung-wen (Julia) Hsu</li> <li>Building resilient societies in Africa Mohammed Yimer, Arba Minch U., Ethiopia</li> <li>Measuring Progress on Climate Change Adaptation: Lessons from the Community Well-Being Analogue Bryce Gunson, Brenda Murphy</li> </ol>

3:30 pm – 3:45 pm Coffee Break

3:45 pm – 4:50 pm	Plenary Session Five: Theme: Lessons learned from the 2014 IDRiM conference. Chairs: <b>Paul Kovacs</b> (facilitator)		
	Norio Okada		
	Andrew Collins		
	Adam Rose		
	Joanne Linnerooth-Bayer		
	Keith Hipel		
4:50 pm – 5:00 pm	Closing Remarks		
	Paul Kovacs		
	Bijay Anand Misra		
	Norio Okada		