The Integrated Research on Disaster Risk
2021 International Conference

ADVANCING RISK SCIENCE FOR
DEVELOPMENT SAFETY: 10 YEARS OF IRDR
BUILDING A NEW RISK RESEARCH AGENDA
FOR 2030 AND BEYOND

8-10 June 2021

Program
BACKGROUND AND RATIONALE

Disaster frequencies and impacts have started to increase accelerated in the last 2 decades. Since 2019 the world community has witnessed many disasters, such as extensive wildfires, extreme weather events, outbreaks of desert locusts crossing continents and, worst of all, the Covid-19 pandemic, the impacts of which are still unfolding. The underlying vulnerabilities ingrained in our social, economic and financial systems are documented and becoming increasingly recognized, thereby supporting the call of the Sendai Framework for Disaster Risk Reduction (SFDRR) for a more comprehensive, forward looking, multi-hazard and systemic approach to disaster risk reduction and resilience. The need for a new and innovative approach for DRR has become very clear and urgent.

2015 is an important year for sustainability due to the adoption of the SDGs, SFDRR and Paris Agreement. 2021 is the first year of UN Decade of Action for the Global Goals which was agreed in 2020 to accelerate the process of 2030 Agenda of Sustainable Development. As we only have less than a decade to achieve these goals, it is paramount for scientific communities to review the progress made, to assess the effectiveness in generating the expected changes, and to re-position themselves under new development context and deliver, more effectively and coherently, toward the established global goals and targets.

The completion of 10-year phase of IRDR (2010-2020) thus comes in a good juncture of time. It is important to look back and examine the original IRDR science mission, the progress made, and lessons learnt over last ten years, and, at the same time, to look forward to 2030 and beyond on how science, or STEI (Science, Technology, Engineering and Innovations) as a whole, should respond to the changing and uncertain landscape of risk and development. For a safer, and more inclusive and sustainable world, science must act more effectively, coherently, strategically, and timely in generating policy changes and providing practical and tangible solutions.

OVERALL PURPOSE OF THE CONFERENCE

The overall purpose of the 2021 Conference is to reach a renewed consensus on the mission of STEI and put forward a novel proposal on the Global Research Agenda for disaster risk reduction and risk-informed development toward 2030 and beyond.

MAIN RESULTS EXPECTED

- The Conference will officially launch the IRDR Compilation 2010-2020, which is the summary of work of IRDR community in the last decade.
- The Conference will adopt the new Global Research Agenda on Disaster Risk Reduction, led by the IRDR Co-sponsors and IRDR Scientific Committee, for submission to ISC Board for consideration.
- Further, the Conference will deliberate on strategies to support the implementation of the Global Research Agenda on DRR, including the possible arrangements for a new phase of IRDR.
AGENDA AND TIME TABLE FOR THE MAIN CONFERENCE

Day 1, UTC 11:00-14:00, 8 June 2021

UTC 11:00-11:40  Opening Session

Master of the session:
GUO Huadong, President of China National Commission for ISC

1. Opening remarks (25min)
   - Peter GLUCKMAN, President-elect of ISC
   - Mami MIZUTORI, Special Representative of UN Secretary-General on Disaster Risk Reduction
   - HUA Jinpeng, Executive Vice President and Chief Executive Secretary of CAST
   - Riyanti DJALANTE, Chair of IRDR Scientific Committee

2. Launch of IRDR Compilation 2010-2020 (15min)
   - IRDR Compilation: A ten-year science quest for Disaster Risk Reduction: HAN Qunli, Executive Director of IRDR-IPO
   - Launch of the Compilation: Riyanti DJALANTE and HAN Qunli

UTC 11:40-11:45  Break with music

UTC 11:45-12:55  Keynote Session 1: The Changing Landscape of DRR and Risk Dynamics

Climate change has been considered one of the top risk concerns in recent years, given its global and systemic nature, and the growing frequencies and intensities of climate extremes. The sudden outbreak of the Covid-19 pandemic in early 2020, which has been causing great losses of human lives and lasting damage to many dimensions of human societies, has made DRR a much more challenging mission. At the same time, countries are increasingly united under the visions and missions set by the UN 2030 Agreements, especially the Sendai Framework on Disaster Risk Reduction, the Paris Agreement, and the Sustainable Development Agenda, providing new paths for science communities to act together to address the concerns on the complexities of risks as mainstream development challenges. The three keynotes of the session on SDGs and Sendai Framework, Climate change and system risk and post Covid-19 pandemic provide all the participants with an overview on the characteristics of the changing risk landscape in the contemporary global development contexts, thus be better prepared for the introduction and discussions on the new Global Research Agenda for DRR.

Moderators:
- Shuaib LWASA, Former Chair of IRDR Scientific Committee (2016-2019)
- Virginia JIMÉNEZ DÍAZ, Vice Chair of IRDR Scientific Committee

Rapporteurs:
- Michael BOYLAND, Research Fellow of IRDR ICoE TDDR
- LIAN Fang, Science Officer of IRDR IPO
1. Keynotes (50min)
   - Climate Change and Systemic Risk for Development: Jana SILLMANN, IRDR SC member, Lead Author of IPCC AR6-WGI
   - UNDRR/ISC Hazard Definition and Classification Review: Virginia MURRAY, Member of IRDR Scientific Committee, Chair of UNDRR/ISC Technical Working Group Hazard Definition and Classification Review
   - STI in Supporting SDGs and Sendai Framework: GUO Huadong, UN 10-Member Group to support the Technology Facilitation Mechanism for SDGs (2018-2021)

2. Discussions (20min)

UTC 12:55-13:00
Break
UTC 13:00-14:00
This session is for the WGs, NCs and ICoEs which did not organise the Pre-sessions.

Main Session 1: IRDR Achievements and Lessons Learnt

Much of the achievements and effort of IRDR community as well as the lessons learnt during 2010-2020 have been summarized in the IRDR 10-year Compilation. However, it is important for the members of the IRDR community to highlight their DRR research experience and lessons learnt. The session will provide better basis for the further discussions regarding the Global Research Agenda on DRR.

Moderators:
   - Rajib SHAW, Chair of UNDRR STAG, Member of IRDR Scientific Committee
   - Irasema ALCÁNTARA-AYALA, Former Member of IRDR Scientific Committee

Rapporteurs:
   - ZHANG Haiying, Assistant Professor of AIRCAS
   - SONG Wanjuan, Assistant Professor of AIRCAS

1. Presentations: Representatives of IRDR community
   - IRDR Working Group on DATA: SHM FAKHRUDDIN
   - IRDR NC China: CHEN Fang
   - IRDR NC France: Myriam MERAD
   - IRDR NC Iran: Mohsen GHAFOORY-ASHTIANY
   - IRDR ICoE RIA: Mark PELLING
   - IRDR ICoE CR: David JOHNSTON (digital report only)
   - IRDR Young Scientist: Mizan Bustanul Fuady BISRI

2. Discussion
Day 2, UTC 11:00-14:00, 9 June 2021

UTC 11:00-12:10

Main Session 2: Global Research Agenda on DRR

This session is to present officially the last version of the Global Research Agenda on DRR led by ISC, UNDRR and IRDR Scientific Committee through a broad-based drafting and consultation process in 2020 and 2021.

Moderator:
- Anne-Sophie STEVANCE, Science Officer of ISC

Rapporteur:
- Michael BOYLAND, Core Group Member of the Global Research Agenda on DRR; Research Fellow of IRDR ICoE TDDR

1. Welcome to the Session
- Anne-Sophie STEVANCE, on behalf of ISC and UNDRR
- Coleen VOGEL, Co-Chair of the Expert Review Group of the Global Research Agenda on DRR

2. Presentation of the Global Research Agenda on DRR

Global Research Agenda Development Group:
- John HANDMER, Co-Chair of the Expert Review Group of the Global Research Agenda on DRR
- Benjamin Alexander PAYNE, Lead Scientific Officer of Global Research Agenda Development Group

3. Reflections on the Global Research Agenda on DRR

Core Group Members:
- GUO Huadong
- Chloe DEMROVSKY

UTC 12:10-12:15

Break with music

UTC 12:15-14:00

Please note that order of reports is following the sequence of consultation process, perspectives from regions, NCs and ICoEs, and IRDR partners.

UTC 11:00-14:00

Main Session 3: Insights and Reflections on Global Research Agenda on DRR and the Implementation

This session is to bring on board the main recommendations and suggestions obtained from the Pre-sessions of the Conference and the multi-lateral consultation meetings for the Global Research Agenda.

Moderators:
- Riyanti DJALANTE, Chair of IRDR Scientific Committee
- Weisen LI, Member of IRDR Scientific Committee

Rapporteurs:
- LIAN Fang, Science Officer of IRDR IPO

- Tiana Mahesooa RANDRIANALIAONA
  Expert Review Group Members:
  - Irasema ALCÁNTARA-AYALA
  - Clarissa Rios ROJAS

4. Audience Q&A

5. Closing of the Session and Next Steps
- Coleen VOGEL, Co-Chair of the Expert Review Group of the Global Research Agenda on DRR

6. Closing Comment
- Anne-Sophie STEVANCE, Science Officer of ISC
- Jenty KIRSH-WOOD, Chief of the Global Risk Analysis and Reporting Section, UNDRR
1. Reports from Pre-sessions and IRDR partners (10min each)
   - IRDR ICoE REaL-Perspectives from Africa Region: Nico ELEMA, Director
   - IRDR NC Japan - Promoting Coherence among DRR, CCA, and SDGs: Haruo HAYASHI, Member of IRDR Scientific Committee
   - IRDR ICoE SEADPRI-UKM - Risk science for resilient cities-from concept to action: Fasha MUHAMAD, Research Fellow
   - IRDR ICoE CCOUC-Latest frontier and application of Health-EDRM within the scope of COVID-19: Emily CHAN, Director
   - IRDR ICoE RIG-WECEIPHE - Climate change and one health: TANG Xu, Executive Director
   - ANSO DRR: Gretchen KALONJI, Co-Chair of ANSO DRR

2. Discussions

Keynote Session 2: Knowledge in Action

Day 3, UTC 11:00-14:00, 10 June 2021

UTC 11:00-12:10

In the Global Research Agenda, "harness technologies, innovations, data and knowledge for risk reduction" is emphasized as the Theme 6 of Research Priorities. In the context of cascading, systemic, compound and complex risk, the technological advances in big data and Artificial Intelligence and the related analytical capacities have the significant potentials to contribute to all the aspects of disaster risk management and risk reduction. To understand the changing DRR landscape and managing uncertainties, it is important to explore DRR solutions through transferring the relevant knowledge and capacities to broader range of actors. DRR education and communication are essential in knowledge transfer and for building knowledge capacities. Young professionals play important roles as the DRR practitioners through their innovations and actions. The three keynotes and the discussions of this session are provided to illustrate how to enable actionable knowledges benefiting from the digital revolution in DRR, the engagement of young professionals and the efforts in DRR education and communication.

Moderators:
- Ailsa HOLLOWAY, Undergraduate Prog. Leader, Public and Environmental Health, Auckland University of Technology
- Alonso Brenes TORRES, Coordinator of the Latin American Network of Social Studies on Disaster Risk (LA RED)

Rapporteurs:
- Sarah LINBERG, Research Assistant, University of California Berkeley
- LIAN Fang, Science Officer of IRDR IPO
1. Keynotes (45min)
   - Unleashing the Potentials of Young DRR Professionals through Bigger Roles and Better Support: Glenn FERNANDEZ, IRDR Young Scientist
   - Education and Communication: Rajib SHAW, Professor of Keio University
   - Two sides of the innovation coin: Capability Pull and Technology Push: Claudia BERCHTOLD, Senior Researcher of Fraunhofer Institute for Technological Trend Analysis

2. Comments and Discussions (25min)
   Respondents
   - Nuraini Rahma HANIFA, Secretary General, U-INSPIRE Alliance
   - SHM FAKHRUDDIN, Co-Chair, Linked Open Data for Global Disaster Risk Research (LODGDR), CODATA

Discussion

UTC 12:10-13:15

Keynote Session 3: Challenges and Opportunities for Cooperation

The new Global Research Agenda on DRR is part of the current global effort to accelerate science impact for 2030 Agenda. The Second Global Forum of Funders convened by ISC during 26-28 April 2021 deliberated the strategies and mechanisms for science funders to support mission-oriented science globally, which is highly relevant for the implementation of the new Global Research Agenda on DRR. In parallel, private sectors, including insurance enterprises, have been increasingly engaged in global DRR research and disaster impact mitigation actions by using financial facilities; and are important stakeholders for DRR research and policy communities. The two keynotes from above and the discussions of this session are provided to deepen the understanding the common challenges and to explore new opportunities for cooperation.

Moderators:
- Tiana Mahefasoa RANDRIANALIJAONA, Vice Chair of IRDR Scientific Committee, Professor of University of Antananarivo
- Nisreen DaifAllah AL-HMOUD, Member of IRDR Scientific Committee, Director of the Biosafety and Biosecurity Centre, the Royal Scientific Society of Jordan

Rapporteurs:
- OUYANG Huiling, Postdoc Researcher of IRDR ICoE-RIG-WECEIPHE
- LIAN Fang, Science Officer of IRDR IPO

1. Keynotes (30min)
   - A Framework to Unleash Mission-Oriented Science: Albert van JAARSVELD, CEO and Director General of IIASA, Co-lead of the Global Forum of Funders
   - Insurance mechanisms in the changing risk landscape: HUANG Hairong, Head SRI Centre China, Swiss Reinsurance Company Ltd. Beijing Branch
2. Comments and Discussions (30min)

Respondents
- Spyros SCHISMENOS, IRDR Young Scientist, Co-founder and CEO of My Safety Approved LLC
- YE Qian, Executive Director of Integrated Risk Governance Project of Future Earth

Discussions

UTC 13:15-13:20  
Break with music

UTC 13:20-14:00  
Closing Session

Master of the Session: HAN Qunli

1. Conference Summary (25min)
- Summary of Keynote Sessions and Main Sessions: Rapporteurs of all sessions
- Conference Summary with suggestions of the implementation for the Global Research Agenda: Riyanti DJALANTE

2. Closing Remarks (15min)

The closing will mark on the soft launching of the Global Research Agenda on DRR
- Anne-Sophie STEVANCE, Science Officer of ISC
- Jenty KIRSCH-WOOD, Chief of the Global Risk Analysis and Reporting Section, UNDRR
- WANG Qinglin, Deputy Director General, Department of International Affairs, CAST

List of Pre-sessions during April-May 2021

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
<th>Organizer</th>
<th>Co-organizers</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 April</td>
<td>19:00-20:00</td>
<td>Latest Frontier and Application of Health-EDRM within the Scope of COVID-19</td>
<td>Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC), The Chinese University of Hong Kong; IRDR ICoE-CCOUC</td>
<td>Integrated Research on Disaster Risk (IRDR); CUHK Centre for Global Health (CGH); CUHK JC School of Public Health and Primary Care (SPHPC); GX Foundation</td>
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<tr>
<td>26 April</td>
<td>14:00-17:00</td>
<td>Climate Change and One Health</td>
<td>IRDR ICoE on Risk Interconnectivity and Governance on WEather/Climate Extremes Impact and Public HHealth (RIG-WECIEPHE), Fudan University</td>
<td>Integrated Research on Disaster Risk (IRDR), IRDR CHINA, WMO/IGAC MAPAQ Asian Office Shanghai, WHO Collaborating Centre for Health Technology Assessment and Management</td>
</tr>
<tr>
<td>6 May</td>
<td>16:00-18:00</td>
<td>ANSO-DRR Consultation (close door)</td>
<td>Alliance of International Science Organizations on Disaster Risk Reduction (ANSO-DRR)</td>
<td>Integrated Research on Disaster Risk (IRDR), Institute for Disaster Management and Reconstruction, Sichuan University - The Hong Kong Polytechnic University</td>
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### Date: 7 May  
**Time: 17:00-19:00 (UTC+8)**  
**Risk Science for Resilient Cities - From Concept to Action**  
**Convened by:** IRDR ICoE-SEADPRI-UKM, UNDRR Asia Pacific Science Technology Academy Advisory Group (AP-STAAG) and Asian Network on Climate Science and Technology (AN CST)  
**Supported by:** UNESCO Youth and Young Professionals Group on Disasters, International Science Council – Regional Office for the Asia Pacific (ISC-ROAP) and the Academy of Sciences Malaysia

### Date: 20 May  
**Time: 20:00-22:00 (UTC+9)**  
**Promoting Coherence among Disaster Risk Reduction, Climate Change Adaptation, and Sustainable Development by Establishing an “Online Synthesis System (OSS)” and Fostering “Facilitators” using OSS**  
**Organizers:** IRDR NC Japan; Science Council of Japan

### Date: 21 May  
**Time: 12:00-15:00 CAT**  
**Global Research Agenda on DRR - Perspectives from Africa**  
**Organizers:** IRDR ICoE for Risk Education and Learning (IRDR ICoE-REaL), PERIPERI U Secretariat, Stellenbosch University, South Africa

### ORGANIZATION

### SPONSORS
- International Science Council (ISC)
- United Nations Office for Disaster Risk Reduction (UNDRR)
- China Association for Science and Technology (CAST)

### SUPPORTERS
- Chinese Academy of Sciences
- Chinese Academy of Social Sciences
- The World Academy of Sciences

### ORGANISING COMMITTEE
- IRDR Scientific Committee, and representatives of ISC, UNDRR and CAST
- The Organising Committee is responsible for the overall design of the Agenda, identification of the speakers and moderators and provides operational guidance to the Conference Secretariat.

### HOSTS
- IRDR International Programme Office
- IRDR National Committee of China
- Aerospace Information Research Institute, Chinese Academy of Sciences
- China Centre for International Science and Technology Exchange
PARTNERS
IRDR National Committees and International Centres of Excellence
ISC and UN Partners
Horizon Global Youth Development Program
Private sectors and civil society organisations

COORDINATION TEAM
Riyanti DJALANTE (Chair of the Conference), Virginia JIMENEZ, Mahefasoa RANDRIANALIJAONA, Anne-Sophie STEVANCE, Jenty KIRSCH-WOOD, Tsuguki Ishio, YIN Lin, John HANDMER, CHEN Mingmei, CHEN Fang, HAN Qunli (Head of Secretariat)
This Coordination Team is set up to deal with the routine preparation decisions of the Conference.

SECRETARIAT
SUN Yue, YANG Shuang, LU Yisha, LANG Lang, LIAN Fang, Michael BOYLAND. HAN Qunli will lead the Secretariat in liaison with the above bodies.

PARTICIPATION
All participants need to register for the Conference.
The Conference Website: http://conference.irdrinternational.org
Contact of Conference Secretariat: conference@irdrinternational.org

STRUCTURE AND CONDUCTION OF THE CONFERENCE
Given the travel restrictions, the Conference will be organized virtually through online meeting platforms and will be broadcasted by live streams. All the conference documents including the summaries and reports by rapporteurs will be available in the Conference Website during the Conference.
The Conference will have a general structure of:
• Main Conference during 8-10 June 2021 (three hours each day)
• Six Pre-sessions during April-May 2021

THE OVERVIEW OF PRE-SESSIONS
RATIONALE AND OBJECTIVES
IRDR Scientific Committee is working with International Science Council (ISC) and United Nations Office for Disaster Risk Reduction (UNDRR) on a new Global Research Agenda on DRR, which will be adopted during the 2021 IRDR Conference in June 2021.
The main purposes of the Pre-sessions are to give timely input to Global Research Agenda and as part of the consultation process from different stakeholders. Inputs are particularly sought from the perspectives
of regional and national needs and dynamics, and interest from special fields of research or groups, such as young professionals and industries in DRR, and make suggestions and recommendations on how to implement the new research agenda.

ORGANISATION

• The Pre-sessions are expected to be initiated and organised by IRDR SC members, NCs, ICoEs and IRDR Young Scientists. Cooperation with IRDR partners are very much encouraged. IRDR SC and IPO will provide support if it is needed.
• The organisers of each Pre-session will prepare a specific concept note and agenda in consultation with IRDR SC Chair and IRDR IPO.
• The calendar of the pre-sessions will be continually updated and put on IRDR portal and social media.

EXPECTED OUTCOMES AND REPORTING

The outcomes of Pre-sessions will be summarized as the feedback of the Global Research Agenda. The report of each Pre-session should follow the template attached below and be submitted to SC Chair and IRDR IPO one week after the session. All reports will be presented in the Main Conference on DAY 2, 9 June 2021.

HOW TO USE ZOOM

I. PC or MAC Users

1. Download “ZOOM”
2. Two Ways of “Join the Meeting”
   (1). If you already downloaded “ZOOM” app, click the link below to join the meeting directly: https://zoom.com.cn/j/98384904607?pwd=dzlnZzJYK1BOMEd5c2Ja5ypOJupuUT09
   (2). Open “ZOOM” app and click “Join a Meeting”; Enter the meeting ID and your Full Name (in English)
   Meeting ID: 983 8490 4607   Password: 123456

3. Settings:

   Please use a computer with camera and microphone, both of which must be turned on.

   “Speaker View” in the upper right corner of the screen allows you to freely switch the view between participants.

   You can see all participants.
"Share Screen" allows you to share your PPT or other documents, which can be seen by all participants.

Click to switch between "English" and "Chinese" languages.

Click to leave the meeting.

II. Mobile Users

1. IOS: search for "ZOOM" app in the APP Store and download;
2. Two Ways of "Join the Meeting"
   (1) If you already downloaded "ZOOM" app, click the link to join the meeting directly: https://zoom.com.cn/j/98384904607?pwd=dzlnZzJYK1BOMEdSK2jaS3pFOUpaUT09
   (2) Tap "Join a Meeting", type in the meeting ID and your real name (in English), and then tap "Join Meeting"; fill in the meeting password and press "OK".

   Meeting ID: 983 8490 4607
   Password: 123456
3. Phone number verification: enter your phone number to get a verification code

4. Settings:

Please use a mobile phone with camera and microphone, both of which must be turned on.

- **Speaker View** in the upper right corner of the screen allows you to freely switch view between participants.
- You can see all participants.
- Tap “Share Screen”, select the PPT or other documents to be shared from your phone, and tap “Share” to share it to all participants.
- Tap to switch between “English” and “Chinese” languages.
- Tap to leave the meeting.

LIVE BROADCAST

The conference will be live broadcast via PC terminal of CCTV. Click the link to enter the live broadcast:

Live link for The Integrated Research on Disaster Risk 2021 International Conference (Start from UTC 11:00, 8 June, 2021)

https://gongyi.cctv.com/special/irdr2021/

Or scan the QR code below: