2014 UR Understanding Risk
Producing Actionable Information

SUNDAY, JUNE 29, THE CRYSTAL LONDON	
16:30	**Welcome to London Reception and World Cup Game Viewing – Hosted by Siemens,** The Crystal

MONDAY, JUNE 30, ExCeL LONDON	
08:00	**Registration & Opening of the Understanding Risk Expo**
10:00 – 10:15 Plenary Room	**Welcome Remarks** *Francis Ghesquiere, Head, GFDRR Secretariat & Manager, Disaster Risk Management Practice Group, The World Bank* *Professor Michael Arthur, University College London Provost* *Rowan Douglas, Chairman, Willis Research Network, Willis Group*
10:15 – 12:15 Plenary Room	**Understanding Urban Risk & Building Resilient Cities** ***Keynote*** *Sir Edward Lister Chief of Staff and Deputy Mayor of London, Policy and Planning* *Dr. Roman Frigg, Director, Centre for Natural and Social Science, Co-Director Centre for the Analysis of Time Series, LSE* ***Moderator*** *Matt Frei, Journalist, Channel 4* *Dr. Aris Alip, Managing Director, CARD Mutually Reinforcing Institution, The Philippines* *Honorable Mayor Lianne Dalziel, Christchurch* *Honorable Mayor Patricia de Lille, Cape Town*
12:20 – 13:00 Lunch Area	**Code for Resilience Award Ceremony** *Hosted by GFDRR* *The 2014 Code for Resilience grand prize award ceremony is taking place at the UR Forum! A year-long initiative designed to increase the availability of locally-relevant technologies that strengthen community resilience to natural hazards, representatives of the three grand prize-winners of the winning teams will travel to London to pitch their winning ideas and demonstrate the apps that they have developed.*
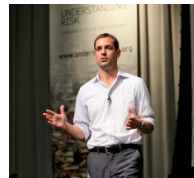
12:30 - 16:00 Room A	**Small Island Developing States (SIDS) introductory session – World Bank** *(Capped at 80)*	*Abstract: To kick-off the Understanding Risk Forum, a luncheon will be held to welcome country representatives from Small Island Developing States (SIDS). This luncheon will be followed by a network session.*
12:30 – 16:00 Room C	**Scaling up open data for disaster and climate resilience – GFDRR and Google** *(Invite Only)* **Session leads:** *Stuart Gill & Steph Bannister, Secondmuse* **Opening speakers:** • *Francis Ghesquiere, Head, GFDRR & Manager DRM Practice Group, World Bank Group* • *Rebecca Moore, Engineering Manager, Google Earth Outreach & Earth Engine* **Lightning presentations:** • *Dr. Paolo Gamba, Associate Professor in Telecommunications, University of Pavia* • *Dr. David Lallemant, Graduate Fellow, Stanford University* • *Dr Alfredo Mahar Francisco Lagmay, Philippines National Institute of Geological Sciences* • *Phil Tickle, Business Development and Research Manager, Cooperative Research Centre for Spatial Information* • *Jo Mummery, Special Advisor, Climate Science, Department of the Environment* • *Marc Forni, Disaster Risk Management South Asia Regional Coordinator, World Bank* • *Dr. Guy Schumann, Researcher, NASA Jet Propulsion Laboratory* • *Liz Hughes, Map Action* **Workshop discussions**	*Abstract: In March 2014, leaders passionate about the topic of Open Data and Innovation for Disaster & Climate Resilience met in Washington D.C. to explore how a global community could be created to meet the big challenges in disaster and climate risk reduction using open data and open innovation. This group converged on several challenges, such as the creation of, and access to, global high-resolution Digital Elevation Models. Building on this momentum, a four hour workshop to highlight progress made through innovative partnerships around open data and innovation - partnerships that span from Google to The White House, ESRI to City Leaders, NASA to American Red Cross and University Leaders, among others - will be held. The workshop provides an opportunity to identify other challenges (from data to analysis, from insight to behavior) that are blocking efforts to achieve resilience and to explore how we can work together to overcome them.*
12:30 – 14:00 Room D	**Climate change impacts: The human element – The Royal Society** **Speakers:** • *Prof. Peter Cox, Professor of Climate System Dynamics, University of Exeter* • *Prof. Georgina Mace, Professor of Biodiversity and Ecosystems, University College London* • *Rowan Douglas, Chairman, Willis Research Network* • *Other speakers included*	*Abstract: Are we underestimating future climate impacts by not properly taking into account where people live, their vulnerabilities and how these will change? As part of the Royal Society's policy project examining human resilience to extreme weather, due to be published at the end of the year, maps have been created which combine climate predictions with population scenarios, and some vulnerability indices. At this session, these novel maps will be presented and feedback sought from the audience on this and other aspects of the project, including interventions to reduce these impacts. A buffet lunch will be provided.*
14:00 – 16:00 Room B	**Educating future leaders in understanding risk – UCL** **Chairs**: *Dr. Natasha McCarthy, Senior Research Fellow, UCL STEaPP & Dr. Joanna Faure Walker, Lecturer, UCL STEaPP* **Panelists:** • *Professor David Alexander, Professor of Risk and Disaster Reduction,*	*Abstract: Risk identification and assessment are essential for good decision making. Education programs play an important role in training potential practitioners to think critically and holistically about risk. Graduate programs provide a new opportunity for thinking about the skills the UR community needs as graduates pursue careers in diverse and dynamic fields. This session will bring*

	UCL Institute for Risk and Disaster Reduction • *Chris Felton, Head of High Impact Hazards Team, UK Cabinet Office* • *Dr. Robert Muir-Wood, Chief Research Officer, Risk Management Solutions (RMS)* • *Hamish Cameron, London Resilience Manager*	*government, industry, and non-governmental partners together with academics, to consider how education programs can better equip professionals in the UR context.*
16:30 – 17:00 Plenary Room	**Keynote Speakers**	***Master of Ceremonies*** *Francis Ghesquiere, Head, GFDRR Secretariat & Manager, Disaster Risk Management Practice Group, The World Bank* *Professor David Spiegelhalter, (OBE, FRS), University of Cambridge* *Ed Parsons, Google's Geospatial Technologist*
17:00 – 20:15 Plenary Room	**Ignite & Welcome Reception** - *5 minute presentations showcasing and promoting each technical session*	

TUESDAY, JULY 1, EXCEL LONDON

Technical Sessions 09:00 – 10:30

"Rome may not have been built in a day, but urban exposure now changes daily" - ***Towards capturing and fusing dynamic information with exposure models through new technology*** Room A **Session Lead**: *Dr. Massimiliano Pittore, Senior Research Scientist, Research Manager, Coordinator of FP7 Project SENSUM, GFZ-Potsdam* **Chair**: *Keiko Saito, DRM Specialist, GFDRR* **Panelists**: • *Rashmin Gunasekera, Senior Risk Assessment and Disaster Risk Financing Specialist, World Bank* • *Marc Wieland, Centre for Early Warning, Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences*	*Abstract: Spatial exposure data is a central component of DRM. It is useful not only for risk assessments, but also for contingency planning, effective damage and needs assessments and reconstruction planning. Exposure data come in different forms, depending on the purpose of its use, data availability, and required spatial and temporal resolution. Here we will review new approaches to (static) exposure data mapping through top-down and bottom-up approaches. We also highlight new technological innovations that are increasingly improving data collection and can be applied towards modeling dynamic exposure (e.g. population movements from day to night). Panelists will discuss challenges to mainstreaming the generation of dynamic exposure data; tips for successful heterogeneous data fusion; and its use, benefits, and costs as we look to the future.*

• Dr. Ismet Güngor, MD, CEO, TCIP Istanbul • Dr. Pierre-Philippe Mathieu, Earth Observation Applications Engineer, European Space Agency • Mark Polyak, CEO, Courage Services • Elizabeth Lee, Vice President, CyArk	
"Worth your money?" - *What risk models and economic models tell us about the development impact of insurance and financial protection* Room B *Session Lead*: Dr. Daniel Clarke, Senior Disaster Risk Financing & Insurance Specialist, World Bank Group *Panelists*: • Charlotte Benson, Senior Disaster Risk Management Specialist, Asian Development Bank • Julie Dana, Lead Financial Officer, World Bank Treasury • Rosalia de Leon, Treasurer and Head of the Liability Management Cluster, Department of Finance, Philippines • Robert Muir-Wood, Chief Research Officer, RMS • Salvador Perez Maldonado, Assistant General Manager, Insurance, Pensions and Social Security, Ministry of Finance, Mexico	*Abstract*: Financial protection mechanisms can support timely, well-targeted government action in the aftermath of a disaster, helping the government finance recovery and reconstruction without taking resources away from development programs. Following in the footsteps of a handful of pioneering countries, governments (and donor agencies) are looking to invest in financial protection to safeguard development gains. Yet, the evidence about the impact, effectiveness and efficiency of such programs remains limited. Speakers will explore how probabilistic risk models and economic models can be reconciled in an effort to develop a methodology that can evaluate the true benefits of financial protection.
"Game over" - *Exploring the complexity of actionable information through gaming* Room C *Session Lead*: Dr. Pablo Suarez, Red Cross / Red Crescent Climate Centre *Panelists*: • In this highly participatory session, all participants are panelists	*Abstract*: Games trump PowerPoint if you want others to understand the value and limitations of actionable information. In the field of DRM, information is supposed to support decisions that lead to consequences… some of which may be negative (such as 'act in vain' or 'fail to act'). A challenge is to create a safe environment where people and organizations can engage in genuine learning and dialogue, with the freedom to explore the full range of possibilities, including when things can go wrong. One emerging practice uses gaming to address this challenge. Games that are both serious and fun, designed to capture the core elements and relationships, incentives and barriers, thresholds and tradeoffs that shape whether and how information becomes action - or inaction. Join us for an intensely interactive session where you will experience the richness of playable system dynamic models. Simple rules will enable the emergence of complexity, challenging participants to understand changing risks and what to do about them – both individually and as part of teams. There will be winners and losers, and prizes. More importantly, we will set the foundations for helping you and your partners create innovative ways to accelerate and deepen the reach of data, information and knowledge for understanding risk.

"Can we determine today, the potential loss of tomorrow and change our future?"
Room D

Session Leads: Dr. Alanna Simpson, Senior DRM Specialist and Labs Lead, GFDRR & Kamal Kishore, Programme Adviser, Disaster Risk Reduction & Recovery Team, UNDP Bureau for Crisis Prevention and Recovery
Chair: Dr. Alanna Simpson, GFDRR
Panelists:
- Dr. Andrew Jones, Regional Development Section Lead, Geoscience Australia
- David Lallemant, Graduate Fellow, Stanford University
- Fernando Ramirez, Senior Disaster Risk Management Specialist, World Bank Group
- Axel Baeumler, Senior Urban Specialist, World Bank Group
- Khaled Abu Aisheh, Director Architecture, Planning and Disaster Risk Management, Aqaba Special Economic Zone Authority (ASEZA), Jordan
- Ozlem Velioglu, Officer, AFAD, Turkey

Abstract: As a global practice we have made substantial progress in developing new approaches to understanding risk; from collection of new data to new approaches to modeling and communicating risk information. This progress has enabled decision makers from across the globe to embrace evidence-based decision making. However, we acknowledge that we do not adequately model and communicate future risk, so actions today can influence the future. Moreover, triggering action - either at policy or community level - through communication of risk information remains a universal challenge. This session will highlight experiences and innovations and will explore how to achieve a revolution in risk information where risk information is targeted, authoritative, trusted, robust, open, understandable and ultimately used to positively change our future.

Technical Sessions 11:00 – 12:30

"Science and emotion" - *Acting on risk*
Room A

Session Lead: Dr. Adam Cooper, Deputy Head of Department and Lecturer in Social Science and Public Policy, UCL STEaPP
Panelists:
- Prof. David Tuckett, Director of the Centre for the Study of Decision-Making Uncertainty, UCL
- Prof. Paula Jarzabkowski, Strategic Management at CASS Business School, City University
- Irina Rafliana, Public Policy, Education and Science Communication, Indonesian Institute of Sciences
- Dr. Pablo Suarez, Associate Director for Research and Innovation, Red Cross / Red Crescent Climate Centre
- Ass. Prof. Yasuhito Jibiki of International Research Institute of Disaster Science, Tohoku University

Abstract: The analysis of risk is only one part of a broader challenge of turning information into strategy, strategy into practice, results into action. What happens in real world situations and how can we understand this? Dr. Adam Cooper chairs a panel of experts in the use of technical information in practice. Professor Paula Jarzabkowski – leading expert on strategy-as-practice, Professor David Tuckett – leading expert on the psychoanalysis of uncertainty in decision making, Irina Rafliana – leading expert in disaster preparedness and response in Indonesia, and Pablo Suarez – leading expert on dealing with the realities of risk-based decision making. Come along for a challenging (and bumpy) ride in the real world of using information in practice.

"Changing the risk paradigm" - *Reducing losses and exploiting opportunities*
Room B

Session Lead: Dr. Emily Wilkinson, Research Fellow, Overseas Development Institute (ODI)
Chair: Dr. Tom Mitchell, Head of Climate Change, ODI
Panelists:
- Jolanta Kryspin-Watson, Regional Coordinator for DRM in East Asia Pacific, World

Abstract: The session explores how risk information has been used to inform public investment to manage disaster risk and considers if the loss-centered focus of DRM could be re-formulated to consider the wider economic benefits and opportunities of DRM. The session focuses on: a) Experiences of using risk data for infrastructure investments and regional planning. Panelists will highlight how risk information informed these decisions, from data demands to the role of policymakers and the cost implications. b) A discussion on the 'benefits of DRM beyond loss reduction'. Panelists will consider the inclusion of DRM in an overall growth strategy – shifting the narrative away from a focus on losses to promoting action.

Bank Group • *Nick Haigh, Head of Water & Flood Risk Management Analysis & Evidence Team / Senior Economic Advisor, Defra, UK* • *Salvador Pérez Maldonado, Deputy General Director, Insurance, Pensions and Social Security, Ministry of Finance, Mexico* • *Kamal Kishore, Programme Adviser, Disaster Risk Reduction & Recovery Team, UNDP Bureau for Crisis Prevention and Recovery* • *Dr. Emily Wilkinson, Research Fellow, Climate and Environment Programme, ODI* • *Dr. Swenja Surminski, Senior Research Fellow, Grantham Research Institute, London School of Economics and Political Science*	
"The power of the crowd" - ***Harnessing communities and opening data*** Room C **Session Lead**: *Robert Soden, DRM Specialist, GFDRR* **Panelists** • *Dr. Muki Haklay, Professor of Geographical Information Science, University College London* • *Rebecca Moore, Engineering Manager, Google Earth Outreach & Earth Engine* • *Marc Forni, Senior Disaster Risk Management Specialist, World Bank* • *Dr. Mahar Lagmay, Executive Director, Project NOAH Philippines*	***Abstract***: *In order to build resilient societies, policy makers and the public must have access to the right data and information to inform good decisions – decisions such as where and how to build safer schools. Too often, this data and information are fragmented across government ministries and the private sector and unavailable to decision makers and at-risk populations. Sharing data and creating open systems promotes transparency, accountability, and ensures a wide range of actors are able to participate in the challenge of building resilience. The Open Data for Resilience Initiative (OpenDRI) is a growing partnership of those who seek to bring the philosophy and practices of the Open Data movement to bear on the challenge of building resilience. This session showcases successful examples, highlights important challenges, and discusses what the future of open data and crowdsourcing might mean for DRM.*
"Can flood resilience be measured?" - ***An innovative, collaborative approach may do just that*** Room D **Session Lead**: *Linda Freiner, Flood Resilience Program Manager, Zurich Insurance Group (Switzerland)* **Chair**: *David Nash, Community Impact Manager, Zurich Insurance Company (Switzerland)* **Panelists:** • *Saad Mered, Chief Claims Officer, General Insurance, Zurich Insurance Group* • *Dr. Erwann O. Michel-Kerjan, Executive Director, Center for Risk Management, The Wharton School of the University of Pennsylvania* • *Dr. Reinhard Mechler, Deputy Program Director, Risk, Policy, and Vulnerability Program, IIASA* • *Colin McQuistan, Senior Advisor Climate Change and Disaster Risk Reduction, Policy and Practice team, Practical Action* • *Mohammed Omer Mukhier, Head, Community Preparedness and Risk Reduction Department, International Federation of Red Cross and Red Crescent Societies*	***Abstract***: *In order to truly understand whether a community program is having an impact on improving the community's resilience level to flood disasters, we need to be able to measure and compare resilience levels in different communities at different times. While numerous conceptual resilience frameworks have been proposed, we identified a clear gap in translating them into quantifiable resilience indicators embedded in a participatory community led process.* *With this challenge in mind, Zurich Insurance Group together with the partner organizations of their global flood resilience alliance, the International Federation of the Red Cross and Red Crescent Societies (IFRC), International Institute of Applied Systems Analysis (IIASA), Practical Action and the Center for Risk Management at the Wharton School have launched an innovative initiative which aims at developing a framework to measure flood resilience that could be widely applied in the field.* *This framework builds on world-class expertise and combines existing community resilience characteristics from the humanitarian sector, which is then being validated from a research and field perspective before being implemented. The session presents the state of the art thinking on the challenges and opportunities associated with resilience measurement. It presents first insights from pilot work being tested in a selected number of communities around the world in both developing and developed countries. The session will also provide an opportunity for participants to provide insights on our approach.*

12:30 – 14:00	**InaSAFE Stakeholders Meeting** (Invite only) Room 5 *Hosted by*: GFDRR, AIFDR, Linfiniti	*Abstract*: InaSAFE (inasafe.org) is an open source software that produces realistic natural hazard impact scenarios for better planning, preparedness and response activities. During this session, participants will engage in an interactive discussion on the following topics: a) Presentation of use cases with InaSAFE; b) State of project and future plans in terms of development and deployment *Other topics of interest* • *InaSAFE demo data in other countries* • *Scientific/Disaster Management Papers on InaSAFE* • *Making DRM specialists even more comfortable with InaSAFE and gathering their feedback on usability* • *InaSAFE governance, extension of the PSC to more stakeholders and countries* • *Planning an international user group conference and international developer hacking week* • *Encouraging more translation* • *Developing resources - Movies, Fliers, Presentations*

Technical Sessions 14:00 – 15:30

"Thinking fast and slow" - *Why catastrophe risks lead us to behave differently* Room A *Session Leads:* Dr. Howard Kunreuther, Co-Director, Wharton Risk Management and Decision Processes Center, The Wharton School, University of Pennsylvania *Panelists:* • *Scott Belden, Senior Vice President, Travelers* • *Margareta Drzeniek-Hanouz, Director and Lead Economist, World Economic Forum* • *Alex Wittenberg, Partner, Oliver Wyman, Marsh & McLennan* • *Dr. Erwann Michel-Kerjan, Executive Director, Wharton Risk Management and Decision Processes Center, The Wharton School, University of Pennsylvania*	*Abstract*: Building on 30 years of experience in risk perception and behavioral economics, this session explores how we make choices in the context of low-probability/high-consequence events. We make decisions differently in this uncertain disaster environment than we do in our day-to-day activities. For example, we often fail to invest in protective measures, until after catastrophic losses occur, as a result of relying on oversimplified decision rules and misperceiving the risk. We will explore these behavioral biases and ways to overcome them – in the spirit of Nobel Laureate Daniel Kahneman's intuitive (thinking fast) and deliberative (thinking slow) approaches – by proposing strategies that encourage long-term thinking balanced with short-term considerations. The panel will also discuss with the audience a check-list that can be applied to individual decision making, actions taken by firms, NGOs, and government entities in developed and developing countries alike.
"Models make markets" Room B *Session Lead:* Dr. Robert Muir-Wood, Chief Research Officer, RMS *Panelists:* • *Dr. Mario Ordaz, President, ERN* • *Alexander Allmann, Head of Geo Risks, Munich Re* • *Paul VanderMarck, Chief Products Officer, RMS* • *Oscar Ishizawa, DRM Specialist, World Bank Group* • *Dr. Martine Woolf, Community Safety and Earth Monitoring Division, Geoscience Australia*	*Abstract*: Once risks are confidently quantified, risk information can become a common currency, where markets can flourish, whether for risk pooling, risk transfer, or risk reduction. What are the principal challenges around expanding such 'robust' modeling of catastrophic and agriculture risks into new countries and new perils? What limits models reaching the desired level of credibility: whether related to the determination of the hazards, exposure-data, vulnerability functions, or the inclusion of secondary sources of loss? What are the optimal investments in modeling that can achieve the greatest benefits for supporting risk transfer and risk reduction mechanisms in low income countries? Could market-based mechanisms be harnessed for disaster risk reduction – such as competing around targets for 'expected casualty reduction' in development initiatives? How is the cloud going to transform the development and delivery of diverse global risk information as well as enable new market-based solutions to be created?

"Mission impossible?" - *Using global flood risk assessments for local decision making*
Room C

Session Leads: *Dr. Peter Salamon, Joint Research Centre, European Commission; Dr. Philip Ward, Institute of Environmental Studies, VU University Amsterdam; Dr. Hessel Winsemius, Deltares*
Chair: *Dr. Peter Salamon, Joint Research Centre, European Commission*
Panelists:
- *Prof. Paul Bates, Professor of Hydrology & Head of School in Geographical Sciences, University of Bristol*
- *Dr. Tom de Groeve, Joint Research Center, European Commission*
- *Brenden Jongman, PhD researcher, Institute for Environmental Studies, VU University Amsterdam*
- *Dr. Maarten van Aalst, Director, Red Cross/Red Crescent Climate Centre*
- *Dr. Alanna Simpson, Senior DRM Specialist, GFDRR*

Abstract: *Climate change, population increase, urbanization and land use changes are likely factors to increase the impact of floods globally and, in particular, in developing countries. However, many countries do not have adequate tools for an efficient flood risk management and/or lack the resources to limit the impacts of floods. With the increasing availability of large scale datasets, such as remote sensing and reanalysis data, and new generations of weather and flood forecasting models, tools for assessing flood risk at the large scale (that are applicable everywhere on the globe) are currently being developed. These models can facilitate rapid risk communication and provide important information for the operational pre- and post-disaster response, at scales ranging from sub-national to global. In this session some of the most promising tools for globally applicable flood risk management will be presented, and examples will be given on how these tools can improve flood risk management, ranging from risk communication, prevention, preparedness and post-disaster response.*

"Science, politics and what we value"- *How big is the risk of climate change?*
Room D

Session Lead: *Simon Sharpe, Head of Global Strategic Impacts Team, Climate Change and Energy Department, UK Foreign and Commonwealth Office*
Opening Remarks: *Rachel Kyte, World Bank Group Vice President, Special Envoy Climate Change*

Panelists:
- *Trevor Maynard, Head of Exposure Management and Reinsurance, Lloyds of London*
- *Dr. Bill Hare, Director, Climate Analytics*
- *Dr. Jason Lowe, Head of Knowledge Integration and Mitigation Advice, UK Met Office Hadley Centre*
- *Prof. Alistair Woodward, Head of the School of Population Health, University of Auckland*

Abstract: *We know climate change is a risk. But how big a risk is it? The answer to that question is important, because it affects how highly governments and societies prioritize action to avoid dangerous climate change, compared to all the other pressing issues they have to deal with. This session will present a framework for addressing that question, and the outline of an answer. We suggest that climate change risk can only be assessed by integrating political and scientific analysis, since politics determines the risk of following a high emissions pathway, and science describes the risk of experiencing an unfortunate climate system response. We also suggest that for assessing the risk of climate change, the most important science on climate change impacts is that which concerns the limits of adaptation. Finally, the panel will discuss whether there are limits to what science and economics can tell us about the risk of climate change, and what additional approaches might be required to reach a full understanding of the risk.*

![2014 UR Understanding Risk — Producing Actionable Information]

Time / Room	Session
16:00 – 17:30 Plenary Room	**5x15 London** *Five speakers, 15 minutes each* *Heather McGregor, The FT Columnist – Mrs Moneypenny on Risk* *Dr. Henry Thomas Marsh, CBE, FRCS is a leading British neurosurgeon – Neurosurgery and Risk* *Giles Duley, Documentary conflict and humanitarian photographer – War Photography* *Prof. Ian Goldin, Professor at the University of Oxford - The Butterfly Defect* *Ed Smith, English author and journalist, former professional cricketer, and cricket commentator - Luck and Professional Cricket*
16:30 – 20:00 Guildhall	**Disaster Resilience: Science, Capital and Regulation –** *Willis Group (Invite only)* *The Right Honorable Lord Mayor of London, Alderman Fiona Woolf CBE* *Rachel Kyte, World Bank Group Vice President, Special Envoy Climate Change* *Michel Lies, CEO, Swiss Re* *Jeffrey Sachs, Director of The Earth Institute at Columbia University* *Stéphane Jacobzone, Counsellor, OECD Public Governance and Territorial Development* *Sebastian von Dahlen, International Association of Insurance Supervisors, Basel* *Rebecca Moore, Founder & Manager, Google Earth Outreach*

WEDNESDAY, JULY 2, ExCeL LONDON

Time / Room	Session
09:00 – 17:00 Room E	**2014 Insurance Modeling & Data Expose opens** *28 exhibitors of data and model providers of relevance to the insurance/reinsurance industry including breakout sessions as follows:* • ***Guy Carpenter** - Challenges of Model Validation & PTS Consulting & **Equinix** - Cloud Computing for Risk Modelling: 10 Silver Linings at 11:00 - 12:00 pm (Plenary)* • ***Global Earthquake Model & Hannover Re** - Concepts & Practicalities of Earthquake Modeling in GEM & **AonBenfield** - Challenges of Risk Modelling at 15:30 - 16:30 (Plenary)*

Technical Sessions 09:00 – 10:30

"The future is not what it used to be" – *The economic risk of climate change*
Room A

Session Lead: Dr. Lou Gritzo, Vice President, Head of Research, FM Global
Panelists:
- Jeremy Oppenheim, McKinsey's Global Sustainability & Resource Productivity Practice, Leader of New Climate Economy Project
- Prof. Roger Pielke Jr., Professor & Director of Center for Science and Technology Policy Research at University of Colorado
- Prof. Tim Palmer, Royal Society Research Professor in Climate Physics, Oxford University
- Prof. Peter J. Webster, Professor, School of Atmospheric Sciences, Georgia Institute of Technology

Abstract: Changes in the climate have the potential to produce significant changes in the risk posed by natural hazards around the world. As highlighted in the latest Intergovernmental Panel on Climate Change (IPCC) report, the current state of knowledge on climate science, and hence the risk climate change poses, is clouded with uncertainty. In this session, the current factual understanding of climate change and its impact on the frequency and severity of major natural hazards will be reviewed by experts in climate science, economic trends, and business resilience. The focus will be on how public policy makers, business leaders, and researchers can translate the current science into action and collaborate to accelerate the understanding of the evolving risk.

"Plug and play" - *Challenges and opportunities for a joined up modeling world*
Room B

Session Leads: Matt Foote, Catastrophe and Exposure Manager, Mitsui Sumitomo Insurance & Prof. John Rees, Risk Research Coordinator, Research Councils UK
Chair: Matt Foote, Mitsui Sumitomo Insurance
Panelists:
- Dr. Anselm Smolka, Secretary General, Global Earthquake Model
- Dr. Mario Ordaz, CAPRA
- Trevor Maynard, Head of Exposure Management and Reinsurance, Lloyds of London
- Dr. Greg Holland, Chair of the Regional Climate Prediction Program, National Center for Atmospheric Research
- Dr. James Daniell, CEDIM, Karlsruhe University

Abstract: The number of open access, open source, and proprietary hazard and risk modeling tools/software packages is rapidly expanding. Users increasingly seek to mix-and-match the components of different hazard and risk tools to achieve customized solutions. A review by Daniell et al (2014) involved a preliminary analysis of over 80 open source or open access software packages, and in-depth analysis of 30 packages covering tropical cyclone, flood, tsunami, and earthquake. The advantages and disadvantages of each tool were highlighted as well as the opportunity to build partnerships that capitalize on development efforts through sharing and re-using code. The session will present key findings of the review, and will invite discussion on how to achieve a future where an array of model components, data libraries and visualization tools can be pulled together in a fully interoperable plug and play environment. (Session links to 3rd July workshop on the same topic).

Big Numbers - Small States" - *Lessons from the SIDS on risk assessment for financial protection and beyond*
Room C

Session Leads: Abigail Baca and Michael Bonte, EAP DRM; Niels Holm-Nielsen and Tiguist Fisseha, LCR DRM; Benedikt Signer, DRFIP; with the financial support of Africa Caribbean Pacific – European Union Natural Disaster Risk Reduction Program
Session Chair: Honorable Ralph John Regenvanu, Minister for Lands and Natural Resources, Republic of Vanuatu
Session Moderator: Mr. Olivier Mahul, Program Manager, Disaster Risk Financing and Insurance Program, World Bank

Abstract: Many small states share a unique development challenge: a single disaster event could cause damages and losses that could exceed the entire value of the country's annual economic activity. This presents an extreme risk to national development and can only be addressed through a long-term comprehensive risk management process that builds financial resilience through a combination of financial instruments, improved financial administrative systems, and better investment in physical resilience to reduce contingent liabilities. Ministries of Finance are in a unique position to lead this process, in close collaboration with Ministries of Public Works and other key planning agencies. Small island developing states (SIDS) in the Caribbean and Pacific have invested in large scale risk assessments to enable evidence based decisions. Such quantitative risk assessments can inform, for example, the development of disaster funds, sovereign risk transfer and risk pooling schemes; the design

Opening Speaker: *Rachel Kyte, World Bank Group Vice President, Special Envoy Climate Change* **Technical Speakers:** *Ms. Litea Biukoto, Senior Advisor on Risk Reduction, Secretariat of the Pacific Community (SPC-SOPAC)* **Panelists:** *Colonel Mamy Razakanaivo, Direteur Executif, Cellule de Prevention et Gestion des Urgences Primature, Republic of Madagascar* *Mr. Timothy Antoine, Permanent Secretary for Energy, Economic Development, Trade and Planning, Grenada* *Ms. 'Ana Fakaola 'I Fanga Lemani, Acting Deputy Secretary for Procurement, Ministry of Finance and National Planning, Kingdom of Tonga* *Ms. Fathmath Thasneem, Deputy Minister of the National Disaster Management Center, Republic of Maldives*	*and location of infrastructure and public building; and regulatory frameworks for resilient private sector development – all of which are elements that contribute to a longer term disaster risk management strategy. This session will share experiences from the Caribbean, the Pacific, and the Indian Ocean Islands in generating disaster risk information to make informed decisions on the financial management of disasters, and building on this information to support other uses such as risk sensitive territorial planning and resilient infrastructure development. (Session links to 3rd July workshop on the same topic).*
"What does it take to build 100 Resilient Cities?" Room D **Session Lead**: *Alex Kaplan, Vice President, Global Partnerships, Swiss Re* **Panelists:** *Michael Berkowitz, Managing Director, 100 Resilient Cities* *Patrick Otellini, Chief Resilience Officer, City of San Francisco* *Meline von Brentano, Forward Deployed Engineer, Palantir Technologies* *Dr. Alan Marcus, Chief Resilience Officer, Ashkelon, Israel*	*Abstract: History is a good guide, but when it comes to risk it's only half of the story. According to the UN, 68% of the world's population will live in cities by 2050 and nearly 65% of the space necessary for this growth hasn't been developed yet. As populations and wealth continue to accumulate in the most disaster prone areas, cities must work together to develop more cohesively with an eye on the risks of tomorrow. The Rockefeller Foundation has recently pioneered the 100 Resilient Cities Initiative (100RC). 100RC is identifying 100 cities across the globe of various sizes, demographics, cultures and risks, naming "Chief Resilience Officers" in each city that will work together to apply the best knowledge and tools. In one centralized platform, 100RC is bringing together the best engineering, architecture, (re)insurance, infrastructure, finance, data analytics firms, and beyond to help these cities realize their plans to build more resilient cities in the face of growing shocks and stresses. In this session, we will discuss the 100RC, the collaboration between the cities, and the tools to identify city exposure, analyzing various ways to reduce the risk and lessons learned.*

Technical Sessions 11:00 – 12:30

"Back to the future" - *Innovation in forward looking hazard modeling* Room A **Session Lead**: *Dr. Maryam Golnaraghi, Chief Disaster Risk Reduction Programme, World Meteorological Organization* **Panelists:** *Dr. Roger Pulwarty, Chief at the NOAA Climate Program and Earth System Research Laboratory, National Oceanic and Atmospheric Administration (NOAA)* *Paul Davies, Chief Meteorologist, Met Office* *Dr. Andrew Burton, Chief Tropical Cyclone Forecasting, Bureau of Meteorology, Australia* *Dr. Kevin Horsburgh, Head of the Marine Physics and Ocean Climate, National Oceanography Centre* *Dr. Yuri Simonov, Senior Researcher on Hydrological Forecasts, Hydrometeorological*	*Abstract: Changing characteristics of meteorological hazards are posing challenges in emergency preparedness and risk management, as well as with longer-term strategic planning and investments in critical infrastructure and economic sectors. A fundamental requirement for risk analysis is quantification of hazard characteristics. Traditionally, statistical analyses of hazard characteristics have been used. However, with consideration for the changing patterns of hydro-meteorological hazards, statistical analysis based on historical data should be supplemented with forward-looking modeling tools that enable us to measure changes in the characteristics of hazards at various time scales. During this session, leading international experts will describe and discuss latest technologies in hazard modeling and WMO activities in establishing international guidelines and standards, as well as issues related to accessibility and availability of hazard information.*

Centre of Russia, Russian Federation	
"Models as the universal currency for disaster risk financing and management" Room B **Session Lead:** *Dr. Akshay Gupta, Senior Vice President and Director, Catastrophe Risk Engineering Services, AIR Worldwide* **Panelists:** • *Dr. Olivier Mahul, Program Manager, Disaster Risk Financing and Insurance Program, World Bank Group* • *Ivo Menzinger, Head of Global Partnerships, Asia-Pacific, Swiss Re* • *Dr. Milan Simic, Senior Vice President and Managing Director of International Operations, AIR Worldwide* • *Dr. Eugene Gurenko, Senior Insurance Officer, World Bank* • *Andrew Eddy, President and CEO, Athena Global*	***Abstract**: The output from catastrophe risk models is consistently being used as a currency for risk transfer and pricing in the insurance and capital markets. However, the models also provide outputs that can be utilized by national and local governments, emergency management organizations, and others for various DRM applications, including disaster response and recovery, evaluation of risk mitigation options, and risk transfer decisions. This session will present the various applications of risk models from emerging efforts in South East Asia and the South Pacific to transfer risk into the capital and insurance markets; examples from the US and the Philippines wherein the impact of mitigation measures is quantified using the models; and integration of the risk models with real-time hazard information and exposure datasets. Challenges remain in developing detailed exposure datasets, understanding the hazards, and understanding the vulnerability of the exposed assets. The session will draw attention to the attributes of risk modeling that can assist in many aspects of disaster risk management. If we can better estimate and understand the actual risk, we can better manage it.*
"Winners and losers" - *Measuring the impacts and costs of disasters* Room C **Session Lead:** *Prof. Debarati Guha, Professor & Director of the Centre for Research on the Epidemiology of Disasters, UCL-Université Catholique de Louvain* **Panelists:** • *Dr. Sezin Tokar, Hydrometeorological hazards adviser, Office of U.S. Foreign Disaster Assistance/U.S. Agency for International Development (OFDA/USAID)* • *Dr. Andrew Thow, Field Information Services Section (FISS), UN Office for the Coordination of Humanitarian Affairs (OCHA)* • *Prof. David Alexander, Institute for Risk and Disaster Reduction, University College London (UCL)* • *Andres Tacsir, Macro Market Insight (MMI), Dun and Bradstreet (D&B* • *Asli Ide, Geophysical engineer, Prime Ministry Disaster & Emergency Management Presidency (AFAD), Turkey*	***Abstract**: The growing importance of measuring the impact (costs) of natural disasters to inform risk reduction is challenged by a growing array of disaster loss databases, which use different metrics, propose various degrees of openness, and follow various methodologies. This session centers on a panel debate of the various databases available for recording disaster losses and their use by different institutions. Panelists will discuss the current usefulness of various datasets, their strengths and weaknesses, and will seek to build consensus for future recommendations.*
"Recognize and act upon your risk" - *Perspectives from chief scientists* Room D **Session Lead:** *Rear Admiral Neil Morisetti, Department of Science and Technology Engineering and Public Policy, University College London* **Chair**: *Prof. Arthur Petersen, Chief Scientist, Netherlands Environmental Assessment Agency* **Panelists:** • *Sir Mark Walport, UK Government Chief Scientific Adviser* • *Dr. Doug Parr, Chief Scientist, Greenpeace UK* • *Dr. Chris Tyler, Director, Parliamentary Office of Science and Technology* • *Dr. Yacob Mulugetta, Reader, Centre for Environmental Strategy, University of Surrey*	***Abstract**: Scientific advisers from national government and the private sector will engage in an interactive discussion of the following topics:* • *How do scientific advisers identify and assess disaster risk as part of their daily work?* • *Which risks do they prioritize and why?* • *Are there particular risks that they feel more or less confident in identifying and understanding?* • *What additional information do they wish that they had at different stages in the decision process?* *Once the panelists have shared their perspectives the Session Chair will engage with the audience to broaden the discussion.*

12:30 – 13:30 Lunch Area	Interactive game over lunch led by the Red Cross / Red Crescent Climate Centre

| 14:00 – 15:00
Plenary Room | **A Conversation with Champions for Disaster Resilience**

Moderator: Professor Ngaire Woods, Professor of International Political Economy, Director of the Global Economic Governance Programme, University of Oxford, Dean of the Blavatnik School of Government | *Keynote: Cesar V. Purisima, Secretary of Finance, Republic of the Philippines*

Justine Greening, UK Secretary of State, UK Department for International Development | *Helen Clark, Administrator, United Nations Development Programme*

Rachel Kyte, World Bank Group Vice President, Special Envoy Climate Change

Kristalina Ivanova Georgieva, European Commissioner for International Cooperation, Humanitarian Aid and Crisis Response |

Technical Sessions 15:30 – 17:00

"Game of drones" - *Exploring the potential of drone technology* Room A *Session Lead:* Vica Rosario Bogaerts, DRM Specialist, GFDRR *Session Chair*: Joaquin Toro, Senior DRM Specialist, World Bank Group *Panelists:* • Dr. Manuel Fiol, Fellow Research Associate, United Nations Institute for Training and Research; Imagery Analyst, UNOSAT • Henrik Bendixen, CEO, Anthea Technologies • Matthew Wade, senseFly & Drone Adventures • Kate Chapman, Acting Executive Director, Humanitarian Open Street Map (HOT)	**Abstract:** *Unmanned aerial vehicles (UAVs, also commonly known as drones) are often associated with controversial military operations. However, over the few last years a new generation of drones has emerged focused on supporting humanitarian and civilian actions. For example, NASA uses drones to collect data on tropical storm intensity, and drones were used to produce aerial imagery during the 2013 Colorado floods. In India, UAVs made a reconnaissance of 50 flood-affected areas in Uttarakhand, where at least 20 areas had been inaccessible to relief workers. While the costs of acquiring drones have gone down and societal benefits are significant, the public use of drones poses a number of unique challenges. This session provides a platform to explore how drones can be used as an effective tool for mapping, surveying, 3D modeling, and enhancing search and rescue operations in the aftermath of a disaster, and to discuss how to build broader government acceptance on the public use of drones.*
"UNISDR Global Risk Assessment" - *Towards an enhanced vision of global disaster risk* Room B *Session Lead:* Sahar Safaie, Risk Assessment Officer, UNISDR *Chair:* Andrew Maskrey, Coordinator, Global Assessment Report on Disaster Risk Reduction,	**Abstract:** *A global probabilistic risk assessment can provide an enhanced view and comparative perspective on the characteristics of the risk that nations and economies face. The UNISDR launched an initiative to conduct a multi-hazard risk assessment at global level with partner institutions including: ACSAD, Beijing Normal University, CIMA Foundation, CIMNE and Associates, FEWS NET, GEM Foundation, Geoscience Australia, Global Volcano Model, JRC, Kokusai Kogyo, Norwegian Geotechnical Institute, UNEP-GRID and WAPMERR. Initial results were published in the 2013 Global Assessment Report, with full results published*

UNISDR **Panelists:** • Prof. Omar-Dario Cardona, General Project Director, CIMNE and Associates. • Dr. Celine Herweijer, Partner & co-lead of Climate Change and International Development, PwC • Paul VanderMarck, Chief Product Officer, RMS • Dr. Tom de Groeve, Joint Research Center, European Commission • Madiha Bakir, Associate Director, Fellow of the Institute of Actuaries, PwC	in 2015. UNISDR global risk assessment is a step forward in enhancing global understanding of multi-hazard risks and creating a community of technical experts linked to global users. Panelists from UNISDR, technical partners, and public and private stakeholders will introduce and discuss UNISDR global risk assessment process, outcomes, and applications followed by an open discussion on how this initiative serves the global community.
"Back to the drawing board" - *Engineering and planning to manage risk* Room C **Session Lead & Ignite Presenter:** Jo da Silva, Director, ARUP **Panelists:** • Hayley Gryc, Senior Structural Engineer, ARUP • Dr. Damian Grant, Senior Earthquake Engineer, ARUP • Prof. Robin Spence, Director, Cambridge Architectural Research Ltd • Dr. Matthew Free, Head, Geohazard and Risk Management Team, ARUP	**Abstract:** The session will focus on the performance of the built environment when subject to natural (or man-made hazards) in order to better inform the understanding of risk. Topics will cover: a) Building regulations: Building codes and land-use planning are important mechanisms for reducing disaster risk. However, they are only effective if they are current; reflect local forms of construction and perceptions of risk; and are part of a wider culture of safety, education, and training, as well as legislation and enforcement; b) Building performance objectives: Should the building be designed for life-safety or full functionality and minimal damage – these decisions have clear cost, social, and political implications, and more effort is needed to guide decision makers in making and answering these questions; c) Accurate investigation of causes of casualties following disasters enables improved estimation of potential casualties' in future natural disasters and appropriate mitigation; d) Modeling built environment performance: The built environment is complex and comprises buildings and infrastructure designed and constructed over time, using different materials, changing standards and wide societal contexts. A bottom up approach to city modeling which analyses the specific engineering performance of individual buildings and components of infrastructure can be used to better understand the performance of an entire system and provide hard data for decision makers to understand and manage risk.
"Beyond physical risk"- *Looking through a socio-economic lens* Room D **Session Lead:** Nicole Keller, Communications and International Relations Lead, GEM Foundation **Chair:** Dr. John Schneider, chair-elect of the GEM Foundation's Governing Board **Panelists:** • Dr. Susan Cutter, Distinguished Professor at the University of South Carolina • Dr. Louis Gritzo, Vice President of Research, FM Global • Loy Rego, Learning Practitioner, Mainstreaming Adaptation, Resilience and Sustainability into Development • Honorable Herbert Bautista, Mayor of Quezon City, The Philippines • Dr. Amod Dixit, Director of Nepal Society of Earthquake Technology • Dr. Bijan Khazai, Senior Scientist at Center for Disaster Management and Risk Reduction Technologies, Earthquake and Megacities Initiative • Dr. Christopher Burton, Senior Scientist, GEM Foundation	**Abstract**: When we look at the difference in impact between the Haiti and Christchurch earthquakes, it is obvious that socio-economic factors have an influence on how risk is estimated and perceived. Yet when analyzing risk in order to effectively manage that risk, at national or community levels, we are only beginning to understand how to accurately measure socio-economic characteristics and how to combine these measurements with analysis of physical risk, expressed in terms of damage and loss to structures and people. This session will focus on: a) State-of-the-art methods and tools: methodologies, indicators and tools to evaluate and benchmark social vulnerability and resilience; b) Stakeholders' perspectives: the needs of governments, private entities and non-governmental organizations to gain a holistic perspective of risk, to inform actions and policies in risk reduction; c) Integrated risk assessment: Integrating the evaluation of socio-economic conditions into physical risk assessments to obtain a holistic view of risk; d) Case studies: examples of integrated risk assessment at district, city and national level, the challenges and opportunities of integrated risk assessment for decision making and development of risk management policies.

| 17:30 – 18:30
Plenary Room | Closing Ceremony | *Master of Ceremonies*
Francis Ghesquiere, Head, GFDRR Secretariat & Manager, Disaster Risk Management Practice Group, The World Bank | *Robbie Schingler, Co-founder, Planet Labs*

 Rowan Douglas, CEO, Capital, Science & Policy Practice and Chairman, Willis Research Network, Willis Group |

UNIVERSITY COLLEGE LONDON

Thursday, July 3

| 09:00 – 17:00 | **"Plug and play" - What will it take to connect the modeling tools?**
Roberts G06 Sir Ambrose Fleming Lecture Theatre
Mitsui Sumitomo Insurance, Renaissance Re, Research Councils UK, GFDRR & World Bank
Opening Speakers:
• Rowan Douglas, Willis Group
• Denise McKenzie, Open Geospatial Consortium
• Dr. Hessel Winsemius, Deltares
• Francis Ghesquiere, GFDRR
• Dr. Scott Steedman, BSI
• Dr. Nicola Ranger, UK Department for International Development
• Dr. Greg Holland, National Center for Atmospheric Research / WRF
Presentations by:
• RMS, Oasis, Global Earthquake Model, RASOR, AIR Worldwide, Global Volcano Model, EQECAT, CSDMS, OpenMI, PAGER, WRF, Gonzalo Pita, Deltares, GNS Science
Reception hosted by RMS | *The number of open-access, open-source and proprietary hazard and risk modeling tools/software packages has grown rapidly as part of the global movement to understand risk. Users increasingly seek to mix-and-match the components of different hazard and risk tools to achieve customized solutions that align with their unique purpose and context. Consequently, there is a real opportunity to create partnerships between different model developers and users from public, private and academic sectors to capitalize on the development efforts through sharing and re-using code, sharing best practice, and making progress to a future where model users have an array of model components, data libraries and visualization tools which can be pulled together in a fully interoperable "plug and play" environment. How we achieve this vision will be discussed in a one-day workshop on Thursday 3rd July.* |
| 09:00 – 17:00 | **Index for Risk Management (InfoRM)**
UCL Physics A1 (Invite only, lunch Q&A open to the public, see below) | *InfoRM is a global, objective, and transparent tool for understanding the risk of humanitarian crises. InfoRM is currently in development and will be released in November 2014. It will be open to everyone and is supported by most major* |

	European Union - Joint Research Center	*humanitarian organizations. This session will discuss the beta release of InfoRM in January 2014 in terms of scientific models, integration in risk processes of international and national organizations, and the key role of open data.*
9:00 -17:00	**Small Island Developing States (SIDS) - Working Groups on Collective Action and Next Steps** Session held off site: Birbeck, University of London, Malet Street WC1E 7HX Rooms MAL 414 and MAL 415 (Invite only) *World Bank*	*Given their relative small size, limited financial and technical capacity as well as extreme vulnerability to disaster, Small Island Developing States (SIDS) face unique challenges to reduce vulnerabilities and risks associated with disasters and climate change. A workshop will provide the opportunity for government representatives and technical specialists from SIDS to (1) apply learnings from the Understanding Risk Forum to the realities faced by SIDS; (2) present examples of best practice from the SIDS; and (3) discuss shared challenges and showcase examples of overcoming such challenges.* *Working group sessions will discuss (a) Risk Information in Preparedness and Response, (b) Disaster Risk Financing: From Tools to Strategies, (c) Designing Climate and Disaster Resilient Investments, and (d) Public Financial Management of Disasters. Discussions will be moderated by individuals with direct experience at the nexus of disaster risk management (DRM) and international development, while international experts will offer knowledge to SIDS participants. Outcomes of the discussion will include summary notes of key messages to take to the Third United Nations Conference on Small Island Developing States, to be held in Samoa in September 2014, as well as provide the opportunity for promoting more active knowledge exchange among SIDS and discuss collective action efforts into the future.*
09:00 – 12:00	**"Closing the gap" - Meeting data needs in reducing global water related risks** Roberts G08 Sir David Davies Lecture Theatre *EartH2Observe, UNESCO-IHE & VU University Amsterdam*	*To develop a proactive approach to managing drought, water managers require spatially consistent high quality information and datasets, with adequate time length, to support effective decision making (at various scales) such that associated risks can be mitigated. In many regions, however, good quality data and information are scarce, or present significant gaps in time and space. High quality datasets combining terrestrial information, remotely sensed data, and model outputs are rapidly becoming available to help fill that gap. However, these datasets may not provide the exact information that the decision makers require, or it may be difficult to access and interpret.* *In this session, we will engage with stakeholders and end-users to discuss existing and potential uses of such comprehensive datasets and information in the management of risk due to drought and water scarcity.* *The session will: a) Demonstrate existing applications of comprehensive datasets supporting the management of drought and water scarcity; b) Identify gaps/problems in the currently available datasets and applications from the perspectives of end-users; c) Assess how these gaps can be reduced through using comprehensive datasets tailored to the needs of the end-users.*
09:00 – 13:00	**How might emerging technology strengthen urban resilience?** Session held off-site: GSMA, 7th Floor, 5 New Street Square, New Fetter	*Technology is a powerful enabler in strengthening resilience characteristics and empowering communities. Smartphones, social media, and other tools are already helping to redesign emergency preparedness and response operations by facilitating*

	Lane, EC4A 3BF (Requires pre-registration, see below) *British Red Cross, American Red Cross & International Federation of Red Cross and Red Crescent Societies* *This workshop requires pre-registration. To request an invitation, please contact Michele Lynch at Michele.Lynch@redcross.org*	*community participation; spreading life-saving messages; and expediting service delivery even where power, connectivity, infrastructure, and local training are lacking or limited. As we enter the next generation of technology advancement, we have a great opportunity and responsibility to shape the use of emerging tools—such as 3D printing, augmented reality, biometrics, drones, robots, sensors, smart homes and cars, and wearable technology—to improve and expand a community's ability to prepare for emergencies, respond to increasing risks, and help urban dwellers bounce back quicker and stronger from disasters. Workshop participants will help map several types of emerging technology solutions against the risks, needs, and challenges that commonly delay or prevent individuals and communities from making a full recovery. Workshop participants will help to identify practical, humanitarian applications and related technical requirements for these technologies as well as consider the ethical, political and security implications of their consumer use. The ideas and solutions generated in the workshop will directly influence the design of pilot projects aimed at strengthening personal and community resilience in urban centers around the world. This workshop is part of a groundbreaking, global initiative that will challenge our peers and other stakeholders to think differently about the humanitarian applications of technology.*
09:00 - 12:00	**GIS platform for resiliency - A modern approach using open data, analytics, and the crowd** Archaeology G06 Lecture Theatre *ESRI*	*GIS plays a unique role in risk reduction, but GIS has changed dramatically in recent years. This session will explore how leveraging a modern, open and configurable platform can: a) leverage open data with simple, focused tools to model risk and vulnerability; b) analyze areas of vulnerability for a better understanding of the community profile; c) bolster community resiliency through geo-targeted communication and maps that meet this profile; c) crowdsource community preparedness efforts to enhance resiliency; and d) collaborate and integrate with a global community focused on risk reduction.*
09:00 – 12:00	**The role of ecosystems in reducing risk: Advances and opportunities in risk assessment and risk management** Cruciform B404 Lecture Theatre 2 *The Nature Conservancy* ***Speakers:*** • *Andrew Maskrey, UNISDR: The importance for ecosystem management for risk reduction* • *Dr. Mark Spalding, University of Cambridge and the Nature Conservancy: Advances in quantifying risk reduction ecosystem services of coastal ecosystems* • *Dr. Inigo Losada, IH Cantabria: The role of coastal vegetation in protecting against coastal flooding and erosion* • *Dr. Bregje van Wesenbeeck, Deltares: How coastal and riverine ecosystems can adaptively reduce flood hazard* • *Zach Ferdana, The Nature Conservancy: Coastal Resilience – an interactive*	*Current assessments of climate and disaster risks for planning and financing purposes often leave out the interactions with socio-ecological systems, and particularly the role played by ecosystems in reducing risk. Ecosystems (particularly wetlands such as saltmarshes, mangroves and coral reefs) have important functions that influence all three dimensions of the climate and disaster risk equation - by preventing, mitigating or regulating hazards, by acting as natural buffers and reducing exposure of people and assets to hazards, and by reducing vulnerability to hazard impacts through supporting livelihoods and economies and provisioning key services (food, water, shelter) before, during and after impacts.* *Currently, risk reduction functions of natural ecosystems are often unaccounted for into projections of risk. Ecosystem loss and degradation can lead to increased vulnerability and increased economic and social losses and such increases are still not considered, which can ultimately lead to ill-fitted resilience strategies with potential long term negative impacts, as highlighted by the latest IPCC-WG2 report. In this session, we will present advances in quantifying and modeling risk reduction potential of coastal ecosystems with respect to coastal hazards, as well as tools*

	decision support system for integrated risk assessment • *Dr. Borja Reguero, University of California, Santa Cruz and The Nature Conservancy: Costs and benefits of using ecosystems to reduce coastal risks*	*utilized to integrate ecosystem related information in risk assessment and risk management planning and decision making. This will be followed by an open discussion with participants on current approaches and challenges to estimating the roles that ecosystems plays in reducing risk and enabling a consistent integration of ecosystem values in risk projections as well as comparing nature-based to other solutions in comprehensive risk management and resilience-building frameworks.*
11:00 – 13:30	**Understanding collaborative responses to climate resilience** Session held off-site: The British Library, 96 Euston Road, London NW1 2DB (Free spaces available on request, see below) *ClimateWise* *Free spaces are available on request by emailing: info@climatewise.org.uk*	*The aim of this workshop is to bring together ClimateWise members in an interactive session to share best practice around the role insurers can play in encouraging resilient risk management.*
12:30 – 13:30	**Index for Risk Management (InfoRM): Question and answer lunch session** Physics A1 *European Union - Joint Research Center (Open to public)*	*InfoRM is the first global, objective and transparent tool for understanding the risk of humanitarian crises. It is open to everyone and supported by major humanitarian and development organisations and national governments. InfoRM is currently in beta release, and is being validated and adopted by early adopting organisations. InfoRM will be released in November 2014.*
13:00 – 17:00	**Forecast–based disaster financing** Central House G01 *Red Cross / Red Crescent Climate Centre*	*This session will convene practitioners and scientists to discuss the use of weather and climate information to anticipate and prevent the humanitarian effects of natural disasters. Currently, disaster-related funding is overwhelmingly invested in disaster response and recovery, or long-term development and resilience. How can we help turn science-based forecasts of likely extreme events into actionable information that is actually acted upon? In an interactive discussion-based format, this session will simulate a proposed innovation in humanitarian and development financing to establish disaster funding mechanisms based on early warnings of disaster risk, before the post-disaster outcomes. In this game-based simulation, participants will interact to statistically model flood risk and the results of risk-based financing, discussing the opportunities and requirements to operationalize such a system. Drawing on case studies of this approach in Uganda, Togo, and Zambia, discussion will encompass a) communication of risk to disaster managers, b) selection of thresholds for disaster warnings, and c) practicalities of evaluating risk-based financing.*
13:00 – 16:30	**Learning from Crisis - Expert workshop** Session held off-site Building Centre, 26 Store St, WC1E 7BT (Invite only) *World Bank Institute, UCL & Willis Research Network*	*How do we confront, measure, plan, and learn from cities in crisis? As part of the launch for the "Learning from Mega Disasters" Report, the World Bank, Willis Research Network, and UCL are convening an expert panel to discuss these very challenges. Presentations further include experts from ARUP and Rockefeller's 100 Resilient Cities.*
16:30 – 20:00	**Learning from Crisis - Project launch & reception** Session held off-site: Building Centre, 26 Store St, WC1E 7BT (Invite only) *World Bank Group, UCL STEaPP & Willis Research Network*	*Following the workshop, the "Learning from Crisis" project launch and reception will take place with a roundtable discussion joined by distinguished mayors and ministers.*

14:00 – 17:00	**UNISDR Global Risk Assessment Partners Meeting**	UNISDR is hosting a Partners Meeting to discuss and evaluate (i) progress in terms of delivering the planned outputs for global risk assessment for the 2015 UN Global Assessment Report on Disaster Risk Reduction (GAR 15), (ii) dissemination plans for datasets, models, and outputs besides GAR platform, (iii) start planning for the next iteration of the global risk assessment from 2015 to 2019.
	Engineering Front Building Room 210 (Invite only)	
	UN Office for Disaster Risk Reduction	

Friday, July 4

09:00 – 17:00	**Requirements for Meteorological, Hydrological and Climate Services to Support Loss and Damage Data Collection and Risk Modeling**	A team of 15 leading technical experts from the World Meteorological Organization (WMO) will work with leading agencies to discuss how Country Meteorological, Hydrological and Climate Services can support enhancements to Loss and Damage Data Collection and Risk Modeling.
	Archaeology G6 Lecture Theatre (Invite only)	
	World Meteorological Organization	
09:00 – 17:00	**Open Data for Resilience Initiative: Tools & Simulation Training**	The training and simulation exercise will cover three tools frequently used as part of OpenDRI projects: 1) InaSAFE: a suite of intuitive web and desktop-based, open source tools aimed at helping decision makers understand risk both pre- or post-disaster based on existing hazard, exposure, and vulnerability data; 2) GeoNode: an open source platform that facilitates the creation, sharing and collaborative use of geospatial data; 3) OpenStreetMap: an open and editable online mapping tool, often called the "Wikipedia of Maps." The simulation exercise provides a basic introduction into the concepts and workings of each of the tools and demonstrates application in a DRM-planning context. As part of the simulation, participants will respond to a set of defined rules and act on the information given to them as they would in the real world, using the OpenDRI toolkit to guide decision making and their responses to the scenarios and options presented to them. Speakers include: Marc Forni
	Roberts G08 Sir David Davies Lecture Theatre	
	GFDRR	
09:00 – 17:00	**Disaster risk and earth system governance workshop**	The aim of the workshop is to jointly analyze and identify unanswered research questions on the coupling of Disaster Risk and Earth System Governance. The workshop will reconstruct the history of regime coupling and discuss the methodological challenges involved in studying this, both generally, and for the specific case of disaster risk and earth system governance. It is also necessary to study the role played by the scientific community and others in creating linkages between disaster risk reduction and climate change. Who did it and how? What were their roles in the different governance regimes? A further specific methodological issue that will be addressed is the way disasters can or cannot be attributed to climate change and how this problem of attribution can and has been tackled in practice.
	Session held off-site: ARUP, 13 Fitzroy Street, W1T 4BQ (Invite only)	
	Organised by the Task Force on Methodology for Earth System Governance Research, connected with the Norwich Conference on Earth System Governance and the UR Forum, UCL	
09:00 – 17:00	**Google Earth Engine and cloud platform for disaster risk modeling**	Learn about the Google Earth Engine geospatial analysis platform and other tools for mobile data collection, cloud computation, and map publishing, with a focus on their use for disaster risk modeling and visualization. This workshop will present examples of emerging projects and provide hands-on training for participants interested in harnessing the power of Google.
	Gordon House 106	
	Google	
09:00 – 12:00	**Monitoring changing riskscapes - Innovative tools for efficient earthquake**	*In this interactive workshop, attendees will receive practical information and*

	risk assessment Roberts G06 Sir Ambrose Fleming Lecture Theatre *CARLtd, GEM Foundation, GFZ, ImageCat*	*training on free tools and methods to rapidly and efficiently collect exposure data and monitor vulnerability. Attendees will learn how to integrate remote sensing and field data collection for risk assessment, so that risk practitioners and decision makers can follow changes in the so-called "riskscape". A disaster reduction game is also part of the workshop, to simulate and understand how GEM and SENSUM could best facilitate attendees' data and information needs pre- but also post-disaster. This cross-disciplinary event will benefit DRM professionals across many sectors, including disaster risk managers, technical experts, GIS analysts, governmental officers and emergency responders. Confirm participation via email and receive details: nicole.keller@globaquakemodel.org*
09:00 – 12:00	**Developing a probabilistic approach to cost-benefit analysis for investments to reduce disaster risk** Engineering Front Building Room 210 (Invite only) *World Bank*	*The goal is to create a user-friendly, web-based tool that will deliver approximate economic rates of return of disaster risk management (DRM) investments. The rationale for the tool is to systematically demonstrate the potential rates of return of investments in DRM projects.*
14:00 – 17:00	**Challenging and catalyzing innovation towards better evidence and tools to support disaster resilience in developing countries** Roberts G06 Sir Ambrose Fleming Lecture Theatre (Invite only) *UK Department for International Development (DFID), GFDRR and Research Councils UK*	*The starting point for improved disaster preparedness and resilience is to better understand risk. Over the past ten years, there has been a marked improvement in the availability of risk information, but many of the poorest and most vulnerable countries have been left behind. The demand for more robust, accessible, high-resolution and trusted risk data and analyses in these countries is rising. Emerging technologies and expertise provide an unparalleled opportunity to increase the accessibility of risk information to these countries and to revolutionize this sector. But, there are challenges to be overcome. How can we direct innovation toward addressing these challenges, while ensuring outputs are demand-led and allowing a space for completely new ideas? The UK Department for International Development (DFID), Research Councils UK (RCUK) and the Global Facility for Disaster Reduction and Recovery (GFDRR) are scoping a new initiative to catalyze innovation toward overcoming the challenges, to deliver new open data and tools to support decision makers in developing countries in better preparing for and building resilience to natural disasters. The purpose of this workshop is to seek your views on what is needed to catalyze existing initiatives and drive a step-change in the availability and accessibility of risk data and analytical tools in developing countries. We welcome your ideas and contributions on the following questions:* • *What are the main challenges that need to be overcome?* • *How might we best target a competitive challenge fund to support innovation in open risk data and modeling? What are the key challenges that should be addressed?* • *How can we catalyze existing initiatives to unlock their full potential to support disaster resilience and preparedness in the poorest and most vulnerable countries?* • *What partnerships should we seek to build to promote and enable greater accessibility of information through open data platforms?*