

TITLE:

第11回総合防災に関する国際会議

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CITATION:

横松, 宗太. 第11回総合防災に関する国際会議. 2022: 共同研究(特定研究 集会)2021C-04.

ISSUE DATE:

2022-03

URL:

http://hdl.handle.net/2433/278049

RIGHT:





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

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

令和 4 年 3 月 March, 2022

研究代表者 横松 宗太

Coordinator Muneta Yokomatsu



IDRiM2021

The 11th 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 11th 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 IDRiM Society and have joined the IDRiM conferences over the past years, I hope you will feel at home in this community of likeminded people, whose logo is: IDRiM (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 IDRiM 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 hroma ?

Ana Maria Cruz President, IDRiM Society

IDRiM2021



Welcome to IDRiM2021!

We are very happy to welcome you to IDRiM2021, the commemorative conference to celebrate 20th 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 inperson 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,

Hirokazu Tatano

Local Organizer, Vice-President of the IDRiM Society

Hirokayu Tatano



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 IDRiM 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 'interdisiplinary' 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. IDRiM 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 IDRiM Society: Looking back and looking ahead

Abstract

As a person who is responsible for keeping record of the whole process of IDRiM 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 IDRiM'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 serves 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.



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 6th 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.



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 disproportionally 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.



William Siembieda

City and Regional Planning at California Polytechnic State University, USA

Deconstructing cascading disasters: improving our understanding of interacting and interconnected riskAbstract

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.



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.



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)

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|------|----------------|---|---|--------------------------------------|--|--|-------------------------------------|--|--|
| | | | | Opening (| Ceremony | | | | |
| | | | | | ŕ | | | | |
| | 10:00 | Welcome : Ana Maria Cruz , President, IDRiM Society, DPRI, Kyoto University | | | | | | | |
| | 10:30 | | Greeting: Eiichi Nakakita, Representative of Local Host, Director of DPRI, Kyoto University | | | | | | |
| | | Over | view explanation : Hirok | azu Tatano , Head of | IDRiM2021 Local organ | izer, DPRI, Kyoto Univ | ersity | | |
| | | Break | | | | | | | |
| | | Session 1-1 | Special Session 1 | Session 1-2 | Special Session 2 | Special Session 3 | Special Session 4 | | |
| | | Flood risk | Chair: Subhajyoti | Human behavior, | How to identify the | Gender equity, | New advances in | | |
| | | management Chair : <i>Xu Wei</i> | Samaddar | risk perception and DRR | structure of cascading effects and | diversity and | measuring, modelling and | | |
| | | Cilaii . Xu Wei | | Chair : <i>Tomohide</i> | develop scenarios | risk science and | managing Systemic | | |
| | | | | Atsumi | toward effective | practice: A | Risks | | |
| | | | | | emergency | networking session | Chair : Stefan | | |
| | | | | | management? Chair : <i>David</i> | Chair : Funa Atun- Girgin | Hochrainer-Stigler | | |
| | | | | | Alexander | angin | | | |
| | | _ | Framework for | Enhancing DRR | 0 | A Cross Cultural | Estimating indirect | | |
| | | Flood risk assessment: A | assessing integration in flood risk | though effective risk Communication | Effects of Disasters: CIA-ISM approach | Understanding of Work Life Balance | disaster losses by coupling a | | |
| | | multivariate method | | using dynamic risk | Shingo Nagamatsu | during the Pandemic | catastrophe model | | |
| | | using high | _ | assessment tool for | 3 3 | Madhumita Chatterji | with an agent-based | | |
| | | dimensional vine | Lydia Cumiskey | Institutions at local | Designing a Cascading | 6 | model at a high | | |
| | | copulas Xinyu Jiang | Assessing Household | level Sumedh Patil | | Social vulnerabilities and disaster risk | resolution Sebastian Poledna | | |
| | | , and a starting | Social Vulnerability to | | ŭ | perceptions in Japan | | | |
| | | Spatial Contribution | | Consideration on | U Hiroi | Irene Petraroli | Transformation | | |
| | | of Flood Risk Analysis (COSPARIN | Applying Social Vulnerability Index: A | Public Assistance to Widely Spread | Managing Cascading | The challenges | needs for systemic risk management | | |
| | | for Contribution du | Case Study of | Evacuees Caused by | Disasters and | achieving UN SDG 5 | Teresa M. Deubelli | | |
| 22nd | | Spatial à l'Analyse | Southwest Coastal | the 2011 Fukushima | Interdependencies: | on Gender Equality | | | |
| Sept | | du Risque Inondation) | Bangladesh Md. Riad Hossain | Nuclear Power Plant | London's case Gianluca Pescaroli | during COVID-19 pandemic | Systemic Risk and | | |
| | | Guillaume Lahache | ivia. Kida Hossaiii | Accident Ryosuke Aota | Giurilucu Pescuroli | Angeli Medina | Network Dynamics Stefan Hochrainer- | | |
| | | | Psychosocial | , | Identifying the | | Stigler | | |
| | 10:40 12:40 | Impacts of Scarcity | response to risk | Living with | cascading effects | Women Saving the | Carrana | | |
| | | of Datasets in Flood Forecasting Using | mitigation land use planning in Iceland | landslides: perceptions of risk | caused by a large- scale flood: A case of | World: Representations of | Governance of Systemic Risks – | | |
| | | Xinanjiang Model | Stephanie Alice Matti | and resilience in Far | a low-lying area in | · · | Lessons from the | | |
| | | Zin Tun | - · · · · · | West Nepal | , | in Disaster Films | COVID-19 Pandemic | | |
| | | Building urban | Zoning Strategy and situational revisions | Juliette Martin | Yuto Shiozaki | Ashley Allen | Pia-Johanna Schweizer | | |
| | | resilience through | of the master plan for | International | | Disaster as a | | | |
| | | effective flood risk | disaster risk | Standard for | | window of | | | |
| | | management, using innovative solutions | reduction: A case | Counter Trafficking in Disasters: An | | opportunity for whom? Winners and | | | |
| | | Shabaz Khan | Metropolitan Area | Integrated Disaster | | losers of disaster | | | |
| | | | Uttam Kumar Roy | Risk Management | | recovery in Greece | | | |
| | | Early Warning Filter | Diffusion and | Approach Matt Dorfstaetter | | Miranda Dandoulaki | | | |
| | | and Square Pyramid Model | Implementation of a | Matt Dorjstaetter | | Backsliding of | | | |
| | | Kensuke Takenouchi | · · | | | Gender Equality | | | |
| | | | through Hearing, | | | during the COVID-19 | | | |
| | | | Observation and Discussion Networks | | | Pandemic in the United Kingdom | | | |
| | | | Subhajyoti Samaddar | | | Mark Ashley Parry | | | |
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| | | "20 Years of In | Keynote Speech 1 MC tegrated Disaster Research: | : <i>Elisabeth Krausmann</i> Past Achivements and Future D | irections" | | | |
|------|----------------|--|--|---|---|--|--|--|
| | 12:50 | Two decade-long journeys of IDRiM Society: Looking back and looking ahead Norio Okada, Kwansei Gakuin University, Japan | | | | | | |
| | 13:50 | Looking back and looking forward; Looking Back and Looking Forward; Nature-based solutions for integrated disaster risk management | | | | | | |
| | | Joanne Linneroth-Bayer, Program Director of the Risk and Resilience (RISK) Program, IIASA, Austria Break | | | | | | |
| | | | Panel Disc | cussion I | | | | |
| | 14:00 | | "Looking back for 2 | | | | | |
| | 15:30 | Development of the second | Moderator : An | | T-1 D-11 Cl.1 | | | |
| | | Panelis: Andrew Collins, | | Ashtianny, Adam Rose, Hirokazu | Tatano, Peljun Sni | | | |
| | | Room1 | YSS - Oral Pi | Room3 | Room4 | | | |
| | | Chair : Muneta Yokomatsu | Chair : Mark Ashley Parry | Chair : Wei Xu | Chair : Hamilton Bean | | | |
| | | Investigating the use of Nudges for | Flood mitigation analysis | Cliometric analysis with a | Analysis of Regional Response | | | |
| | | Disaster Risk Reduction efforts in | with Low Impact | pareto frontier of urban | to "Special Early Warning | | | |
| | | Japan Luiza Culau | Development technologies | planning after the Chile Itsunami | Information" on the Nankai | | | |
| | | Luiza Cuiau | based on Urban Planning scenarios using SWMM: A | Satoki Matsuda | Trough Earthquake Takashi Sugiyama | | | |
| | | | case study in Saitama city, | | - andom sugryama | | | |
| | | | Japan | | | | | |
| | | Out Missaiton and Community | Shun Uchiyama | Inches to action at the adius | Mayo ovidonos on the viels | | | |
| | | Out Migraiton and Community Climate Resilience in changing | Understanding the impact of UHI (Urban Heat Island) | Impact estimation of flooding in Enshi City based on the | More evidence on the risk elicitation puzzle: Can locus | | | |
| | | climate in Mountain Watershed in | and water stress on | mixed-multiregional I-O | of control help out where | | | |
| | | Nepal | Vulnerability through | model | most other measures of risk | | | |
| 22nd | | Deepak KC | spatial data analysis | Xinyi Lei | attitudes cannot? | | | |
| Sept | | | Piyush Kumar | | Thomas Dudek | | | |
| | | A Workshop for Managing "When- | Identifying Loss Spreading | Estimating Post-disaster | Matching Methods for | | | |
| | | to-do" Conflicts in the Recovery | Path of Flood Disaster | Recovery Process in Industrial | Studying Causal Effects of the | | | |
| | | Period after a Large-scale | Based on Complex | Sectors: A Case Study of the | Flood Hazard Map on | | | |
| | | Earthquake Yu Matsubara | Network Analysis Yuan Fang | 2011 Great East Japan Earthquake | Population Xiaoyi Zhao | | | |
| | 21:00 22:10 | | - aunt ang | Huan liu | , | | | |
| | 22.10 | Estimation of industry and regional | Heatwave-related health | Mapping earthquake-affected | Constructing Functional | | | |
| | | impact of COVID-19 Pandemic in | impacts in Japan | populations based on multi- | Fragility Curve for Business | | | |
| | | China based on A Mixed IRIO Model considering backward linkage effect | Deng Ke | source data and machine learning | Sectors in the Situation of Extraordinary Floods—— A | | | |
| | | Xinge Wang | | Xiaoyan Liu | case study of Enshi City | | | |
| | | | | ŕ | "7.17" Flood Disaster | | | |
| | | | | | Xueying Ma | | | |
| | | Comparative History of Cities with | Fiscal Impacts of | Detecting Anomalies in | Social Rituals and Transition | | | |
| | | Frequent Disasters: Morphological Transformation and Urban Planning | Hurricanes and CCRIF in | Volcanic Ashfall Forecast during Large Eruptions for | of Identity: A Game Theoretic Approach to a Behavioral | | | |
| | | after Catastrophic Tsunami and | American Countries | Better Early Warning Policies | Analysis Under the COVID-19 | | | |
| | | Flood Disasters | Qinhan Zhu | Haris Rahadianto | Pandemic | | | |
| | | Rena Koseki | | | Satomi Tsugagoshi | | | |
| | | Duilding Hoonital Desiliers | Hadrana A | Danidand Association Co. | Danasan and the control of | | | |
| | | Building Hospital Resilience to Infectious Diseases Risk through | Hydrometeorological Disaster Risk Analysis in | Rapid and Accurate System of Building Damage Investigation | | | | |
| | | Intensive Cohort Monitoring. The | the Upper Indus Basin, | Using Automatic Method to | disaster warning information | | | |
| | | case of Prevention of Mother to Child | Pakistan by Using a Global | Calculate Roof Damage Rate | on online social networks | | | |
| | | Transmission (PMTCT) of HIV at 10 | Climate Dataset | Shono Fujita | Anying Chen | | | |
| | | High Volume Sites in the Centre Region of Cameroon. | Sadaf Ismail | | | | | |
| | | Reine Suzanne Kadia | | | | | | |
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| Chair : Mark Ashley Parry Rethinking the Build Back Better Initiative in Post Disaster Relocation and Rehabilitation. Nombulelo Ngulube 21:00 22:10 22nd Sept 22nd Sept Chair : Mark Ashley Parry Rethinking the Build Back Better Initiative in Post Disaster Relocation and Rehabilitation. Nombulelo Ngulube Namit Varma Identifying Vulnerable Regions and Sectors to Flood Disaster in Hubei Province using Mixed MRIO Model and Numerical Simulation Yue Lin Identities in disasters: implications for governance Lowine Hill 22:10 22:10 YSS - Interactive session (@ Breakout room) Chair : Wei Xu Regional Recovery of Multi- Mosques in Japan Resport to COVID-19 Pandemic: Infrection Prevention and Support Provision Mari Tamura Assessment of Commun Concerns after Lombok Earthquake using Social Narratives Dimitrios Tzioutzios A case of Current Situat and Issues of Informatio Pieces and Blanks in Disi Information Collection Information Province Information Collection Information | onding d |
|--|-------------|
| Better Initiative in Post Disaster Relocation and Rehabilitation. Nombulelo Ngulube 21:00 22:10 22:10 21:00 22:10 21:00 22:10 21:00 22:10 21:00 22:10 21:00 22:10 21:00 22:10 21:00 22:10 21:00 22:10 22:10 22:10 22:10 23:10 23:10 24:10 25: | d |
| Disaster Relocation and Rehabilitation. Nombulelo Ngulube 21:00 22:10 22:10 22:10 22:10 22:10 23:10 24:10 25:10 25:10 25:10 25:10 26:10 26:10 27:10 27:10 28:10 29:10 20:10 A Serious Game for Natech Awareness and Chemical Risk Awareness and Chemical Risk Information Disclosure Dimitrios Tzioutzios Narratives Tyanita Wardhani A case of Current Situat and Issues of Information Prevention and Mari Tamura A Serious Game for Natech Awareness and Chemical Risk Information Disclosure Dimitrios Tzioutzios Narratives A case of Current Situat and Issues of Information Price of the priving Authority and Price of the priving Authority and Price of the provincion and Timelines A Serious Game for Natech Assessment of Commun Awareness and Chemical Risk Information Disclosure Dimitrios Tzioutzios Narratives Tyanita Wardhani A case of Current Situat and Issues of Information Collection Narratives Tyanita Wardhani A case of Current Situat and Issues of Information Collection Narratives A case of Current Situat and Issues of Information Collection Narratives A case of Current Situat | d |
| Rehabilitation. Nombulelo Ngulube 21:00 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 22:10 23:10 24:10 25:10 25:10 25:10 25:10 26:10 27:10 28:10 29:10 20:10 A Serious Game for Natech Awareness and Chemical Risk Information Disclosure Earthquake using Social Narratives Tyanita Wardhani A case of Current Situat and Issues of Informatic Pieces and Blanks in Disclosure Pieces and Blanks in | |
| 22:10 23:10 24:10 24:10 25:10 | nity |
| 22:10 and Sectors to Flood Disaster in Hubei Province using Mixed MRIO Model and Numerical Simulation Yue Lin Identities in disasters: Implications for governance Lowine Hill Si Ha 22:10 and Sectors to Flood Disaster in Hubei Province using Mixed MRIO Model and Numerical Simulation Yue Lin | nity |
| 22:10 22:10 In Hubei Province using Mixed in Hubei Province using Mixed MRIO Model and Numerical Simulation Sept You Lin Identities in disasters: Indentities in disasters: Identities in disasters: Indentities in disasters: Information Disclosure | |
| MRIO Model and Numerical Simulation Yue Lin Identities in disasters: implications for governance Lowine Hill Implication Si Ha Implication S | |
| Simulation Yue Lin Identities in disasters: implications for governance Lowine Hill Simulation Yan Liu Climate Change Impact and Adaptation to Coastal Flooding in Osaka bay, Japan Si Ha YSS - Interactive session (@ Breakout room) Tyanita Wardhani A case of Current Situation and Issues of Information Pieces and Blanks in Disaction in Coal Governments Kazushiro Yoshimori YSS - Interactive session (@ Breakout room) | iviedia |
| Yue Lin Identities in disasters: Implications for governance Lowine Hill Si Ha Yan Liu Climate Change Impact and Adaptation to Coastal Flooding in Osaka bay, Japan Si Ha YSS - Interactive session (@ Breakout room) A case of Current Situation and Issues of Information Pieces and Blanks in Disable Information Collection But Local Governments Kazushiro Yoshimori | |
| implications for governance Lowine Hill Flooding in Osaka bay, Japan Si Ha Adaptation to Coastal Flooding in Osaka bay, Japan Si Ha Pieces and Blanks in Disc Information Collection I Local Governments Kazushiro Yoshimori 22:10 22:10 | |
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| YSS - Interactive session (@ Breakout room) 22:10 | |
| YSS - Interactive session (@ Breakout room) | |
| 22:10 | |
| 23:00 | |
| 23:00 Individual breakout room | |
| Break | |
| Session 2-1 Special Session 5 Special Session 6 | |
| Disaster education Chair: Hideyuki Shiroshita Making Resilience Measures Innovative based on Reduction, Recovery Po | |
| Infrastructure Resilience and Growth | Officies |
| Framework Chair: Muneta Yokom | natsu |
| Chair : Masamitsu Onishi | ate |
| Disaster Risk Reduction after Resilience Framework demand and saving cons | |
| the Great East Japan / Craig Davis in small island economic | es: |
| Earthquake and Tsunami towards an integrated Keunyoung Pak Structural Engineering Aspects catastrophe-macroecor | nomic |
| of Resilience Based on modelling framework | ioitiic |
| Report on the Implementation Infrastructure Resilience Nepomuk Dunz | |
| of ICT-based Heavy Rain Disaster Learning for Framework Yoshikazu Takahashi Regional Science and Pe | |
| Disaster Learning for Yoshikazu Takahashi Regional Science and Pe | ace |
| Masaki Ikeda NIST Community Resilience Management Research | |
| 23rd 23:00 The application "Diseases" Planning Guide Manas Chatterji | |
| Sept 01:00 The application "Disaster Reduction School" to provide The Cost Effectiveness of The | of |
| disaster prevention support Networks within Networks: Economic Resilience | , |
| for foreigners in Janpan Scaling Response Operations Blain Morin | |
| Lyu Hongxiao in the Lightning Complex Fires in Northern California, August How Shocks Affect | |
| Conceptualising 'disaster 2020 International Reserves? | Α |
| education' Louise Comfort Quasi-experiment of | |
| Kaori Kitagawa Earthquakes | |
| Quy Ta | |
| A Multi-hazard Growth I | Model |
| of Disaster Risk Manage | ement - |
| Triple Dividends of Risk | and I |
| Reduction Investment a Financial Contracts | |
| Muneta Yokomatsu | ına |
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| | | | | Break | | |
|------|-------|-----------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| | | Session 3-1 | Session 3-2 | Session 3-3 | Session 3-4 | Session 3-5 |
| | | Sustainable | DRR tools and | Understanding local | Addressing | The Coronavirus |
| | | development and DRR | techiniques | issues of DRR | interconnections, chain | Pandemic Institutional |
| | | Chair: Simron Singh | Chair : Vaishali Nandan | Chair : Florence | effects / cascading | Impacts and |
| | | | | Lahournat | disasters | International |
| | | | | | Chair: Makoto | Cooperation |
| | | | | | Okumura | Chair: James Goltz |
| | | Geographically | Diverse uses of Nige- | Population Exposure of | Spatial-temporal | Γγonmenkaigi System |
| | | Weighted Regression | Tore, a smartphone | People in Need of | Patterns and | Method(YSM) for |
| | | analysis to support | application for tsunami | Evacuation Assistance | Influencing Factor | Muslim_I—Thinking |
| | | tourism-sensitive | evacuation drills | in Flooded and | Contributions of | about needs for |
| | | tsunami mitigation | Fuhsing Lee | Landslide Hazard | Casualties from Global | minority victims in |
| | | planning | a anomy acc | Areas. A Case Study in | Land Destructive | multicultural |
| | | Yasmin Bhattacharya | A Framework for | Gifu Prefecture, Japan | Earthquakes in the | collaboration society |
| | | | Disaster Risk | Maki Koyama | World (1970 - 2019) | during COVID-19 |
| | | Strengthening urban | Management targeted | | Hu Xiaokang | pandemic— |
| | | resilience through | to Risk Sensitive Land- | Status and challenges | Tra Alaokang | Natsumi Itoya |
| | | green building | Use Planning | of disaster | Earthquake disaster | rvatsami rtoya |
| | | Sunitha Ashok Menon | Abbas FathiAzar | preparedness among | chain in Plateau and its | International |
| | | Summa Ashok Wichon | ADDUS I UTIIAZUI | community-dwelling | countermeasures | Collaboration among |
| | | Impact of Droughts on | Evacuating vulnerable | older adults in Japan. | Peijun Shi | Citizens against the |
| | | Banks' Non-Performing | people during a | The JAGES Cross- | r cijan sin | Spread of COVID-19 |
| | | Loans: A Study of | tsunami disaster in | Sectional Study | Need to use system | Tomohide Atsumi |
| | | Banks' Agricultural | Japan: An experiment | Rika Ohtsuka | thinking approach to | Tomoniae Atsumi |
| | | Loan Portfolio | using wheelchairs | NIKU ONISUKU | achieve safe and | Recovery process of |
| | | Shabana Kamal | Nobuhito Ohtsu | A Study on Awareness | affordable housing | Chinese enterprises in |
| | | Shabana Kamai | Nobalito Olitsa | Regarding Eco- | Amir | the COVID-19 context: |
| 23rd | 01:10 | Disaster Risk | Parallel World | feminism at Two | Shahmohammadian | Evidence from multi- |
| Sept | 03:00 | Reduction, amid Urban | Information | Villages in Purulia | Shannonannnaanan | state models |
| эсрі | 05.00 | Intensification, | Management in Crisis | District of West Bengal, | Secondary stress | Lijiao Yang |
| | | investigated through | Response | India | effects on spatial | Lijido rang |
| | | the Optimal Land-Use | Michinori Hatayama | Debkalpa BasuDas | distribution of 2017- | Development of |
| | | Model | | | 2019 western Iran | mutual support created |
| | | Fuko Nakai | | The Unintended Effect | sequence | by correspondence |
| | | | | of Descriptive Norms | Hamid Zafarani | between senior citizens |
| | | | | on Various Kinds of | | and students during |
| | | | | Disaster Preparation | | COVID-19 |
| | | | | Taku Ozaki | | Yuehan Tao |
| | | | | | | |
| | | | | | | Disaster Risk |
| | | | | | | Governance and |
| | | | | | | Hospital Safety in India |
| | | | | | | Disha Dwivendi |
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| | | Session 4-1 | Session 4-2 | Special session 7 | Session 4-3 | Session 4-4 | Special session 8 | |
|--------------|------------------|--|--|---|---------------------------------------|-----------------------------------|-------------------------------------|--|
| | | Current issues and actions in flood risk | Integrated Disaster Risk Reduction | Building Resilient Urban Communities | Economics of Disaster | Issues in and Mechanisms for | Participatory Research in | |
| | | management | Chair : <i>Katsuya</i> | (BReUCom): Case | Chair : Junko | Epidemic Disease | Humanities and | |
| | | Chair : Xinyu Jiang | Yamori | studies from India | Mochizuki | Management | Social Sciences - an | |
| | | | | Moderator : Funda | | Chair: <i>Angeli</i> | initiative to open up | |
| | | | | Atun-Girgin, Javier | | Medina | IDRiM | |
| | | | | Martinez | | | transdisciplinary | |
| | | | | | | | dialogue- Chair : <i>Norio</i> | |
| | | | | | | | Okada& Ilan Chabay | |
| | | | | | | | | |
| | | Analysis of Site | Disaster risk | Co-Production Through | Demand for fixed- | Resilience against | Introduction: | |
| | | Assignment in Broad | reduction | Tacit Knowledge for Water Resilience | price multi-year | Pandemics through | Yoshiyuki Yama, | |
| | | Evacuation Plan | reconsidered | Rama Umesh Pandey | contracts: | Urban – Rural | Norio Okada | |
| | | against Large-scale | Caroline Russell | | Experimental | Linkages | Dunnantation | |
| | | Flood and Storm Surge | BECAUSE-type Co- | Socio-Ecological | evidence from insurance decisions | Shreya Joshi | Presentation: Resilience in a | |
| | | Eizo Hideshima | learning Practice for | Resilience of Peri- Urban Coastal Areas. | Thomas Dudek | Some lessons from | Collaborative | |
| | | 2.20 | Enhancing Local | Climate Change and its | momas Baack | the COVID-19 crisis | Ethnography of | |
| | | Construction and | Disaster Resilience | impact on Urban | Development of | in the French | Disaster | |
| | | Demolition Waste, | Hideyuki Kamimera | Peripheries of Mumbai Sandeep | Business | context: crisis | Yuichi Sekiya | |
| | | an unnoticed cause | | Balagangadharan | Interruption (BI) | governance and | | |
| | | of Urban Flooding | Overview of 20 | Menon | Curves for SMEs | science-based | Some remarks on | |
| | | Liju Mathew | years of research and initiatives in the | | after the 2017 | decision-making | sediment hazard risk | |
| | 9:00 | Testing Public | field of disaster risk | Low-income residents' strategies to cope with | Earthquake in Sarpol-e Zahab, Iran | Baptistine Gourdoon | management from the archaeological | |
| | 11:00 | Interventions for | reduction in France | urban heat - Findings | Masoud | Probabilistic | viewpoint | |
| | | Flash Flood | Myriam Merad | from India and Austria | Khamisabadi | Estimation of the | Makoto Tomii | |
| | | Evacuation through | | Faiz Ahmed | | Spread of COVID-19 | | |
| 23rd Sept | | Environmental and | Vulnerability and | Green and Blue | New Zealand firm | Considering the | Improving | |
| | | Social Cues: The | resilience in post- | Infrastructure (GBI) for | investment following | | governance of | |
| | | Merit of Virtual | disaster temporary housing: An | Climate Responsive Planning- A Case of | the Canterbury earthquake | Social Distancing Mojtaba Mahsuli | systemic risk with insights from | |
| | | Reality Experiments Toshio Fujimi | integrated approach | Navi Mumbai City, India | sequences 2010- | iviojtaba iviarisuii | community | |
| | | rosmo rajirni | Lucia Savadori | Adinarayanane | 2011 | | narratives | |
| | | Finite Pool of Worry | | Ramamurthy | Quy Ta | | Ilan Chabay | |
| | | for Climate Change – | Grounding resilience | Role of Cultural | | | | |
| | | Does it really exist? | through | Heritage in | Model Diagnosis, | | | |
| | | Mark Ashley Parry | transdisciplinary risk | | Socio-Economic | | | |
| | | | mapping rooted on building codes | Environment amongst the Indigenous | Impacts and Complex Future | | | |
| | | | America Bendito | Communities of Kullu | Operations using | | | |
| | | | | Region, Himachal | special Integrated | | | |
| | | | Catapulting nature | Pradesh, India Minakshi Jain | Sector Models | | | |
| | | | onto the agenda: | | combining Systemic | | | |
| | | | opportunities and | Increasing Children's | Risk Analysis and | | | |
| | | | barriers of nature- | Awareness of Flood Risk: Panju Island, | Reachback | | | |
| | | | based solutions Juliette Martin | Mumbai, India | Operations Stefan Pickl | | | |
| | | | Juliette Martin | Funda Atun-Girgin | Stejuli Picki | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | <u> </u> Break | | | | |
| | General Assembly | | | | | | | |
| | 11:10 12:10 | | | MC: Hiroka | | | | |
| | | | | Chair : Ana | Maria Cruz | | | |
| Break | | | | | | | | |

Break

| | | | | Keynote Speech 2 Chair: AndrewCollins | | | | |
|--------------|----------------|---|---|--|--|---|--|--|
| | 12:20 13:20 | Making Health Emergency and Disaster Risk Management as Everybody's Business Qudsia Huda, Head of Disaster Risk Management and Resilience Unit in the Health Emergency Program, World Health Organization Headquarters, Switzerland The real economic impact of natural disaster: accounting for distributional impacts and implications for poverty Stephane Hallegatte, lead economist of the World Bank, USA A Systems Dependency Perspective for Individual, Compound and Systemic Risks Stefan Hochrainer-Stigler, senior research scholar with the Systemic Risk and Resilience (SYRR) research group, IIASA, Austria | | | | | | |
| | | | | Break | | | | |
| 23rd Sept | 13:30 14:30 | Panel Discussion II "Explore areas that are important but not yet fully addressed" Moderator: Ilan Chabay Panelists: Qudsia Huda, Liping Fang, Yoshiyuki Yama, Stefan Hochrainer-Stigler, Myriam Merad, Stepane Hallegatte | | | | | | |
| | | | | Long Break | | | | |
| | 22:00 23:00 | Han Nov 17119 Research Award Winnert Victoria University of Wellington New Jealand | | | | | | |
| | | Session 5-1 | Session 5-2 | Break / | Special Session 9 | Session 5-3 | | |
| | | Hazards, Exposure, and Vulnerability Chari : <i>Fuko Nakai</i> | Implementation science Chair: Ilan Noy | | Mobile Public Alert and Warning in the United States and Japan: Exploring Shared Challenges and Key Differences Chair: Hamilton Bean | Regional Covid Response and Recovery Chair: Lijiao Yang | | |
| 24th Sept | 23:15 | Quantitative Prediction of Outburst Flood Hazard of the Zhouqu "8.8" Debris Flow- Barrier Dam in Western China He yi Yang Study of population exposure to extreme heat and the prediction of disaster index in Xi'an Wenqian Yang (Continuted) | Maintaining vigilance is critical and challenging for disaster risk management: it offers lessons in implementation science; Part I: some general observations Rob Goble (Continuted) | | Panelists Ana Maria Cruz Mika Shimizu Keri Stephens Matthew McGlone | Quantifying COVID-19 recovery through human mobility: A case study of Wuhan Xiaoyan liu Managing the risks of the Coronavirus pandemic: the case of the Mediterranean island of Menorca Maria Casado (Continuted) | | |

| | | (Continuted) | (continuted) | | | (continuted) |
|--------------|------|----------------------------|---------------------------|-------------------------------|-----------------------------------|--------------------------|
| | | | Maintaining vigilance is | | | · |
| | | Landslide hazard | critical and challenging | | | Responding to Future |
| | | knowledge and risk | for disaster risk | | | Compound Disasters: |
| | | perception in | management: it offers | | | Consideration from |
| | | | lessons in | | | COVID-19 Cases in |
| | | mountainance | implementation science: | | | |
| | | community in Japan – | Part II: SMART | | | Japan's Urban Areas |
| | | Case study on | governance can bridge | | | Yohei Chiba |
| | | Matsunoyama village | the gap between two | | | |
| | | Uditha Dasanayaka | types of vigilance: | | | COVID-19 Pandemic: A |
| | | | Evidence concerning | | | Toll on Southeast Asian |
| | | The illusion of "big data" | implementation | | | Economy and Public |
| | | as a magic solution to | Norio Okada | | | Health |
| | | improve disaster risk | NOTIO OKUUU | | | Angeli Medina |
| | | prevention processes | On an Caion ao in | | | |
| | | Myriam Merad | Open Science in | | | |
| | | , | Seismology: The Role of | | | |
| | | | Citizen Science in the | | | |
| | | | Transition from Seismic | | | |
| | 3:30 | | Observatory to Science | | | |
| | | | Museum | | | |
| | | | Katsuya Yamori | | | |
| | | | | | | |
| | | | 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' | | | |
| | | | Richard Kotter | | | |
| 24th Sept | | | | | | |
| зері | | | Chained visual | | | |
| | | | ethnography for the | | | |
| | | | diverse reality of action | | | |
| | | | research | | | |
| | | | Genta Nakano | | | |
| | | | | Break | | |
| | | Session 6-1 | Session 6-2 | Session 6-3 | Session 6-4 | Special Session 10 |
| | | New insights based on | Disaster Recovery and | Culture / society and | Disaster risk governance | Integrated natural |
| | | disaster econometrics | Build Back Better | disaster risks | Chair: Uttam Kumar | disaster risk in the |
| | | Chair : Yoshio Kajitani | Chair : William | Chair : <i>Kaori Kitagawa</i> | Roy | highly-elevated areas: |
| | | | Siembieda | | | chain effects/cascading |
| | | | Sicinisicad | | | events in a changing |
| | | | | | | climate |
| | | | | | | Chair : Ye Tao |
| | | | | | | |
| | | A REIMAGINED SUPPLY | The effects of managed | Perspectives in disaster | The Noah's Ark effect: | Increased dust aerosols |
| | | CHAIN DURING THE | retreat (red zoning) on | memory and material | | in the high troposphere |
| | | KERALA FLOODS OF | the relocated | culture: Flood-level | meanings introduced to | over the Tibetan Plateau |
| | | 2018 AND THE | households in New | markers as a tool for | disaster preparedness by | from 1990s to 2000s |
| | 9:00 | CHALLENGES WITHIN (A | Zealand | disaster awareness? | massive tsunami | Xingya Feng |
| | | function of Exacerbated | Thoa Hoang | Florence Lahourmat | estimation | |
| | | Challenges and | | | Hiroaki Daimon | Landslide-lake outburst |
| | | Emergent Crises) | Transition of Post- | Incorporating | | floods accelerate |
| | | Pranav Sujay | disaster Housing of | indigenous concerns to | Resilience to Climate | downstream hillslope |
| | | 7,-7 | Rural Households: A | disaster research and | Change and | slippage |
| | | (continute) | Case Study of the 2015 | management: reclaiming | _ | Wentao Yang |
| | | (continute) | • | | · | vventuo rung |
| | | | Gorkha Earthquake in | knowledge from | Study of East Kolkata Wetlands | (acatiouts) |
| | | | Nepal | national digital records | | (continute) |
| | | | Hitomu Kotani | Sally Owen | Meghna Guha | |
| | | | i | | I | |
| | | | (continue) | (continue) | (continue) | |
| | | | (continue) | (continue) | (continue) | |

| | | (continued) | (continuted) | (continuted) | (continuted) | (continued) | |
|--------------|---------------|--|--|--|--|--|--|
| 24th Sept | 11:00 | Structure Decomposition of Annual Disaster Impact Statistics Twelve Years for 47 Japanese Prefectures Makoto Okumura Changes in Service Elasticity of Travel Demand during Disaster: A new indicator of phase transition Nur Safitri Creatively Destructive Hurricanes: Do Disasters Spark Innovation? Ilan Noy Societal Impact Estimation Due to Water Infrastructure Disruptions: An Individual's Activity Choice Analysis Yongsheng Yang | Post-Earthquake Housing Reconstruction in Likhu Tamakoshi Rural Municipality: Lessons to be Learned Bijaya Shrestha Rebuilding local community in disaster affected regions: Lessons to be learned from the Fukushima nuclear accident Mariko Nishizawa | Exploring stakeholders' perspectives on categorising disasters and disaster impacts Hideyuki Shiroshita | Better Risk Governance is the strategic path ahead for Disaster Management effort Bijay Anand Misra | A warming climate may reduce health risks of hypoxia on the Qinghai-Tibetan Plateau Yanqiang Chen Modelling of Transportation Systems Robustness in High Altitude Region Saini Yang Advances and Prospects of Livestock Snow Disaster Mechanism and Risk Assessment MA Heng The Efects of Permafrost Degradation on Geological Hazards in Typical Areas on the Qinghai-Tibet Plateau Qiong Chen | |
| | | | | Long Dro | | | |
| | | Special Session 11 | Special session 12 | Long Bre Special Session 13 | Special session 14 | Special Session 15 | Session 7-1 |
| | 9:00 11:00 | SMEs and DRR- Lessons from Covid 19 Pandemic Chair: <i>Bijaya Nand</i> <i>Misra</i> | What is the role of young scientists in making the IDRiM society progress? Chair: Mark Ashley Parry Co-Chair: Robyn Miller | Empirical tested Resilience Approaches Chair : Adriana Keating, Stefan Hochrainer-Stigler | Participatory Approaches for Natech Risk Reduction Chair: Ana Maria Cruz, Elisabeth Krausmann | Health Emergency and Disaster Risk Management and COVID-19 Chair: Andrew Collins | Social learning and collaborative risk management Chair : Myriam Merad (TBC) |
| | | SMEs and Impact of | Café Style discussion | | Are Natech | Overview of Health | Is there anything we |
| | | Covid-19 : DRR Management Challenges Bijay Anand Misra | Panelists: Muneta Yokomatsu | and recent advances Adriana Keating Measuring flood | accidents Black Swans? Elisabeth Krausmann | EDRM and COVID-19 Virginia Murray Role of WHO Kobe | disasters and major accidents? Systemic deficiencies and |
| | | The sharp sudden shock of Covid-19: Exploring the impact of the pandemic on approaches to leadership in the UK | Funda Atun-Girgin Hiroaki Daimon Mark Ashley Parry | resilience for communities: Approaches, Implementation and Outcomes Finn Laurien | Quantitative tsunami-triggered oil spill fire hazard assessment for Natech risk reduction | Centre and health emergencies Ryoma Kayano Introduction to the need for research and Research | incentives Myriam Merad Co-creating resilience: an inclusive multidisciplinary |
| | | Doirean Wilson (continue) | | (continue) | Tomoaki Nishino (continue) | Methods book and related resources Mike Clark | challenge Nina Jirouskova (continue) |
| | | | | | | (continue) | (Soficinge) |

| | | (contibuted) | | (continued) | (continued) | (continued) | (continued) | | | | |
|--------------|----------------|--|--|---|--|---|---|--|--|--|--|
| | 9:00 | 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 José-Luis Fernández-Fernández Work Life Balance in the MSME Sector in India During Covid 19 Pandemic Kshitiz Sharma Management Challenges faced by the MSME sector during the Covid 19 pandemic Madhumita Chatterji | | The Dynamics of Resilience Stefan Hochrainer- Stigler Neighborhood Resilience and Recoverability as a Pathway to Disaster Risk Reduction in Vancouver, Canada Juri Kim | Understanding Cold Weather-related Natech Events: An Analysis of Those Events caused by the Winter Storm Uri Xiaolong Luo 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 Su Song | Disaster risk factors: hazards, exposure and vulnerability Dell Saulnier Disease burden: generating evidence, guiding policy Shuhei Nomura Country focus and measuring the health impacts of disasters Ronald Law | Fundamental Problems of Evacuation Shelter Management in Japan and Proposed Solutions Anna Matsukawa Current Status and Issues of Information Sharing in Disaster Response in Japan: Information Linkage by "SIP4D" Tadashi Ise Managing Cascading Disaster Risks under Uncertainties: Case of the Covid-19 in Japan through Resilience Perspectives Mika Shimizu | | | | |
| | | Break | | | | | | | | | |
| 24th Sept | 11:10 11:50 | Keynote Speech 3-2 Chair: Norio Okada The Expanding Realm of IDRiM: Perception & Decision Making; Prospects & Benchmark Action in the Changing Global Disaster Risk Scenario Bijay Aand Misra (2019 Implementation Science Awardee), Professor Emeritus, School of Planning and Architecture New Delhi, India Future challenges for effective implementation of Disaster Risk Science Mohsen Ghafory-Ashtiany (2020 Implementation Science Awardee), International Institute of Earthquake Engineering and Seismology (IIEES), Iran | | | | | | | | | |
| | 12:00 13:30 | Panel Discussion III Moderator: Shingo Nagamatsu "Challenges of Integrated Disaster Science for upcoming decade" Panelists: Junko Mochizuki, Hamilton Bean, Funda Atun-Girgin, Genta Nakano, Sunhajyoti Samaddar, Mark Ashely Parry, Kaori Kitagawa | | | | | | | | | |
| | | | | Break | | | | | | | |
| | 13:45 15:00 | Plenary Coordinator: Joanne Linnerooth-Bayer and Elisabeth Krausmann "Looking Forward: Strategic Plan of IDRiM Society" Panelists: Ana Maria Cruz, Dimitrios Tzioutzios, Maria Camilla SuarezPaba, Matt Dorfstaetter, Norio Okada, Hirokazu Tatano | | | | | | | | | |
| | 15:00 15:30 | Closing Ceremony MC: Hirokazu Tatano Wrap up /YSS Award ceremony / IDRiM Awardee ceremony / Announcement of IDRiM2022 / Closing Remarks | | | | | | | | | |

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).

Submission Guidelines

New for this Special Issue, and in conjunction with *IDRiM Journal*'s recent request for <u>Scopus</u> 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 <u>instructions for authors</u>. 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 <u>instructions for authors</u>. 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 <u>instructions for authors</u>. 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).

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

7:10-8:000 (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_mNgDsttTwxPJIOJd8ivfWR9kOg/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
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- Yoko Matsuda, Nagaoka University of Technology
- Yoko Saito, Kwansei Gakuin University
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- 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 make 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.









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 sent 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

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Hirokazu Tatano Vice-President

IDRiM2021 Conference Chair

Hirokazu Tatano









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 Sugiayama, Kyoto University
- Bronze prize Huan Liu, Kyoto University







