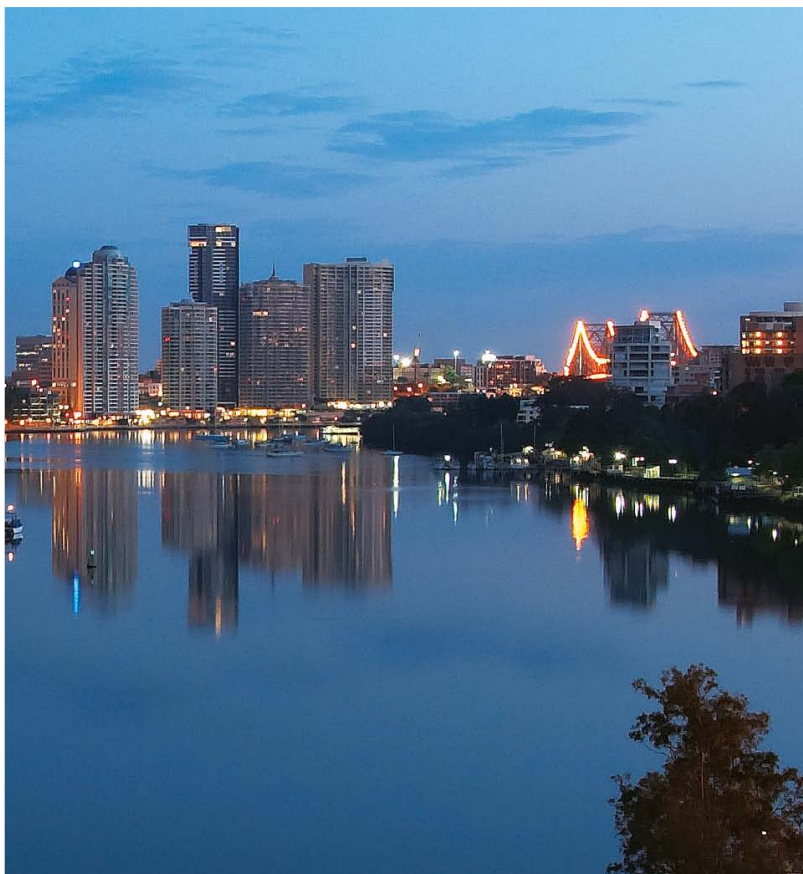


The 9th Annual International Conference of the International Institute for Infrastructure Renewal and Reconstruction



*International
Institute for
Infrastructure
Renewal and
Reconstruction*



July 8-10, 2013

**Queensland University
of Technology
Brisbane Australia**



I3R2 (2013) Scientific & Technical Committee

Professor Dilanthi Amaratunga

Head, Centre for Disaster Resilience
School of the Built Environment, University of Salford,
U.K.

Professor Janaka Ruwanpura

Vice-Provost (International)
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Canada.

Professor S.C. Wirasinghe

Department of Civil Engineering,
University of Calgary,
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Mr Steve Grant

Executive Director Operations
Emergency Management Queensland
Department of Community Safety,
Brisbane, Australia

Dr Paul Barnes

Chair: 9th IIIRR Conference (2013)
School of Public Health
Queensland University of Technology,
Brisbane. Australia.

Professor Ashantha Goonetilleke

Co-Chair: 9th IIIRR Conference (2013)
Science and Engineering Faculty
Queensland University of Technology
Brisbane. Australia.

International Institute for Infrastructure Renewal and Reconstruction (I3R2)

An “unusual” and “disastrous” world event occurred when the massive December 26, 2004 tsunami struck several Indian Ocean countries. That caused several researchers from four countries, and eight universities, lead by Canadians to form a group called “International Institute for Infrastructure, Renewal and Reconstruction” (IIIRR) to research natural disasters and how their impact could be mitigated (www.iiirr.ucalgary.ca). Currently, IIIRR is comprised of the following 17 Universities from Australia, Canada, China, Germany, Japan, South Korea, Sri Lanka, UK and USA.

1. Australia (Queensland University of Technology, University of New South Wales,)
2. Canada (Simon Fraser University, University of British Columbia, University of Calgary, York University)
3. China (Tsinghua University)
4. Germany (Universität Stuttgart)
5. Japan (Kumamoto University)
6. South Korea (University of Seoul)
7. Sri Lanka (University of Moratuwa, University of Peradeniya, University of Ruhuna)
8. United Kingdom (University of Salford, Northumbria University)
9. United States of America (Purdue University, University of Hawaii)

The IIIRR group of interdisciplinary experts includes those who serve as the facilitators for social development, industrial and economic growth as well as environmental preservation through infrastructure development. Innovative and socially responsible projects inspired via internal synergies of the IIIRR will lead to rapid development and improved quality of life. By providing stewardship in infrastructural rebuilding efforts, the IIIRR also creates a common platform for discussion and collaboration among diverse entities such as government, the corporate sector, NGOs and universities, each having specific but diverse goals and priorities. The IIIRR provides leadership to leaders and facilitates discussion and planning activities among relevant bodies, while operating on an outcomes-based strategy for rapid sustainable infrastructure development.

A network like IIIRR is the vehicle to bring “Innovative Thinking” and “Practical Solutions” to ensure that the nations will be prepared to handle a disaster even before we see any signs of any hazards. The academics, researchers, practitioners, government, NGOs and the like can work together to bring innovative solutions to help any nation to mitigate the impact of disasters.

IIIRR has been successful in organizing several events including 9 international conferences and 4 symposia in the last 6 years. IIIRR's next three international conferences will be held in USA (Host: Purdue University, May 2014), South Korea (Host: University of Seoul) and Canada (Host: York University).

Program

Day 1 (Monday 8th July)

6:00 - 7:30pm	A 'Welcome to Country' by indigenous Owners Reception area for a cocktail function - standing space The Cube, P Block Level 4
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Day 2 (Tuesday 9th July) - Conference start

9:00am	Conference Launch			
	Professor Peter Coaldrake AO Vice Chancellor, Queensland University of Technology			
9:10 - 9:50am	Keynote Speaker:			
	Room P514			
	Challenges of supporting regional Humanitarian Assistance & Disaster Response Capability Development Into the Future			
	Dr. Pamela Milligan, Director: Centre for Excellence in Disaster Management and Humanitarian Assistance (U.S. Pacific Command)			
9:50 - 9:55am	IIIRR Convenor, Professor Janaka Ruwanpura			
9:55 - 10:45am	Panel session:			
	Room P514			
	Disaster Mitigation & Recovery After the 2011 Queensland floods (options for reducing disaster impacts)			
	Mr Colin Jensen, (CEO: Brisbane City Council), Bruce Grady (Assistant Director General: Emergency Management Queensland), & Graham Newton (CEO: Queensland Reconstruction Authority)			
10:45 - 11:15am	Morning tea			
	P Block Level 5			
11:15am - 1:00pm	Parallel sessions of technical presentations			
A	Room P504	Room P505	Room P506	Room P506A
	1 Risk-informed Planning in Disaster Management (a)	2 Creating & Sustaining Community Resilience (a)	3 Modelling and Analysis of Disaster Mitigation Systems (a)	4 Options for Rapid Impact Assessment
	<p>Douglas D. Gransberg, Eric Scheepbouwer Exploiting alternative project delivery methods to accelerate emergency transport construction projects</p> <p>H. Boduroglu, P. Ozdemir, E. Binbir, A. Ilki Seismic damage assessment methodology developed for Turkish obligatory insurance system</p> <p>Kathi Holt-Damant, Robin Drogemuller Creating regional resilience in Australia</p> <p>Ryuji Kakimoto An expression of information about flood risk and cognition of flood risk</p>	<p>Krisanthi Seneviratne, Dilanthi Amaratunga, Richard Haigh Challenges in managing housing needs in post conflict housing reconstruction</p> <p>Zabihullah Sadiqi "Wardak", Vaughan Coffey, Bambang Trigunarsyah Post-disaster reconstruction: a statistical overview of the barriers for community participation in Afghanistan</p> <p>Anna Scott, Tan Yigitcanlar, M. D. Kamruzzaman Developing a sustainability impact assessment framework for local urban planning</p> <p>Ignacio Correa-Velez, Augustine Conteh Displaced twice? Talking about resilience with a cohort of men from refugee backgrounds who were affected by the 2011 Queensland floods</p>	<p>S. Wickramaratne, J.Y. Ruwanpura, S.C.Wirasinghe A Review of Preparedness Planning for Tsunamis in Sri Lanka</p> <p>Rina Suryani Oktari, Khairul Munadi, M. Ridha Evaluation Instrument of Tsunami Early Warning System: Measuring Dissemination and Communication Effectiveness</p> <p>Ruwan Weerakoon, Arun Kumar, Cheryl Desha Sustainability in post disaster road infrastructure recovery projects in Queensland, Australia</p>	<p>Tomoyuki Furutani, Kei Uehara, Kazunori Tanji, Masaki Usami, Toshihiko Asano A study on micro-scale airborne radiation monitoring by unmanned aerial vehicle for rural area reform contaminated by radiation</p> <p>Eko Andi Suryo, Chaminda Gallage, Bambang Trigunarsyah A method for predicting rain-induced instability of an individual slope</p> <p>Wasantha Athukorala, Wade Martin, Prasad Neelawela, Darshana Rajapakse, Clevo Wilson Impact of wildfires and floods on property values: a before and after analysis</p>
1:00 - 1:45pm	Lunch			
	P Block Level 5			

All papers are double blind peer reviewed

Day 2 (Tuesday 9th July)

1:45 - 2:15pm B	Panel session: Engineering in Disaster Management			
	Room P514			
	<p>Marlene Kanga (National President: Engineers Australia) The Importance of Systematic Natural Disaster Risk Management</p> <p>S.C. Wirasinghe, H.J. Caldera, S.W. Durage, J.Y. Ruwanpura Preliminary analysis and classification of natural disasters Presentation on the 2014 Conference at Purdue University</p>			
2:30 - 3:30pm C	Parallel sessions of technical presentations (continued)			
	Room P504	Room P505	Room P506	Room P506A
	1 Risk-informed Planning in Disaster Management (b)	2 Creating & Sustaining Community Resilience (b)	3 Modeling and Analysis of Disaster Mitigation Systems (b)	4 Approaches to Designing & Managing Resilient Infrastructure (a)
	<p>John Hayes, Ashantha Goonetilleke Assessing the suitability of existing spatial data for disaster planning and mitigation in Queensland</p> <p>Jose A. Lukito, Connie Susilawati, Muhammad Hasbi Hanis Natural disaster risk-informed for a better public infrastructure asset planning in Indonesian Central Government</p> <p>Toshio Fujimi, Masahide Watanabe, Ryuji Kakimoto Perceived ambiguity of earthquake and house destruction risks</p>	<p>N. Nirupama, T. Popper, A. Quirke Role of social resilience in mitigating disasters</p> <p>Nuwani Siriwardena, Richard Haigh, Bingu Ingirige Mapping stakeholder relationships in post-disaster housing reconstruction using Stakeholder Circle™</p> <p>Jayantha Withanaarachchi, Sujeeva Setunge, Shamas Bajwa Influence of transport infrastructure on community resilience and recovery during extreme climate events</p>	<p>Guillaume Dussuyer A methodology to assist with prioritizing disaster risk reduction control improvements</p> <p>Sung-Pil Shin, Inchul Yang, Younshik Chung, Kwang Don Joo Study on finding an efficient budget execution plan in road maintenance from a disaster management perspective</p> <p>Frederico Ferreira Pedroso, Douglas D. Gransberg Assessing decision support for emergency management within roading organisations: The case of the Dynamic Response Recovery Tool</p>	<p>Randy R. Rapp, Bassam Baroudi disaster recovery project management lessons learned under military contract: Hurricanes Katrina and Wilma</p> <p>Pradeep Amarasinghe, Paul Barnes, Prasanna Egodawatta, James M. McGree, Ashantha Goonetilleke An approach for identifying the limit states of resilience of a water supply system</p> <p>Michael Devine, Paul Barnes, Tim Donnet Strategies for Embedding Agile Decision Making in Aviation Infrastructure</p>
3:30 - 4:00pm	Afternoon tea P Block Level 5			
4:00 - 5:30pm D	Parallel sessions of technical presentations (continued)			
	Room P504	Room P505	Room 506/506A	
	1 Risk-informed Planning in Disaster Management (c)	2 Creating & Sustaining Community Resilience (c)	3 Special Session: Civil/Military Cooperation in Large-scale Disaster Response	
	<p>Andrew Wheatley, Paul Barnes Crisis response planning in tunnel and road networks</p> <p>Tamiyo Kondo, Titaya Sararit Disaster mitigation and recovery planning after long-term flood</p> <p>Tri Mulyani Sunarharum, Mellini Sloan, Connie Susilawati Re-framing infrastructure investment decision-making processes: a preliminary scoping study for urban flood risk management in Jakarta, Indonesia</p>	<p>Asti Mardiasmo, Paul Barnes Community Response to Disasters in Indonesia: Gotong Royong - A Double Edged-Sword</p> <p>Melissa M Teo, Ashantha Goonetilleke, Abdul M Ziyath An integrated framework for assessing community resilience in disaster management</p> <p>Hwayoung Kim, Ryuji Kakimoto, Toshio Fujimi Making a resilient community for flooding</p>	<p>Lt Col Matt Turpin Chief of Crisis Response, US Pacific Command</p> <p>Dr Alan Ryan Australian Civil/Military Centre</p> <p>Sachiko Ohno, Akiyoshi Takagi The activities of the civil network for disaster relief of the Great East Japan Earthquake</p>	
6:30 - 9:30pm	Conference Dinner Spring Restaurant, Corner Felix & Mary Street, Brisbane City			

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Day 3 (Wednesday 10th July)

8:30 -10:30am	An interactive Disaster Management simulation: Facilitated by staff of the Queensland State Disaster Coordination Centre (Emergency Management Queensland)			
	Room P419			
10:30am -1:00pm	Morning tea			
	P Block Level 5			
11:00am - 1:00pm	Parallel sessions of technical presentations (continued)			
E	Room P504	Room P505	Room P506	Room P506a
	1 Risk-informed Planning in Disaster Management (d)	2 Creating & Sustaining Community Resilience (d)	3 Futures Thinking: Anticipating needs for disaster preparedness (a)	4 Approaches to Designing & Managing Resilient Infrastructure (b)
	<p>Md. Anwarul Abedin and Rajib Shaw Integrated community based risk reduction approach of water scarcity: perspective from salinity, arsenic and drought impacts in southwestern part of Bangladesh</p> <p>Sukanya Misra, Teruyuki Monnai Urban density measures addressing disaster vulnerability in developing countries: Case study of Mumbai</p> <p>Elizabeth Maly, Eiko Ishikawa Planning for relocation in recovery after the Great East Japan earthquake: Considering residential relocation in historic and international contexts</p>	<p>Yoko Akama, Susan Chaplin, Peter Fairbrother Role of social networks in community preparedness for bushfire</p> <p>Glenn Fernandez, Rajib Shaw Youth participation in disaster risk reduction in the Philippines: a policy review</p> <p>Budi Laksono, Donald Stewart A fast, easy, cheap home (Model "AB6") for refugees</p>	<p>Jinwoo (Brian) Lee, Zuduo Zheng, Syeed Kashfi, Jason Chia, Rong Yi Observation of bus ridership in the aftermath of the 2011 floods in Southeast Queensland, Australia</p> <p>Robin Drogemuller 'Building Information Model' Support for Disaster Response</p> <p>P.B.R Dissanayake, A.M.A.C. S Bandara, B.M. M.N Thilakarathne, K.T.S Karunanayake and R.M.S Dananjaya Community and infrastructure resilience in disasters through preparedness using past experience</p>	<p>Venus Jofreh, Prasanna Egodawatta, Paul Barnes, Ashantha Goonetilleke Assessing resilience of water supply systems under climate change</p> <p>An Liu, Yuntao Guan Stormwater management in China: learning from the urban flood disasters</p> <p>Michael Devine, Paul Barnes, Cameron Newton, Ashantha Goonetilleke A critical analysis of crisis escalation models: understanding stages and severity in infrastructure disturbance.</p>
1:00 - 1:45pm	Lunch			
	P Block Level 5			
1:45 - 3:30pm	Parallel sessions of technical presentations (continued)			
F	Room P504	Room P505	Room P506	Room P506a
	1 Risk-informed Planning in Disaster Management (e)	2 Creating & Sustaining Community Resilience (e)	3 Futures Thinking: Anticipating needs for disaster preparedness (b)	4 Special Session: Women in Disaster Resilience
	<p>Natainia Lummen, Yuki Tominaga, Takafumi Tsukamoto, Takaomi Hokamura, Sota Nakajo, Fumuhiko Yamada Flood Disaster in the Tatsuda area, Kumamoto Japan following the July 12, 2012 flood event</p> <p>Harriet Lonka National security strategy as a background to disaster planning: A Finnish case study</p> <p>TaeHoon Kim, Junhee Youn, SungPil Shin A study on the development of a response system for volcanic disasters</p>	<p>Elizabeth Barber, Neil Greet Creating and sustaining community resilience through enhanced engineering and logistics collaboration in support of disaster management</p> <p>Farah Mulysari, Rajib Shaw Resilience to risk communication: synergy between government and women's association in bandung, indonesia</p> <p>Julie Molloy, Tal Fitzpatrick The role of NGOs in building sustainable community resilience</p>	<p>S.B.S. Abayakoon Higher education needs for climate and ecosystems change adaptation - A country assessment, Sri Lanka</p> <p>Titaya Sararit, Tamiyo Kondo Shelter processing during long-term 2011flood in Ayutthaya Province, Thailand</p> <p>Mohammad Sediq Rashid Critical Infrastructure Organisational Resilience in Post-Conflict Setting</p>	<p>(Issues & Challenges and Opportunities) TBC</p>
3:30 - 4:00pm	Afternoon tea			
	P Block Level 5			

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Day 3 (Wednesday 10th July)

4:00 - 5:15pm

G

Parallel sessions of technical presentations *(continued)*

Room P504	Room P505	Room P506/506a
<p>1 Approaches to Designing & Managing Resilient Infrastructure (c)</p> <p>Connie Susilawati, Ashantha Goonetilleke Climate change adaptation for public building management: stakeholder roles and responsibilities</p> <p>Seungjae Lee, Jooyoung Kim, Shinhae Lee Resilience in Transport Planning and Operations</p> <p>Atena Roshani, Hamid Mirfenderesk, Jay Rajapakse, Chaminda Gallage Groundwater table response to sea level rise and its impact on pavement infrastructure</p> <p>Shan Raffel Emergency response planning for tunnels under construction and operation</p>	<p>2 Creating & Sustaining Community Resilience (f)</p> <p>Nitin Srivastava, Rajib Shaw Disaster resilience across urban and rural communities: A case of salinity ingressed areas of Gujarat, India</p> <p>Tania Somasundaram, Belinda Davies Collaboration to improve evacuation centre operations in disaster-affected communities</p> <p>Mariko Nishizawa A study on dialogue-based risk communication to local residents: A Japanese case study</p> <p>Rose Henderson Psycho-social aspects of response, recovery and resilience - experience and learnings following the Canterbury Earthquakes, New Zealand</p>	<p>3 Special Session: Health Aspects of Disasters</p> <p>(Centre for Emergency & Disaster Management)</p> <p>Professor Gerard Fitzgerald: Director(CEDM) Shuang Zhong, Michele Clark, Yuli Zang, Xiang-Yu Hou, Lu Wang, Gerard FitzGerald Proposing and developing the definition and conceptual framework for healthcare resilience to cope with disasters</p> <p>Weiwei Du, Gerard Fitzgerald, Xiang-Yu Hou³ and Wei Zhu A case study in flood fatality: Beijing July 2012 Flood</p> <p>Warwick Pearse Health and safety for clean-up and recovery workers</p>

5:30 - 5: 45pm

Conference Close

Room P506/506a

Day 4 (Thursday 11th July)

9:00-11:45am

Optional Site Visit:

State Disaster Coordination Centre - Queensland Emergency Services Complex, Kedron Park.

Hosted by the Director-General: Department of Community Safety

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