



京都大学 防災研究所  
Disaster Prevention Research Institute  
Kyoto University

特定研究集会  
2021C-04

# 第 11 回総合防災に関する国際会議 11<sup>th</sup> International Conference on Integrated Disaster Risk Management

令和 4 年 3 月  
March, 2022

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Coordinator Muneta Yokomatsu



# IDRiM2021

The 11<sup>th</sup> International Conference of the  
International Society for the Integrated  
Disaster Risk Management

Reviewing the Effectiveness of  
Integrated Disaster Risk  
Management Initiatives: IDRiM  
Saga from 2001 to 2021

22 – 24 September, 2021

<http://idrim2021.com/>

# IDRiM2021



I would like to welcome you to the 11<sup>th</sup> Conference of the International Society for Integrated Disaster Risk Management (IDRiM 2021). This year's conference is entitled "Reviewing the Effectiveness of Integrated Disaster Risk Management Initiatives: IDRiM Saga From 2001 to 2021." We had hoped that in 2021 we would be able to meet face-to-face. However, given the current world situation regarding the Covid-19 pandemic, we have decided to hold IDRiM2021 fully online.

IDRiM2021 celebrates 20 years since our founding members first discussed integrated disaster risk management at the first IIASA-DPRI Annual Forum on Integrated Disaster Risk Management in 2001, and 12 years since the official establishment of the International Society for Integrated Disaster Risk Management (IDRiM) in 2009. Since 2009, we have hosted IDRiM conferences annually in various countries around the world (including Austria, Italy, China, United States, Canada, the United Kingdom, India, Iran, Iceland, Australia and France) showcasing research and implementation cases studies, and promoting early-career scientists' work through the Young Scientist Sessions.

IDRiM2020 (now IDRiM 2021) was postponed by one year due to the extraordinary suffering and disruption to our daily lives caused by the Covid-19 pandemic; another type of disaster which continues to challenge our entire world. The interconnectedness of our social, economic, environmental and infrastructure systems has become starkly clear, and so have the disparities and inequalities among different social groups. The past two years thus become even more symbolic as they have highlighted the need for integrated approaches for tackling disaster risks, and their ripple effects through interconnected systems.

The aim of this year's conference is to provide an opportunity to review past and present IDRiM contributions to disaster risk reduction (DRR), and to discuss how we may address future challenges. Thus, we start the conference with a keynote plenary session by two of our founding members, Prof. Norio Okada and Dr. Joanne Linnerooth-Bayer, entitled, "20 Years of Integrated Disaster Research: Past Achievements and Future Directions", which sets the stage for further discussion.

The second keynote plenary session, which includes Dr. Qudsia Huda, from the World Health Organization (WHO), Dr. Stephane Hallegatte, from the World Bank (WB), and Dr. Stefan Hochrainer-Stigler from the International Institute for Applied Systems Analysis (IIASA), will address health emergencies and economic impacts of disasters, as well as the interdependency of risks. Altogether, the program includes 10 keynote presentations by prominent speakers and past conference awardees, followed by three plenary panel discussions.

Furthermore, the program includes 35 parallel sessions, and 4-parallel early-career scientists (YSS) sessions and an interactive discussion session. In putting the program together, the organizing committee has tried to allocate sessions during the different time zones that best fit the time zone of session chairs, presenters and participants. However, we are sorry if you may have to stay up late or get up very early to join the conference in your time zone.

Nevertheless, I hope this will not deter you from joining, and encourage you to actively participate in the discussions in all the sessions, provide constructive comments, particularly to early career scientists, and to join us for the General Assembly (non-members are also welcome), Awards ceremony and closing session.

Whether or not you are a member of the IDRIIM Society and have joined the IDRIIM conferences over the past years, I hope you will feel at home in this community of like-minded people, whose logo is: IDRIIM (I dream), you dream, we all dream of a better and safer world.

Finally, before closing, I would like to encourage you to become a member of the IDRIIM Society if you have not already done so, and together continue to promote integrated disaster risk management.

Thank you very much. Let us enjoy the conference.



Ana Maria Cruz  
President, IDRIIM Society

# IDRiM2021



Welcome to IDRiM2021!

We are very happy to welcome you to IDRiM2021, the commemorative conference to celebrate 20<sup>th</sup> year-anniversary of the academic conference on “Integrated Disaster Risk Management”. The first conference, IIASA-DPRI Annual meeting on Integrated Disaster Risk Management organized by IIASA and DPRI was held at IIASA, Laxemburg, Austria in 2001. In 2009, IDRiM Society was launched at Kyoto and in 2010 the first IDRiM conference was held at BOKU, Vienna, Austria.

At this conference IDRiM2021, we aim to deepen our understanding of the meaning and significance of our society. We intend to reaffirm our identity by looking back at our society’s activities and achievements, discussing strengths, weaknesses, opportunities and challenges at hand and that lies ahead to develop a strategic plan for our (IDRiM) society’s future. To achieve this goal, the carefully selected array of keynote presentations and plenary panel sessions will enhance our understanding of the society and its environments, and add stimuli to constructive discussions for society’s future.

At the end of the conference, there will be a comprehensive discussion session on the Strategic Plan, which is a result of the two years discussion and development by Strategic Planning Committee since 2019. We would like to express our sincere appreciation to the members of the committee which spent enormous amount of time and effort to develop a draft of the plan based on surveys distributed among the members of the IDRiM society and through SWOT analysis among committee members. We also thank the members of IDRiM Society who contributed to the survey by answering questions on current situations and future directions.

Furthermore, we have a wonderful list of presentations including keynote presentations by award winners and prominent researchers. Although, we would have enjoyed an in-person event with you, under the current circumstances of the COVID-19 pandemic, we have to limit our interaction to Zoom meeting. With your support, we will try our best to organize an enjoyable and a meaningful on-line conference.

Let’s work together to create a memorable conference in the IDRiM history.

Best regards,

A handwritten signature in black ink that reads "Hirokazu Tatano".

Hirokazu Tatano  
Local Organizer, Vice-President of the IDRiM Society

# Keynote Speakers



## Joanne Linnerooth-Bayer

Program Director of the Risk and Resilience (RISK) Program at IIASA, Austria

### ***Looking Back and Looking Forward; Looking Back and Looking Forward; Nature-based solutions for integrated disaster risk management***

#### Abstract

Looking back at the IDRIIM Society from its early beginnings as an IIASA-DPRI Forum on integrated disaster risk management, this presentation traces the development of the Society by examining the evolving interpretations of 'integrated'. It shows how 'interdisciplinary' and 'multi-hazard' has advanced to the present. Looking forward, 'integrated' will take on a whole new dimension to account for the global and existential risk drivers, including most prominently climate change and biodiversity. IDRIIM research must address not only how these drivers cascade to disasters and resilience, but also how society's efforts to reduce disaster losses (DRR) drive climate change and biodiversity loss. The presentation ends with an emphasis on nature-based solutions for DRR as an essential new direction for integrated disaster risk management.



## Norio Okada

Adviser to the Institute of Disaster Area Revitalization, Regrowth and Governance at Kwansei Gakuin University, Japan

### ***Two decade-long journeys of IDRIIM Society: Looking back and looking ahead***

#### Abstract

As a person who is responsible for keeping record of the whole process of IDRIIM Society, I take the pleasure to look back its two decade-long journeys, at this memorial point of our history. Let me take participants on a virtual tour of recalling what are considered as IDRIIM's major achievements. Some episodes and key figures who played significant roles at particular points in time will also be shared with the audience. I will also highlight several important notions, conceptual models and methods which I consider outcomes of our past activities and should serve us as a knowledge basis, with refinements and revisions further made.

Taking this moment, I also would like to look ahead of us and share with the audience a couple of my thoughts on the future of our society. I propose to introduce a new research perspective named "Persistent Disruptive Stressors (PDSS)," combined with an approach called "SMART Governance" and "Build Back Better, even Before Disasters (BBBB)." My emphasis will be placed on "Implementation" and "Implementation Science." The message is that in the next decade, we all should do our best to make "Implementation Science" a broadly accepted auxiliary science, at least, for integrated disaster risk management.

# Keynote Speakers



## Qudsia Huda

Head of Disaster Risk Management and Resilience Unit in the Health Emergency Program of World Health Organization Headquarters, Switzerland

### ***Health Emergency and Disaster Risk Management is Everybody's Business***

#### Abstract

All communities are at risk of emergencies and disasters, including those associated with infectious disease outbreaks, conflicts, and natural, technological and other emerging ones including impacts of climate change. In addition to contributing to excess and avoidable mortality and morbidity, hazards have cascading effects of social and economic consequences, disruption of essential services including health. The COVID-19 pandemic has been a glaring reminder that the sectors like health, economic, political and societal are interdependent regarding be impacted by any catastrophe. Such complex interdependencies between sectors warrant the joined actions to managing the risks and impacts of emergencies and disasters from all hazards at all levels of society. The health emergency and disaster risk management signifies a paradigm shift towards a risk-based, all-hazard, inclusive and multi-sectoral approach, based upon ethical principles and reiterate to implement and sustain the International Health Regulations to effectively prepare to manage the risks of event like COVID-19 pandemic and other concurrent risks. In view of that the Health Emergency and Disaster Risk Management was developed and launched at the 6<sup>th</sup> Global Platform for Disaster Risk Reduction. The Framework provides a common language and a comprehensive approach that can be adapted to the country and community context and applied by health and other sectors to take harmonized actions in reducing health risks and consequences of emergencies and disasters in light of global policies and strategies like Sendai Framework for Disaster Risk Reduction. The framework highlights the need for making emergencies and disasters risk management “a shared responsibility” and “everyone’s business” that builds on evidences and learning from good practices, including research and innovation.



## Stefan Hochrainer-Stigler

Senior research scholar with the Systemic Risk and Resilience (SYRR) research group at IIASA, Austria

### ***A Systems Dependency Perspective for Individual, Compound and Systemic Risks***

#### Abstract

New approaches for the assessment and management of individual, extreme and systemic risks are needed. We suggest that dependencies may act as one guiding principle not only for assessing such risks but also for evaluating risk management options. The two most extreme cases within the suggested systems dependency perspective are the independence and full dependency state, representing the two ends of the risk continuum. Such a perspective enables an integration of risk management strategies within a coherent framework across geographical and governance scales.

# Keynote Speakers



## Stephane Hallegatte

Lead economist of the World Bank Climate Change Group, USA

### ***The real economic impact of natural disaster: accounting for distributional impacts and implications for poverty***

#### Abstract

The impact of a disaster on a country or a community is often measured using one aggregate metric: the total cost of the physical damages. While relevant to estimate financial needs for the reconstruction, this single number hardly represent the impact on the poorest people and households, who suffer disproportionately from disaster but, because they own very little, experience little financial damages. This presentation will propose a different approach to measure the severity of disasters, based on microsimulations in which disaster impacts are represented at the household level. The presentation will use examples from multiple countries and disasters to illustrate the results and their policy implications. It will show how better accounting for distributional and poverty impacts affects (and improves) spatial prioritization of interventions (where to invest?) and the sectoral prioritization of interventions (in which sector to invest?).



## Ilan Noy

Climate Change at Victoria University of Wellington, New Zealand

### ***Inequalities in Climate Change-Fueled Flooding during Hurricane Harvey in Harris County, Texas: A climate change attribution study***

#### Abstract

How climate change will impact social inequalities especially in an era with more frequent and more severe extreme weather events is a critical topic of social research. Parallel to this work is scientific research on climate change attribution that seeks to directly disentangle the share of extreme weather events that occurs because of climate change. Using a relational environmental inequality perspective, we carry out a novel analysis using climate change attribution science to assess if and to what extent socio-spatial inequalities are found in flooding during Hurricane Harvey in Houston, Texas. Our results show that a majority of parcels had climate change-related flooding including a subset of properties that experienced greater than 1 foot of flooding from climate change alone. These impacts were unequal: they were most acutely felt in Hispanic neighborhoods and on multi-family properties. Our conclusions point to how climate change can accentuate social inequalities.



# Keynote Speakers



## William Siembieda

City and Regional Planning at California Polytechnic State University, USA

### ***Deconstructing cascading disasters: improving our understanding of interacting and interconnected risk***

#### Abstract

What are cascading disasters? As common for terms in the complex field of risk governance, there are several definitions including a non-linear sequences of disruptive events governed by cause–effect relationships that unfold over time. In cascading disaster’s significant disruptive events form in communities over days, months, and even years rather than during the duration of a triggering initial event. Whether slow forming or rapidly forming, what can we learn from examining how cascading disasters happen and how to better understand interacting and interconnecting risk? In order to design more robust risk reduction schemes, moving from single event (single shot) analysis to multi-event analysis opens up ways to understand interactions between and among vulnerabilities.

Cascading disasters have been discussed since the 1980’s, mostly in regard to seismic and geotechnical events. Now, the concepts of convergence and complementarities with interacting and interconnecting risk are now entering the discussion through the lens of climate change and system/network analysis. One finding of new thinking reveals that a secondary or tertiary event in a cascading sequence may contribute most to overall human and physical damage. This tells us to look closely at what and who is vulnerable within closely knit systems. Examples from the California 2018-2021 wildfires and Puerto Rico’s hurricanes help to illustrate how to deconstruct cascading disasters, and to explore how interacting and interconnecting risks work at local and regional levels.



## Hirokazu Tatano

Disaster Prevention Research Institute, Kyoto University, Japan

### ***Economic Impact Assessment of Disasters: current status and future challenges***

#### Abstract

Economic impact assessment of disasters (EIA) is a growing area of disaster sciences. According to Scopus, over a hundred of articles are published in a year after 2020. The purpose of the EIA and major methodologies will be summarized and the current achievement are shared at the presentation. Although a variety of methodologies to measure economic impact of disasters are developed, the EIA especially for indirect loss assessment was or may have still been in imaginary situation because we cannot observe the economies of affected areas by a disaster under the condition that the disaster did not took place at the areas. Validation efforts are critical and collection of data and evidences to support the validity of methodology is important. From this view point, efforts have been making until now and should continue in the future can be illustrated.

# Keynote Speakers



## Mohsen Ghafory-Asthiany

Earthquake engineering and risk management at International Institute of Earthquake Engineering and Seismology (IIEES)

### ***Future challenges for effective implementation of Disaster Risk Science***

#### Abstract

It has been more than two decades, that IDRiM implementation oriented science objective has been launched with many initiatives for risk reduction and achieving resilience cities. It is time to analyze our achievements and define our future challenges.

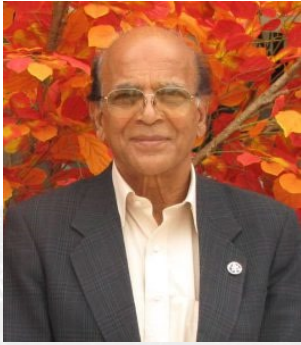
The hardest and most challenging step in implementation of reaching a resilient nation, is to mainstream the science and know-how into policy, planning and decision making process with visible social and economic benefit. Main challenges of this step (in many countries) is coordination, collaborations and linkages among all players for risk reduction with the win-win objectives for all stakeholders. This paper intends to propose a system and Nexus approach for effective implementation and integration of our know-how into the safe and resilience development process, as a way forward.

Achieving disaster resiliency, is a complex issue that requires all elements and sectors of a society and government work together and solving a complex system with nexus thinking. In the Nexus system we all have one objectives and all have to tune their work to that directions with the win-win objectives for all stakeholders. The future direction requires holistic integration process to be implemented gradually in 4 steps:

1. Paradigm shift in Disaster Risk Management and creating synergy between sectors;
2. Creating cooperation within main sectors (Government, scientist and experts, financial market, city officials and regulatory bodies, developers and owners, and people);
3. Integrate all sectors in one system with inter and transdisciplinary cooperation and implementation, since the emerging risk in our very complex in the complex world for a single entity or discipline to solve it; and
4. Creating Nexus integration of all sectors. This is the principal of good governance, where the elements of a system should work together in order to solve the complex problems of being safe against natural disasters.

In conclusion, an effective implementation science with system approach should identify the most effective action that provides most simplified, understandable and doable, culturally acceptable instructions with visible effect on achieving safe and resilience progress and development.

# Keynote Speakers



## **Bijay Anand Misra**

School of Planning and Architecture New Delhi, India

### ***The Expanding Realm of IDRiM : Perception & Decision Making; Prospects & Benchmark Action in the Changing Global Disaster Risk Scenario***

#### Abstract

New dynamic changes and challenges in the global DRR scenario are compelling search for new perspectives for IDRiM. The reality is, it is common to observe globally that climate change impact and the related disaster risk is largely exacerbated by inadequate and weak international cooperation policies between the rich and poor countries and also unabated human unplanned development. Direct result, we experience all over now the increased severity and frequency of devastating global hydro and weather related floods, landslides, sea level rise, extensive draughts & wildfires disasters world wise. 2020 added the new global challenge caused by the global Covid-19 pandemic, the worst health and economic disaster in modern history of crisis. The dynamic changes in the disaster risk scenario, expectedly, heightened the global conflict scenario deeply threatening building peace. The sudden and huge changes in the disaster risk scenario cause crisis and emergency conditions that often outweigh the capability of most governance systems to respond. Millions everywhere struggle for survival particularly the most vulnerable are the worst victims. Political parties in several countries in conflict to gain from the new power play while the governments are struggling hard for a way out. Cascading chain impact of this fast changing scenario is totally un-precedent and un-predictable because there is no relevant past data to follow. Governments, business houses and field actors in many countries looking for lead to evolve action strategy to expressly respond to crisis and emergency conditions both in the short term and long term. In the context, action strategy should have the rationality for quick action and encompassing perspective for cascading risk scenario. Pressing task before the low-income developing societies for sustainable progress in development is not only to revive the economy but also strengthen fast the social delivery systems especially health care, food and nutrition, education and awareness and care for the most vulnerable to reduce human suffering. Thereby prevent escalation of social conflict conditions at the local/ community levels and help build peace. IDRiM mission cannot be relevant while ignoring to contribute to reduction of human suffering for millions in the changing scenario.

The contextual need urges IDRiM mission to expand its realm incorporating deeper understanding of the new and dynamic socio-economic challenges, gain better operational knowledge about risk and emergency management at different levels of governance and a wider perspective to prevent conflict and build peace at the local and community levels. The presentation focuses on shift of paradigm and perspectives in IDRiM in the context and attempts to better understanding about the constructs of crisis and emergency management while suggesting new dimensions for perception of the kinetic field of action and the necessary shift in paradigm.

# Programme (UTC)

	10:00 10:30	<p style="text-align: center;"><b>Opening Ceremony</b></p> <p style="text-align: center;">Welcome : <i>Ana Maria Cruz</i> , President, IDRiM Society, DPRI, Kyoto University</p> <p style="text-align: center;">Greeting : <i>Eiichi Nakakita</i> , Representative of Local Host, Director of DPRI, Kyoto University</p> <p style="text-align: center;">Overview explanation : <i>Hirokazu Tatano</i> , Head of IDRiM2021 Local organizer, DPRI, Kyoto University</p>					
	Break						
22nd Sept		<p><b>Session 1-1</b> Flood risk management Chair : <i>Xu Wei</i></p>	<p><b>Special Session 1</b> Chair: <i>Subhajyoti Samaddar</i></p>	<p><b>Session 1-2</b> Human behavior, risk perception and DRR Chair : <i>Tomohide Atsumi</i></p>	<p><b>Special Session 2</b> How to identify the structure of cascading effects and develop scenarios toward effective emergency management? Chair : <i>David Alexander</i></p>	<p><b>Special Session 3</b> Gender equity, diversity and inclusion in disaster risk science and practice: A networking session Chair : <i>Funa Atun-Girgin</i></p>	<p><b>Special Session 4</b> New advances in measuring, modelling and managing Systemic Risks Chair : <i>Stefan Hochrainer-Stigler</i></p>
	<p>Design Rainfall for Flood risk assessment: A multivariate method using high dimensional vine copulas <i>Xinyu Jiang</i></p>	<p>Framework for assessing integration in flood risk management: Application in England <i>Lydia Cumiskey</i></p>	<p>Enhancing DRR through effective risk Communication using dynamic risk assessment tool for Institutions at local level <i>Sumedh Patil</i></p>	<p>Modeling Cascading Effects of Disasters: CIA-ISM approach <i>Shingo Nagamatsu</i></p>	<p>A Cross Cultural Understanding of Work Life Balance during the Pandemic <i>Madhumita Chatterji</i></p>	<p>Estimating indirect disaster losses by coupling a catastrophe model with an agent-based model at a high resolution <i>Sebastian Poledna</i></p>	
	<p>Spatial Contribution of Flood Risk Analysis (COSPARIN for Contribution du Spatial à l'Analyse du Risque Inondation) <i>Guillaume Lahache</i></p>	<p>Natural Hazards by Applying Social Vulnerability Index: A Case Study of Southwest Coastal Bangladesh <i>Md. Riad Hossain</i></p>	<p>Consideration on Public Assistance to Widely Spread Evacuees Caused by the 2011 Fukushima Nuclear Power Plant Accident <i>Ryosuke Aota</i></p>	<p>Designing a Cascading Disaster Network Using Natural Language Processing <i>U Hiroi</i></p>	<p>Social vulnerabilities and disaster risk perceptions in Japan <i>Irene Petraroli</i></p>	<p>Transformation needs for systemic risk management <i>Teresa M. Deubelli</i></p>	
	<p>Impacts of Scarcity of Datasets in Flood Forecasting Using Xinanjiang Model <i>Zin Tun</i></p> <p>Building urban resilience through effective flood risk management, using innovative solutions <i>Shabaz Khan</i></p> <p>Early Warning Filter and Square Pyramid Model <i>Kensuke Takenouchi</i></p>	<p>Psychosocial response to risk mitigation land use planning in Iceland <i>Stephanie Alice Matti</i></p> <p>Zoning Strategy and situational revisions of the master plan for disaster risk reduction: A case study Patna Metropolitan Area <i>Uttam Kumar Roy</i></p> <p>Diffusion and Implementation of a DRR Innovation through Hearing, Observation and Discussion Networks <i>Subhajyoti Samaddar</i></p>	<p>Living with landslides: perceptions of risk and resilience in Far West Nepal <i>Juliette Martin</i></p> <p>International Standard for Counter Trafficking in Disasters: An Integrated Disaster Risk Management Approach <i>Matt Dorfstaetter</i></p>	<p>Managing Cascading Disasters and Interdependencies: London's case <i>Gianluca Pescaroli</i></p> <p>Identifying the cascading effects caused by a large-scale flood: A case of a low-lying area in Tokyo <i>Yuto Shiozaki</i></p>	<p>The challenges achieving UN SDG 5 on Gender Equality during COVID-19 pandemic <i>Angeli Medina</i></p> <p>Women Saving the World: Representations of Female Practitioners in Disaster Films <i>Ashley Allen</i></p> <p>Disaster as a window of opportunity for whom? Winners and losers of disaster recovery in Greece <i>Miranda Dandoulaki</i></p> <p>Backsliding of Gender Equality during the COVID-19 Pandemic in the United Kingdom <i>Mark Ashley Parry</i></p>	<p>Systemic Risk and Network Dynamics <i>Stefan Hochrainer-Stigler</i></p> <p>Governance of Systemic Risks – Lessons from the COVID-19 Pandemic <i>Pia-Johanna Schweizer</i></p>	

12:50 13:50	<p align="center"><b>Keynote Speech 1</b> MC: <i>Elisabeth Krausmann</i></p> <p align="center">"20 Years of Integrated Disaster Research : Past Achievements and Future Directions"</p> <p align="center">Two decade-long journeys of IDRiM Society: Looking back and looking ahead</p> <p align="center"><i>Norio Okada, Kwansei Gakuin University, Japan</i></p> <p align="center">Looking back and looking forward; Looking Back and Looking Forward; Nature-based solutions for integrated disaster risk management</p> <p align="center"><i>Joanne Linneroth-Bayer, Program Director of the Risk and Resilience (RISK) Program, IIASA, Austria</i></p>			
	Break			

14:00 15:30	<p align="center"><b>Panel Discussion I</b></p> <p align="center">"Looking back for 20years of IDRiM"</p> <p align="center">Moderator : <i>Ana Maria Cruz</i></p> <p align="center">Panelis: <i>Andrew Collins, Bijay Anand Misra, Mohsen Ashtianny, Adam Rose, Hirokazu Tatano, Peijun Shi</i></p>			
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YSS - Oral Presentation					
	Room1 Chair : <i>Muneta Yokomatsu</i>	Room2 Chair : <i>Mark Ashley Parry</i>	Room3 Chair : <i>Wei Xu</i>	Room4 Chair : <i>Hamilton Bean</i>	
22nd Sept	Investigating the use of Nudges for Disaster Risk Reduction efforts in Japan <i>Luiza Culau</i>	Flood mitigation analysis with Low Impact Development technologies based on Urban Planning scenarios using SWMM: A case study in Saitama city, Japan <i>Shun Uchiyama</i>	Cliometric analysis with a pareto frontier of urban planning after the Chile tsunami <i>Satoki Matsuda</i>	Analysis of Regional Response to "Special Early Warning Information" on the Nankai Trough Earthquake <i>Takashi Sugiyama</i>	
	Out Migraiton and Community Climate Resilience in changing climate in Mountain Watershed in Nepal <i>Deepak KC</i>	Understanding the impact of UHI (Urban Heat Island) and water stress on Vulnerability through spatial data analysis <i>Piyush Kumar</i>	Impact estimation of flooding in Enshi City based on the mixed-multiregional I-O model <i>Xinyi Lei</i>	More evidence on the risk elicitation puzzle: Can locus of control help out where most other measures of risk attitudes cannot? <i>Thomas Dudek</i>	
	A Workshop for Managing "When-to-do" Conflicts in the Recovery Period after a Large-scale Earthquake <i>Yu Matsubara</i>	Identifying Loss Spreading Path of Flood Disaster Based on Complex Network Analysis <i>Yuan Fang</i>	Estimating Post-disaster Recovery Process in Industrial Sectors: A Case Study of the 2011 Great East Japan Earthquake <i>Huan liu</i>	Matching Methods for Studying Causal Effects of the Flood Hazard Map on Population <i>Xiaoyi Zhao</i>	
	Estimation of industry and regional impact of COVID-19 Pandemic in China based on A Mixed IRIO Model considering backward linkage effect <i>Xinge Wang</i>	Heatwave-related health impacts in Japan <i>Deng Ke</i>	Mapping earthquake-affected populations based on multi-source data and machine learning <i>Xiaoyan Liu</i>	Constructing Functional Fragility Curve for Business Sectors in the Situation of Extraordinary Floods— A case study of Enshi City "7.17" Flood Disaster <i>Xueying Ma</i>	
	Comparative History of Cities with Frequent Disasters: Morphological Transformation and Urban Planning after Catastrophic Tsunami and Flood Disasters <i>Rena Koseki</i>	Fiscal Impacts of Hurricanes and CCRIF in Caribbean and Central American Countries <i>Qinhan Zhu</i>	Detecting Anomalies in Volcanic Ashfall Forecast during Large Eruptions for Better Early Warning Policies <i>Haris Rahadiano</i>	Social Rituals and Transition of Identity: A Game Theoretic Approach to a Behavioral Analysis Under the COVID-19 Pandemic <i>Satomi Tsugagoshi</i>	
	Building Hospital Resilience to Infectious Diseases Risk through Intensive Cohort Monitoring. The case of Prevention of Mother to Child Transmission (PMTCT) of HIV at 10 High Volume Sites in the Centre Region of Cameroon. <i>Reine Suzanne Kadia</i>	Hydrometeorological Disaster Risk Analysis in the Upper Indus Basin, Pakistan by Using a Global Climate Dataset <i>Sadaf Ismail</i>	Rapid and Accurate System of Building Damage Investigation Using Automatic Method to Calculate Roof Damage Rate <i>Shono Fujita</i>	Research on the natural dissemination model of disaster warning information on online social networks <i>Anying Chen</i>	
	21:00 22:10				

		<b>Room1</b> Chair : <i>Muneta Yokomatsu</i>	<b>Room2</b> Chair : <i>Mark Ashley Parry</i>	<b>Room3</b> Chair : <i>Wei Xu</i>	<b>Room4</b> Chair : <i>Hamilton Bean</i>
22nd Sept	21:00	Rethinking the Build Back Better Initiative in Post Disaster Relocation and Rehabilitation. <i>Nombulelo Ngulube</i>	Integration of DRR in development of Hilly Regions – case of Kullu, Himachal Pradesh <i>Namit Varma</i>	Regional Recovery of Multi-Infrastructure Systems – Progression and Timelines <i>Andrew Deelstra</i>	Mosques in Japan Responding to COVID-19 Pandemic: Infection Prevention and Support Provision <i>Mari Tamura</i>
	22:10	Identifying Vulnerable Regions and Sectors to Flood Disaster in Hubei Province using Mixed MRIO Model and Numerical Simulation <i>Yue Lin</i>	Recovery time of enterprises after flood disaster: An empirical study of Enshi flood 2020 using survival analysis model <i>Yan Liu</i>	A Serious Game for Natech Awareness and Chemical Risk Information Disclosure <i>Dimitrios Tzioutzios</i>	Assessment of Community Concerns after Lombok Earthquake using Social Media Narratives <i>Tyanita Wardhani</i>
		Identities in disasters: implications for governance <i>Lowine Hill</i>	Climate Change Impact and Adaptation to Coastal Flooding in Osaka bay, Japan <i>Si Ha</i>		A case of Current Situation and Issues of Information Pieces and Blanks in Disaster Information Collection by Local Governments <i>Kazushiro Yoshimori</i>
	22:10 23:00	<b>YSS - Interactive session (@ Breakout room)</b>			
	Individual breakout room				
	Break				
23rd Sept		<b>Session 2-1</b> Disaster education Chair : <i>Hideyuki Shiroshita</i>		<b>Special Session 5</b> Making Resilience Measures Innovative based on Infrastructure Resilience Framework Chair : <i>Masamitsu Onishi</i>	<b>Special Session 6</b> Economic Analyses of Risk Reduction, Recovery Policies and Growth Chair : <i>Muneta Yokomatsu</i>
	23:00 01:00	Innovation in Education for Disaster Risk Reduction after the Great East Japan Earthquake and Tsunami <i>Keunyoung Pak</i>  Report on the Implementation of ICT-based Heavy Rain Disaster Learning for Elementary School Children <i>Masaki Ikeda</i>  The application "Disaster Reduction School" to provide disaster prevention support for foreigners in Japan <i>Lyu Hongxiao</i>  Conceptualising 'disaster education' <i>Kaori Kitagawa</i>		Overview of Infrastructure Resilience Framework <i>Craig Davis</i>  Structural Engineering Aspects of Resilience Based on Infrastructure Resilience Framework <i>Yoshikazu Takahashi</i>  NIST Community Resilience Planning Guide <i>Therese McAllister</i>  Networks within Networks: Scaling Response Operations in the Lightning Complex Fires in Northern California, August 2020 <i>Louise Comfort</i>	The interplay of aggregate demand and saving constraints in small island economies: towards an integrated catastrophe-macroeconomic modelling framework <i>Nepomuk Dunz</i>  Regional Science and Peace Science in Disaster Management Research <i>Manas Chatterji</i>  The Cost Effectiveness of Economic Resilience <i>Blain Morin</i>  How Shocks Affect International Reserves? A Quasi-experiment of Earthquakes <i>Quy Ta</i>  A Multi-hazard Growth Model of Disaster Risk Management - Triple Dividends of Risk Reduction Investment and Financial Contracts <i>Muneta Yokomatsu</i>

Break

		Session 3-1 Sustainable development and DRR Chair : <i>Simron Singh</i>	Session 3-2 DRR tools and techniques Chair : <i>Vaishali Nandan</i>	Session 3-3 Understanding local issues of DRR Chair : <i>Florence Lahournat</i>	Session 3-4 Addressing interconnections, chain effects / cascading disasters Chair : <i>Makoto Okumura</i>	Session 3-5 The Coronavirus Pandemic Institutional Impacts and International Cooperation Chair: <i>James Goltz</i>
23rd Sept	01:10 03:00	Geographically Weighted Regression analysis to support tourism-sensitive tsunami mitigation planning <i>Yasmin Bhattacharya</i>	Diverse uses of Nigere, a smartphone application for tsunami evacuation drills <i>Fuhsing Lee</i>	Population Exposure of People in Need of Evacuation Assistance in Flooded and Landslide Hazard Areas. A Case Study in Gifu Prefecture, Japan <i>Maki Koyama</i>	Spatial-temporal Patterns and Influencing Factor Contributions of Casualties from Global Land Destructive Earthquakes in the World (1970 - 2019) <i>Hu Xiaokang</i>	「Yonmenkaigi System Method(YSM) for Muslim」—Thinking about needs for minority victims in multicultural collaboration society during COVID-19 pandemic— <i>Natsumi Itoya</i>
		Strengthening urban resilience through green building <i>Sunitha Ashok Menon</i>	A Framework for Disaster Risk Management targeted to Risk Sensitive Land-Use Planning <i>Abbas FathiAzar</i>	Status and challenges of disaster preparedness among community-dwelling older adults in Japan. The JAGES Cross-Sectional Study <i>Rika Ohtsuka</i>	Earthquake disaster chain in Plateau and its countermeasures <i>Peijun Shi</i>	International Collaboration among Citizens against the Spread of COVID-19 <i>Tomohide Atsumi</i>
		Impact of Droughts on Banks' Non-Performing Loans: A Study of Banks' Agricultural Loan Portfolio <i>Shabana Kamal</i>	Evacuating vulnerable people during a tsunami disaster in Japan: An experiment using wheelchairs <i>Nobuhito Ohtsu</i>	A Study on Awareness Regarding Eco-feminism at Two Villages in Purulia District of West Bengal, India <i>Debkalpa BasuDas</i>	Need to use system thinking approach to achieve safe and affordable housing <i>Amir Shahmohammadian</i>	Recovery process of Chinese enterprises in the COVID-19 context: Evidence from multi-state models <i>Lijiao Yang</i>
		Disaster Risk Reduction, amid Urban Intensification, investigated through the Optimal Land-Use Model <i>Fuko Nakai</i>	Parallel World Information Management in Crisis Response <i>Michinori Hatayama</i>	The Unintended Effect of Descriptive Norms on Various Kinds of Disaster Preparation <i>Taku Ozaki</i>	Secondary stress effects on spatial distribution of 2017-2019 western Iran sequence <i>Hamid Zafarani</i>	Development of mutual support created by correspondence between senior citizens and students during COVID-19 <i>Yuehan Tao</i>
						Disaster Risk Governance and Hospital Safety in India <i>Disha Dwivendi</i>

Long Break

23rd Sept		<b>Session 4-1</b> Current issues and actions in flood risk management Chair : <i>Xinyu Jiang</i>	<b>Session 4-2</b> Integrated Disaster Risk Reduction Chair : <i>Katsuya Yamori</i>	<b>Special session 7</b> Building Resilient Urban Communities (BReUCom): Case studies from India Moderator : <i>Funda Atun-Girgin, Javier Martinez</i>	<b>Session 4-3</b> Economics of Disaster Chair : <i>Junko Mochizuki</i>	<b>Session 4-4</b> Issues in and Mechanisms for Epidemic Disease Management Chair: <i>Angeli Medina</i>	<b>Special session 8</b> Participatory Research in Humanities and Social Sciences - an initiative to open up IDRiM transdisciplinary dialogue- Chair : <i>Norio Okada&amp; Ilan Chabay</i>	
	9:00 11:00	Analysis of Site Assignment in Broad Evacuation Plan against Large-scale Flood and Storm Surge <i>Eizo Hideshima</i>  Construction and Demolition Waste, an unnoticed cause of Urban Flooding <i>Liju Mathew</i>  Testing Public Interventions for Flash Flood Evacuation through Environmental and Social Cues: The Merit of Virtual Reality Experiments <i>Toshio Fujimi</i>  Finite Pool of Worry for Climate Change – Does it really exist? <i>Mark Ashley Parry</i>	Disaster risk reduction reconsidered <i>Caroline Russell</i>  BECAUSE-type Co-learning Practice for Enhancing Local Disaster Resilience <i>Hideyuki Kamimera</i>  Overview of 20 years of research and initiatives in the field of disaster risk reduction in France <i>Myriam Merad</i>  Vulnerability and resilience in post-disaster temporary housing: An integrated approach <i>Lucia Savadori</i>  Grounding resilience through transdisciplinary risk mapping rooted on building codes <i>America Bendito</i>  Catapulting nature onto the agenda: opportunities and barriers of nature-based solutions <i>Juliette Martin</i>	Co-Production Through Tacit Knowledge for Water Resilience <i>Rama Umesh Pandey</i>  Socio-Ecological Resilience of Peri-Urban Coastal Areas. Climate Change and its impact on Urban Peripheries of Mumbai <i>Sandeep Balagandharan Menon</i>  Low-income residents' strategies to cope with urban heat - Findings from India and Austria <i>Faiz Ahmed</i>  Green and Blue Infrastructure (GBI) for Climate Responsive Planning- A Case of Navi Mumbai City, India <i>Adinarayanane Ramamurthy</i>  Role of Cultural Heritage in Conservation of Natural Environment amongst the Indigenous Communities of Kullu Region, Himachal Pradesh, India <i>Minakshi Jain</i>  Increasing Children's Awareness of Flood Risk: Panju Island, Mumbai, India <i>Funda Atun-Girgin</i>	Demand for fixed-price multi-year contracts: Experimental evidence from insurance decisions <i>Thomas Dudek</i>  Development of Business Interruption (BI) Curves for SMEs after the 2017 Earthquake in Sarpol-e Zahab, Iran <i>Masoud Khamisabadi</i>  New Zealand firm investment following the Canterbury earthquake sequences 2010-2011 <i>Quy Ta</i>  Model Diagnosis, Socio-Economic Impacts and Complex Future Operations using special Integrated Sector Models combining Systemic Risk Analysis and Reachback Operations <i>Stefan Pickl</i>	Resilience against Pandemics through Urban – Rural Linkages <i>Shreya Joshi</i>  Some lessons from the COVID-19 crisis in the French context: crisis governance and science-based decision-making <i>Baptistine Gourdoon</i>  Probabilistic Estimation of the Spread of COVID-19  Considering the Vaccination and Social Distancing <i>Mojtaba Mahsuli</i>	Introduction: <i>Yoshiyuki Yama, Norio Okada</i>  Presentation: Resilience in a Collaborative Ethnography of Disaster <i>Yuichi Sekiya</i>  Some remarks on sediment hazard risk management from the archaeological viewpoint <i>Makoto Tomii</i>  Improving governance of systemic risk with insights from community narratives <i>Ilan Chabay</i>	
	Break							
	11:10 12:10	<b>General Assembly</b> MC: <i>Hirokazu Tatano</i> Chair : <i>Ana Maria Cruz</i>						
	Break							



23rd Sept	12:20 13:20	<p align="center"><b>Keynote Speech 2</b> Chair: <i>Andrew Collins</i></p> <p align="center">Making Health Emergency and Disaster Risk Management as Everybody's Business <i>Qudsia Huda, Head of Disaster Risk Management and Resilience Unit in the Health Emergency Program, World Health Organization Headquarters, Switzerland</i></p> <p align="center">The real economic impact of natural disaster: accounting for distributional impacts and implications for poverty <i>Stephane Hallegatte, lead economist of the World Bank, USA</i></p> <p align="center">A Systems Dependency Perspective for Individual, Compound and Systemic Risks <i>Stefan Hochrainer-Stigler, senior research scholar with the Systemic Risk and Resilience (SYRR) research group, IIASA, Austria</i></p>
	Break	

23rd Sept	13:30 14:30	<p align="center"><b>Panel Discussion II</b></p> <p align="center">"Explore areas that are important but not yet fully addressed"</p> <p align="center">Moderator : <i>Ilan Chabay</i></p> <p align="center">Panelists : <i>Qudsia Huda, Liping Fang, Yoshiyuki Yama, Stefan Hochrainer-Stigler, Myriam Merad, Stepane Hallegatte</i></p>
	Long Break	

23rd Sept	22:00 23:00	<p align="center"><b>Keynote Speech 3-1</b> Chair: <i>Yoshio Kajitani</i></p> <p align="center">Inequalities in Climate Change-Fueled Flooding during Hurricane Harvey in Harris County, Texas: A climate change attribution study <i>Ilan Noy (2019 Research Award Winner), Victoria University of Wellington, New Zealand</i></p> <p align="center">Cascading disasters: improving our understanding of interacting and interconnected risk <i>William Seimbieda (2019 Implementation Science Awardee), California Polytechnic State University, USA</i></p> <p align="center"><i>Hirokazu Tatano (2020 Research Award Winner), DPRI, Kyoto University, Japan</i></p>
	Break	

24th Sept	23:15	<p align="center"><b>Session 5-1</b> Hazards, Exposure, and Vulnerability Chari : <i>Fuko Nakai</i></p>	<p align="center"><b>Session 5-2</b> Implementation science Chair : <i>Ilan Noy</i></p>	/	<p align="center"><b>Special Session 9</b> Mobile Public Alert and Warning in the United States and Japan: Exploring Shared Challenges and Key Differences Chair : <i>Hamilton Bean</i></p>	<p align="center"><b>Session 5-3</b> Regional Covid Response and Recovery Chair : <i>Lijiao Yang</i></p>
		<p>Quantitative Prediction of Outburst Flood Hazard of the Zhouqu "8.8" Debris Flow-Barrier Dam in Western China <i>He yi Yang</i></p> <p>Study of population exposure to extreme heat and the prediction of disaster index in Xi'an <i>Wenqian Yang</i></p> <p><i>(Continuted)</i></p>	<p>Maintaining vigilance is critical and challenging for disaster risk management: it offers lessons in implementation science; Part I: some general observations <i>Rob Goble</i></p> <p><i>(Continuted)</i></p>		<p>Panelists</p> <p><i>Ana Maria Cruz</i></p> <p><i>Mika Shimizu</i></p> <p><i>Keri Stephens</i></p> <p><i>Matthew McGlone</i></p>	<p>Quantifying COVID-19 recovery through human mobility: A case study of Wuhan <i>Xiaoyan liu</i></p> <p>Managing the risks of the Coronavirus pandemic : the case of the Mediterranean island of Menorca <i>Maria Casado</i></p> <p><i>(Continuted)</i></p>

24th Sept	3:30	(Continued)  Landslide hazard knowledge and risk perception in mountainance community in Japan – Case study on Matsunoyama village <i>Uditha Dasanayaka</i>  The illusion of "big data" as a magic solution to improve disaster risk prevention processes <i>Myriam Merad</i>	(continued) Maintaining vigilance is critical and challenging for disaster risk management: it offers lessons in implementation science: Part II: SMART governance can bridge the gap between two types of vigilance: Evidence concerning implementation <i>Norio Okada</i>  Open Science in Seismology: The Role of Citizen Science in the Transition from Seismic Observatory to Science Museum <i>Katsuya Yamori</i>  Thinking Service Design for Improvements in Emergency Preparedness and Response: Cases from Pakistan (Lahore, the Punjab and Azad Jammu and Kashmir, AJK) and the International Emergency Team UK' <i>Richard Kotter</i>  Chained visual ethnography for the diverse reality of action research <i>Genta Nakano</i>		(continued)  Responding to Future Compound Disasters: Consideration from COVID-19 Cases in Japan's Urban Areas <i>Yohei Chiba</i>  COVID-19 Pandemic: A Toll on Southeast Asian Economy and Public Health <i>Angeli Medina</i>
		Break			

9:00	<b>Session 6-1</b> New insights based on disaster econometrics Chair : <i>Yoshio Kajitani</i>	<b>Session 6-2</b> Disaster Recovery and Build Back Better Chair : <i>William Siembieda</i>	<b>Session 6-3</b> Culture / society and disaster risks Chair : <i>Kaori Kitagawa</i>	<b>Session 6-4</b> Disaster risk governance Chair : <i>Uttam Kumar Roy</i>	<b>Special Session 10</b> Integrated natural disaster risk in the highly-elevated areas: chain effects/cascading events in a changing climate Chair : <i>Ye Tao</i>
	A REIMAGINED SUPPLY CHAIN DURING THE KERALA FLOODS OF 2018 AND THE CHALLENGES WITHIN (A function of Exacerbated Challenges and Emergent Crises) <i>Pranav Sujay</i>  (continue)	The effects of managed retreat (red zoning) on the relocated households in New Zealand <i>Thoa Hoang</i>  Transition of Post-disaster Housing of Rural Households: A Case Study of the 2015 Gorkha Earthquake in Nepal <i>Hitomu Kotani</i>  (continue)	Perspectives in disaster memory and material culture: Flood-level markers as a tool for disaster awareness? <i>Florence Lahourmat</i>  Incorporating indigenous concerns to disaster research and management: reclaiming knowledge from national digital records <i>Sally Owen</i>  (continue)	The Noah's Ark effect: Radicalization of social meanings introduced to disaster preparedness by massive tsunami estimation <i>Hiroaki Daimon</i>  Resilience to Climate Change and Sustainability: Case Study of East Kolkata Wetlands <i>Meghna Guha</i>  (continue)	Increased dust aerosols in the high troposphere over the Tibetan Plateau from 1990s to 2000s <i>Xingya Feng</i>  Landslide-lake outburst floods accelerate downstream hillslope slippage <i>Wentao Yang</i>  (continue)

24th Sept	11:00	(continued)	(continued)	(continued)	(continued)	(continued)	
		Structure Decomposition of Annual Disaster Impact Statistics Twelve Years for 47 Japanese Prefectures <i>Makoto Okumura</i>	Post-Earthquake Housing Reconstruction in Likhu Tamakoshi Rural Municipality: Lessons to be Learned <i>Bijaya Shrestha</i>	Exploring stakeholders' perspectives on categorising disasters and disaster impacts <i>Hideyuki Shiroshta</i>	Better Risk Governance is the strategic path ahead for Disaster Management effort <i>Bijay Anand Misra</i>	A warming climate may reduce health risks of hypoxia on the Qinghai-Tibetan Plateau <i>Yanqiang Chen</i>	
		Changes in Service Elasticity of Travel Demand during Disaster: A new indicator of phase transition <i>Nur Safitri</i>	Rebuilding local community in disaster affected regions : Lessons to be learned from the Fukushima nuclear accident <i>Mariko Nishizawa</i>		Study on "KATA" for facilitation in disaster prevention activities of local communities <i>Tai-young Yi</i>	Modelling of Transportation Systems Robustness in High Altitude Region <i>Saini Yang</i>	
		Creatively Destructive Hurricanes: Do Disasters Spark Innovation? <i>Ilan Noy</i>				Advances and Prospects of Livestock Snow Disaster Mechanism and Risk Assessment <i>MA Heng</i>	
		Societal Impact Estimation Due to Water Infrastructure Disruptions: An Individual's Activity Choice Analysis <i>Yongsheng Yang</i>			The Effects of Permafrost Degradation on Geological Hazards in Typical Areas on the Qinghai-Tibet Plateau <i>Qiong Chen</i>		

Long Break

24th Sept	9:00 11:00	<b>Special Session 11</b> SMEs and DRR- Lessons from Covid 19 Pandemic Chair : <i>Bijaya Nand Misra</i>	<b>Special session 12</b> What is the role of young scientists in making the IDRiM society progress? Chair : <i>Mark Ashley Parry</i> Co-Chair : <i>Robyn Miller</i>	<b>Special Session 13</b> Empirical tested Resilience Approaches Chair : <i>Adriana Keating, Stefan Hochrainer-Stigler</i>	<b>Special session 14</b> Participatory Approaches for Natech Risk Reduction Chair : <i>Ana Maria Cruz, Elisabeth Krausmann</i>	<b>Special Session 15</b> Health Emergency and Disaster Risk Management and COVID-19 Chair : <i>Andrew Collins</i>	<b>Session 7-1</b> Social learning and collaborative risk management Chair : <i>Myriam Merad (TBC)</i>
		SMEs and Impact of Covid-19 : DRR Management Challenges <i>Bijay Anand Misra</i>	Café Style discussion Panelists: <i>Muneta Yokomatsu</i> <i>Funda Atun-Girgin</i> <i>Hiroaki Daimon</i> <i>Mark Ashley Parry</i>	FRMC Framework and recent advances <i>Adriana Keating</i> Measuring flood resilience for communities: Approaches, Implementation and Outcomes <i>Finn Laurien</i>  (continue)	Are Natech accidents Black Swans? <i>Elisabeth Krausmann</i> Quantitative tsunami-triggered oil spill fire hazard assessment for Natech risk reduction <i>Tomoaki Nishino</i>  (continue)	Overview of Health EDRM and COVID-19 <i>Virginia Murray</i> Role of WHO Kobe Centre and health emergencies <i>Ryoma Kayano</i> Introduction to the need for research and Research Methods book and related resources <i>Mike Clark</i>  (continue)	Is there anything we can learn from disasters and major accidents? Systemic deficiencies and incentives <i>Myriam Merad</i> Co-creating resilience: an inclusive multidisciplinary challenge <i>Nina Jirouskova</i>  (continue)

	(contibuted)		(continued)	(continued)	(continued)	(continued)
	<p>Positive aspects in bad situations or any good learning from the pandemia? How Spaniard SMEs managed the COVID-19 crisis in the Spring of 2020 <i>José-Luis Fernández-Fernández</i></p> <p>Work Life Balance in the MSME Sector in India During Covid 19 Pandemic <i>Kshitiz Sharma</i></p> <p>Management Challenges faced by the MSME sector during the Covid 19 pandemic <i>Madhumita Chatterji</i></p>		<p>The Dynamics of Resilience <i>Stefan Hochrainer-Stigler</i></p> <p>Neighborhood Resilience and Recoverability as a Pathway to Disaster Risk Reduction in Vancouver, Canada <i>Juri Kim</i></p>	<p>Understanding Cold Weather-related Natech Events: An Analysis of Those Events caused by the Winter Storm Uri <i>Xiaolong Luo</i></p> <p>Development of a mechanical model to evaluate rain-induced debris flow impacts to and damage on pipelines based on the historical data from the Mocoa (Colombia) debris flow of 2017 <i>Su Song</i></p>	<p>Disaster risk factors: hazards, exposure and vulnerability <i>Dell Saulnier</i></p> <p>Disease burden: generating evidence, guiding policy <i>Shuhei Nomura</i></p> <p>Country focus and measuring the health impacts of disasters <i>Ronald Law</i></p>	<p>Fundamental Problems of Evacuation Shelter Management in Japan and Proposed Solutions <i>Anna Matsukawa</i></p> <p>Current Status and Issues of Information Sharing in Disaster Response in Japan : Information Linkage by "SIP4D" <i>Tadashi Ise</i></p> <p>Managing Cascading Disaster Risks under Uncertainties : Case of the Covid-19 in Japan through Resilience Perspectives <i>Mika Shimizu</i></p>
	Break					
24th Sept	<p><b>Keynote Speech 3-2</b> Chair : <i>Norio Okada</i></p> <p>The Expanding Realm of IDRiM : Perception &amp; Decision Making; Prospects &amp; Benchmark Action in the Changing Global Disaster Risk Scenario <i>Bijay Aand Misra</i> (2019 Implementation Science Awardee), <i>Professor Emeritus, School of Planning and Architecture New Delhi, India</i></p> <p>Future challenges for effective implementation of Disaster Risk Science <i>Mohsen Ghafory-Ashtiany</i> (2020 Implementation Science Awardee), <i>International Institute of Earthquake Engineering and Seismology (IIEES), Iran</i></p>					
	Break					
	<p><b>Panel Discussion III</b> Moderator : <i>Shingo Nagamatsu</i></p> <p>"Challenges of Integrated Disaster Science for upcoming decade"</p> <p>Panelists : <i>Junko Mochizuki, Hamilton Bean, Funda Atun-Girgin, Genta Nakano, Sunhajyoti Samaddar, Mark Ashely Parry, Kaori Kitagawa</i></p>					
	Break					
	<p><b>Plenary</b> Coordinator : <i>Joanne Linnerooth-Bayer</i> and <i>Elisabeth Krausmann</i> "Looking Forward : Strategic Plan of IDRiM Society"</p> <p>Panelists : <i>Ana Maria Cruz, Dimitrios Tzioutzios, Maria Camilla SuarezPaba, Matt Dorfstaetter, Norio Okada, Hirokazu Tatano</i></p>					
	<p><b>Closing Ceremony</b> MC: <i>Hirokazu Tatano</i></p> <p><b>Wrap up /YSS Award ceremony / IDRiM Awardee ceremony / Announcement of IDRiM2022 / Closing Remarks</b></p>					

# Call for Papers

## “Reviewing the Effectiveness of Integrated Disaster Risk Management Initiatives”

In conjunction with the 2021 International Society for Integrated Disaster Risk Management (IDRiM) conference, *IDRiM Journal* invites submissions of research papers (~8,000 words), technical notes (~4,000 words), and thematic summaries (~2,000 words) addressing the conference theme: “Reviewing the Effectiveness of Integrated Disaster Risk Management Initiatives.” This special issue will be managed by guest editors: Dr Thalia Balkaran (University of the West Indies, Mona); Dr Yasmin Bhattacharya (Shibaura Institute of Technology); Dr Hamilton Bean (University of Colorado Denver); Dr Xinyu Jiang (Wuhan University of Technology); Dr Hitomu Kotani (Kyoto University); and Dr Shingo Nagamatsu (Kansai University). Since 2009, the IDRiM conference has been conducted annually in countries around the world to showcase research, discuss case studies, and address urgent problems within the field. This special issue looks back to move forward, inviting contributions that not only advance the state of the art in integrated disaster risk management research and effectiveness, but also summarize, synthesize, and assess facets of the field in order to set future priorities in areas including, but not limited to:

- ✓ Understanding hazards and risks
- ✓ Managing Risks
- ✓ Sustainable Development
- ✓ Addressing interconnections, chain effects/cascading events
- ✓ Globalization and ripple effects of disasters
- ✓ Addressing issues related to aging and shrinking populations
- ✓ Promoting intergenerational discussion and collaboration
- ✓ Implementation science
- ✓ Resilience and Sustainability
- ✓ Disaster Education
- ✓ Population and development in Asia and Africa
- ✓ Human behavior, risk perception, and DRR
- ✓ Technological hazards triggered by natural hazards
- ✓ Disaster risk governance
- ✓ Systemic risks
- ✓ Pandemics / Covid-19

The guest editors encourage research paper, technical note, and thematic summary submissions from all conference presenters. In particular, we would like to encourage young scientists (graduate students, PhD candidates, and researchers who received their PhD within the past 2-3 years), as well as mid-career and senior researchers. Submissions made in conjunction with the IDRiM conference’s “[Young Scientists Session](#) (YSS)” will receive special consideration (see **Note\*** below).

General questions about the Special Issue can be directed to Dr Hamilton Bean ([hamilton.bean@ucdenver.edu](mailto:hamilton.bean@ucdenver.edu)).

### Submission Guidelines

New for this Special Issue, and in conjunction with *IDRiM Journal*'s recent request for [Scopus](#) indexing consideration, the guest editors are soliciting three types of submissions:

#### **Research Papers:**

8,000-10,000 (max.) words. Please follow the *IDRiM Journal* website's [instructions for authors](#). Special Issue submissions should include the words: “IDRiM 2021 Special Issue: Research Paper” on the cover page of the manuscript.

# Call for Papers

## **Research Papers:**

8,000-10,000 (max.) words. Please follow the *IDRiM Journal* website's [instructions for authors](#). Special Issue submissions should include the words: "IDRiM 2021 Special Issue: Research Paper" on the cover page of the manuscript.

## **Technical Notes:**

Up to 4,000 words. Technical Notes present in-progress research in ways that are less comprehensive than full research papers. At a minimum, Technical Notes should present original research; partial or preliminary results of research activities; discussion of techniques to accomplish research objectives, and next steps. To submit a Technical Note, please follow the *IDRiM Journal* website's [instructions for authors](#). Special Issue submissions should include the words: "IDRiM 2021 Special Issue: Technical Note" on the cover page of the manuscript.

## **Technical Summaries:**

Up to 2,000 words. The Special Issue provides an opportunity for researchers to present a thematic summary or synthesis of one or more IDRiM 2021 conference panels and papers. Thematic summaries are intended to highlight significant questions and innovations raised during the conference about a particular area of integrated disaster risk management. Thematic summaries should (a) be derived from IDRiM 2021 conference participation, notes, and post-conference interactions and exchanges, (b) present an informed and balanced discussion of a particular theme, and (c) contribute to reviewing the effectiveness of integrated disaster risk management research and/or initiatives. To submit a Thematic Summary, please follow the *IDRiM Journal* website's [instructions for authors](#). Special Issue submissions should include the words: "IDRiM 2021 Special Issue: Thematic Summary" on the cover page of the manuscript. Manuscripts submitted for the Special Issue will receive a minimum of two peer reviews from the Special Issue guest editors. Special Issue manuscripts will be accepted and reviewed on a rolling basis until **December 1, 2021**. The Special Issue is expected to be published in June 2022 but accepted manuscripts will be published online on a rolling basis before the full Special Issue edition of *IDRiM Journal* is released.

## **Note\*:**

YSS participants who submit full-length papers by September 1, 2021 will be eligible for the quick review process, and review results will be sent back to authors within one month. Published papers will appear in the December 2021 Issue of the *IDRiM Journal* as YSS IDRiM Conference papers. The Guest editors for the quick review process are Dr Muneta Yokomatsu (Kyoto University) and Dr Subhajyoti Samaddar (Kyoto University). Questions about the quick review process for YSS submissions can be directed to Dr Muneta Yokomatsu ([yokomatsu.muneta.7v@kyoto-u.ac.jp](mailto:yokomatsu.muneta.7v@kyoto-u.ac.jp)).

# Young Scientists Session (YSS)

“The Young Scientists Session (YSS)” is a unique and special occasion that the IDRiM conference provides every year to young scientists. The session comprises two parts: an “**Oral Session**” and an “**Interactive Session**”. All young speakers give talks in both parts.

Each speaker is given about five minutes for their presentation and two minutes for discussion in the **Oral Session**. It is followed by the **Interactive Session** of 50 minutes. Each young speaker enters a Zoom breakout room where he/she can have intensive discussions with other participants, many of whom are senior researchers, that visit the breakout room. Having a lot of time for fruitful discussions in both Oral and Interactive sessions, young speakers will receive insightful feedback from senior researchers and other participants. YSS participants are automatically eligible to take part in the “**Best Young Scientists Award**” competition. The Award Ceremony will be held during the conference.

YSS participants are encouraged to submit full-length papers, which will be reviewed. Accepted papers will be published in the IDRiM journal. Please note that papers submitted by September 1 will be eligible for the quick review process, and review results are sent back to authors within a month.

## The sessions are scheduled as follows:

DAY2

Oral session

6:00-7:10 (JST), 2:30-3:40 (IST(India)) Sept.23.

23:00-00:10 (CEST), 17:00-18:10 (EDT(NY)), 14:00-15:10(PDT(LA)), Sept.22.

Interactive session

7:10-8:00 (JST), 3:40-4:00 (IST(India)), 00:10-01:00 (CEST) Sept.23.

18:10-19:00 (EDT(NY)), 15:10-16:00 (PDT(LA)), Sept.22.

The organizers of the session would like to invite all the senior participants to serve as judges of the presentations for the “Best Young Scientists Award” competition. The evaluation sheet is provided online: [https://docs.google.com/forms/d/e/1FAIpQLScs7Ln4jZuGtHJjkt4FE0N\\_mNgDsttTwxPJlOJd8ivfWR9kOg/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLScs7Ln4jZuGtHJjkt4FE0N_mNgDsttTwxPJlOJd8ivfWR9kOg/viewform?usp=sf_link)

Please score the presentations according to several criteria: substance of the study, attractiveness of presentation, and so on. Details of instruction are given at the top of the evaluation sheet.

Even if you cannot attend YSS at the session time due to time difference or for other reasons, you can see the presentation files in the shared folder: <https://drive.google.com/drive/folders/10-khAiB5WQH6KdAHh1d1QUxfBQEwsvji?usp=sharing>

We are so grateful if you score some presentations by filling the evaluation sheet (after the opening of the conference) and send it on the website by 15:00 (JST), Sept. 23 (DAY2).

Award ceremony will take place in the following event:

DAY3

YSS Award/IDRiM awardee ceremony / Closing Remarks

24:00-24:30 (JST), 20:30-21:00 (IST(India)), 17:00-17:30 (CEST), 11:00-11:30 (EDT(NY)), 8:00-8:30(PDT(LA)), Sept.24.

It became established as a tradition of the society that senior researchers evaluate results of presenters as well as give suggestions with keen interest and eagerness, being motivated by a shared concept that the entire society brings up the next generation. We are so grateful if this tradition is continued and further developed even under the online environment.

# Scientific Committee

- Adam Rose, University of Southern California
- Adriana Keating, International Institute for Applied Systems Analysis
- Alexander Ozunu, Babes-Boylai University
- Andrew Collins, Northumbria University
- Charles Scawthorn, University of California Berkeley
- David Alexander, University College London
- David Bristow, University of Victoria
- Eizo Hideshima, Nagoya Institute of Technology
- Elisabeth Krausmann, European Council - Joint Research Centre
- Funda Atun-Girgin, University of Twente
- Guoyi Han, Stockholm Environment Institute
- Hamilton Bean, University of Colorado Denver
- Hiroyuki Sakakibara, Yamaguchi University
- Ilan Chabay, Institute for Advanced Sustainability Studies
- Ilan Noy, Victoria University of Wellington
- Irasema Alcantara-Ayala, National Autonomous University of Mexico
- James Goltz, University of Colorado Boulder
- Joanne Linnerooth-Bayer, International Institute for Applied Systems Analysis
- Junko Mochizuki, International Institute for Applied Systems Analysis
- Kaori Kitagawa, University College London
- Katsuya Yamori, Kyoto University
- Makoto Okumura, Tohoku University
- Manas Chatterji, State University of New York Binghamton
- Matthias Dorfstaetter, Queensland Fire and Emergency Services
- Maureen Fordham, University College London
- Mika Shimizu, Kyoto University
- Miranda Dandoulaki, Region of Attica
- Mohsen Ghafory-Ashtiany, International Institute of Earthquake Engineering and Seismology
- Myriam Merad, French National Centre for Scientific Research (CNRS)
- Norio Okada, Kyoto University
- Ortwin Renn, Institute for Advanced Sustainability Studies
- Paul Kovacs, Institute for Catastrophic Loss Reduction
- Peijun Shi, Beijing Normal University
- Rajib Shaw, Keio University
- Roland Nussbaum, Association Française pour la Prévention des Catastrophes Naturelles (AFPCN)
- Ryuji Kakimoto, Kumamoto University
- Simron Singh, University of Waterloo
- Stefan Hochrainer-Stigler, International Institute for Applied Systems Analysis
- Stephanie Chang, University of British Columbia
- Tomohiro Atsumi, Osaka University
- Toshio Fujimi, Kyoto University
- Vincent Lemiale, Commonwealth Scientific and Industrial Research Organisation
- Xinyu Jiang, Wuhan University of Technology
- Yoko Matsuda, Nagaoka University of Technology
- Yoko Saito, Kwansai Gakuin University
- Yoshiyuki Yama, Kwansai Gakuin University



# Organizing Committee

- Adam Rose, University of Southern California
- Ana Maria Cruz Naranjo, Kyoto University
- Andrew Collins, Northumbria University
- Dimitrios Tzioutzios, Kyoto University
- Elisabeth Krausmann, European Council - Joint Research Centre
- Genta Nakano, Kyoto University
- Ha Si, Kyoto University
- Haris Rahadianto, Kyoto University
- Hirokazu Tatano, Kyoto University
- Katsuya Yamori, Kyoto University
- Mark Ashley Perry, Northumbria University
- Matthias Dorfstaetter, Queensland Fire and Emergency Services
- Michinori Hatayama, Kyoto University
- Mohsen Ghafory-Ashtiany, International Institute of Earthquake Engineering and Seismology
- Muneta Yokomatsu, Kyoto University
- Norio Okada, Kyoto University
- Rong Hua, Kyoto University
- Stefan Hochrainer-Stigler, International Institute for Applied Systems Analysis
- Subhajyoti Samaddar, Kyoto University

# Important Dates



# IDRiM2021

Dear participants of the IDRiM2021 Conference:

We would like to thank you for your participation in the 11th Conference of the International Society for Integrated Disaster Risk Management, IDRiM 2021 this past 22-24 September, 2021. As you know, this year's theme was “ Reviewing the Effectiveness of Integrated Disaster Risk Management Initiatives : A Saga from 2001 to 2021. ” The keynote talks, expert panel discussions, excellent parallel sessions, including special and YSS sessions, all provided so much food for thought. I personally left the conference invigorated and motivated to continue working towards disaster risk reduction. It was also wonderful to hear that the IDRiM Society has had profound impacts on many of its members, and we hope it will continue to foster high quality research, sharing and dissemination of knowledge and research findings, as well as promote and support early career researchers.

We would also like to thank you for your contributions to the IDRiM Strategic Plan. The draft plan will be made available for review and comments. More information on that will be sent out later.

In the next month, we hope to organize a virtual “welcome party” for the new members of the IDRiM Society. You will also receive more information about this activity at a later date.

I would also like to remind you that the *IDRiM Journal*, which has recently received approval for indexing on Scopus, invites submissions of research papers (~8,000 words), technical notes (~4,000 words), and thematic summaries (~2,000 words) based on work presented at the conference. This special issue will be managed by guest editors: Dr. Thalia Balkaran (University of the West Indies, Mona); Dr. Yasmin Bhattacharya (Shibaura Institute of Technology); Dr. Hamilton Bean (University of Colorado Denver); Dr. Xinyu Jiang (Wuhan University of Technology); Dr. Hitomu Kotani (Kyoto University); and Dr. Shingo Nagamatsu (Kansai University). Paper will be reviewed on a rolling basis until 1 December 2021.



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# IDRiM2021

We hope that you will consider contributing actively to the Society by signing up to volunteer on our committees and/ or by participating in the café talks, seminars and other events planned during the year. If you would like more information, please do send us an email at the contact email below.

Finally, we are very much looking forward to the IDRiM 2022 Conference which will be held in Cluj, Romania. More information on this to come.

Thank you very much, and best regards,



Ana Maria Cruz  
President



Hirokazu Tatano  
Vice-President  
IDRiM2021 Conference Chair



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# IDRiM2021

- **Number of participants:** 258
- **Number of states/regions:** 34
  
- **Sessions:**
  - 10 Keynote speakers
  - 20 regular sessions
  - 103 regular presentations
  - 15 special sessions
  - 4 Young Scientist Sessions including 35 presentations
  
- **IDRiM Awards:**
  - Research Award – Stephane Hallegatte
  - Service Award – Dimitrios Tzioutzios
  - Implementation Science Award – Fumihiko Inagaki
  
- **YSS Awards:**
  - Gold prize – Tyanita Wardhani, Kyoto University
  - Silver prize – Takashi Sugiyama, Kyoto University
  - Bronze prize – Huan Liu, Kyoto University