



Annex: NEEDS Conference Detailed Program
Panel, presenters and presentations, posters, and extra and side events and activities

DAY 1: Tuesday October 31

PANEL SESSION 1 - 13:30-15:00 (ITC Building Langezijds)

Taking on the politics of disasters by storm: Disaster risk reduction in conflict and humanitarian zones

Chair: Rodrigo Mena, Laura Peters

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| A humanitarian perspective on the Global Future | Catalina Jaime and Juliane Schillinger | Red Cross Red Crescent Climate Centre | This presentation examines the integration of climate risk in humanitarian programming within conflict contexts, focusing on key areas such as enabling disaster risk reduction and adaptation, ongoing climate risk integration in ICRC operations, anticipatory action in conflict, and climate security implications in humanitarian action. Learnings from the implementation of these systems by Red Cross Red Crescent National Societies in conflict settings like Sudan and Palestine will be shared, offering insights into the challenges and experiences associated with incorporating climate risk considerations in humanitarian actions and efforts. |
| Rehumanising the state: upending normative approaches to disaster risk management in conflict and humanitarian settings. | Katie Peters | University of Cambridge | <p>This paper takes as its starting point the panel intention to identify and share positive examples of disaster risk management (DRM) in conflict and humanitarian settings. The first part of the paper presents a set of themes for ‘navigating, promoting and implementing’ DRM in difficult operating environments (call for abstracts) drawing on two sources. One, an extensive review of programmatic and operational documents which were published as a thematic input to the Mid-Term Review of the Sendai Framework on Disaster Risk Reduction (authored by Katie Peters, https://www.undrr.org/publication/evidence-positive-progress-disaster-risk-reduction-humanitarian-development-peace-nexus). Two, unpublished insights from GFDRR’s experiences of its Disaster Risk Management - Fragility, Conflict and Violence (DRM-FCV) Nexus Program, and lessons learnt for delivering grant operations in conflict settings.</p> <p>The second part of this paper seeks to (re)interpret this collection of empirical examples in a new light. The session purports that, “Rather than considering conflict and humanitarian zones as exceptional cases, we seek to center these experiences in reshaping best practices for DRR to leave no one behind in all diverse and divided</p> |

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| | | | <p>societies” (call for abstracts). This paper takes a critical lens to this statement. Utilising decolonial critiques of disasters and of the ‘failed states’ thesis it becomes possible to rethink the normative approach to DRM in conflict and humanitarian settings. In doing so, the whole notion of sourcing positive examples of DRM in difficult settings is turned on its head. A decolonial critique to the failed states thesis in the context of DRM reveals the inherent roots of the risk management endeavour in Western, neoliberal visions of democratic governance; reflecting an idealised Western vision of a state and the underlying advancement of capitalist development.</p> <p>In bringing together the empirical insights on DRM together with a critique of the normative approach to DRM in conflict and humanitarian settings, the paper concludes by exploring the proposition that a number of trends in disaster scholarship have led to an implicit and explicit normative stance to deprecate the state and formal disaster risk governance arrangements. And, that there is a dearth of evidence or understanding of how formal disaster risk governance arrangements, namely National Disaster Management Authorities (NDMAs), navigate the everyday realities of disasters in conflict settings. The paper argues that this neglect produces a partial picture of the politics of disasters and of opportunities for DRM in conflict settings. Addressing this gap could help to rehumanise the postcolonial state by bringing the perspectives of elite decision-makers responsible for risk management to mainstream academic debate.</p> |
| A quantitative study of the disaster-conflict relationship: New knowledge to advance new practices and opportunities | Rodrigo Mena | Institute of Social Studies (ISS) & Humanitarian Studies Centre | Disasters and armed conflicts often happen together, but does one cause the other? Researchers have tried to answer this question and found different results. This presentation shares the results from two studies that, grounded in a theoretical model of disaster–conflict co-occurrence, developed robust and large quantitative cross-country models to assess the role that each (disaster and conflict) play in the occurrence or intensity of the other. The main finding is that although disasters and conflicts have increased over time, there isn't a direct link between them. Instead, they are connected through other factors and how they influence each other. This study helps us understand the relationship between disasters and conflicts in a more indirect way. |
| Transforming the risk landscape: Reducing disaster risks and building peace through relational approaches in | Laura Peters | Oregon State University | The global peace agenda has set ambitious goals for building sustainable peace in a changing world. Peace has been conceptualized as the ability to meet the needs of all segments of society while also adapting to an ever-changing environment. A formidable task on its own, changing temperature and precipitation regimes caused by climate change in combination with socially and environmentally destructive human |



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| <p>Israel, Palestine, and Jordan</p> | | | <p>actions are creating new relationships and uncertainties around the natural resources we depend on to meet our needs. This research examines the relationships between people and their environments within a conflict paradigm through a case study of the organization EcoPeace Middle East’s environmental peacebuilding work on shared water resources in Israel, Palestine, and Jordan. Through more than 80 interviews conducted at parallel field sites with shared water resources, we analyze the people-centered conflict processes leading to self-interest for mutual harm that have contributed to the region’s growing disaster risks around water resources. We further assess EcoPeace’s theory of change around cultivating self-interest for mutual gain, and how this approach seeks to reshape these social and environmental relationships and ultimately transform the conflict paradigm driving disaster risks. We discuss implications for relational approaches to fused peacebuilding and disaster risk reduction aims, teasing apart the spaces for social organization and reorganization across the human and natural landscape.</p> |
| <p>Breaking Borders: Reimagining ‘The Discipline’ through the Study of Fire.</p> | <p>Helen Underhill</p> | <p>Kindling Safety</p> | <p>Fires can lead to loss of life, property and livelihoods and leave many experiencing repeated trauma, particularly for those in communities living in humanitarian settings. Yet the issue of fire has largely been neglected from disaster studies and is, on the whole, an afterthought in humanitarian practice, a feature of ‘reactive’ programming that targets recovery rather than disaster risk reduction (DRR). Drawing on a range of reflections from our professional lives and research at the margins of and embedded within multiple disciplines, the examples provided consider how the perceptions of policy makers, first responders, engineers, affected communities and academics are shaped by siloed thinking that limits imagination. We interrogate the possibilities that emerge from breaking disciplinary boundaries inherent within disaster studies and humanitarianism. Resisting the technocratic, dogmatic and solution-driven models approaches to both, and to fire, we connect a DRR assemblage theory to an ethics of care and open the way for innovation in thinking and offer examples of what this looks like in practice. As such, this paper offers a theoretical and experiential view of reimagination and the opportunities that emerge for disaster studies and humanitarianism through the breaking of bounded disciplinary thinking.</p> |
| <p>Problem of practicing nuanced vulnerability assessment Chair: Maren Marie Egedorf</p> | | | |
| <p>Presentation Titles (if available)</p> | <p>Speakers</p> | <p>Institutions</p> | <p>Abstracts (if available)</p> |

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| | Mara Torres Pinedo | University College London | <p>Disaster risk reduction is closely associated with the potential to succeed in integrating and strengthening DR management and communities. Complex global challenges that expand beyond traditional geopolitical frontiers and institutional functions, such as disasters, demand collaboration between multi-stakeholder groups and at different scales (Lassa, 2011; Bodin, 2017; Ansell, 2020). These new forms of collaboration have become even more prevalent in an increasing globalised and decentralised world, where traditional organisational and political boundaries are defied and where leadership over public goods and services is atomised (Bulkeley and Betsill, 2005; Homsy and Warner, 2015; Rumbach, 2016). Moreover, significant contesting views on the impacts of governance approaches for tackling wicked problems, such as CCA and DRM, adequately demand further study, in particular in in unresearched governance contexts, such as global south settings (Wilkinson, 2011; Garschagen, 2016; Marks and Lebel, 2016; Rumbach, 2016; Hermansson, 2019) Therefore, a more in-depth understanding of stakeholder management networks and how households and individuals connect to these networks to gain access to this critical social service is paramount.</p> <p>This study provides a case study for the/understanding of intersectional disaster risk and cross-scale network linkages and their role in vulnerability and risk (re)production. Following a mixed methods approach, I build on original data from a household survey (N=585) in the 7 most-affected Alcaldías (boroughs) of the 2017 earthquake in Mexico City and interviews with a multisectoral group of stakeholders. The survey gains insights on people’s organisational networks at different points across the risk-disaster continuum, as well as their preventive and mitigation actions, disaster experiences and disaster risk reduction perspectives. Stakeholder interviews provide reflections on Mexico’s disaster risk management networks and collaboration practices and the challenges for the system to reduce risk and integrate effectively communities in risk reduction strategies.</p> |
| Imagining and assessing future risks: A dynamic scenario-based social vulnerability analysis tool for disaster planning and | Kati Orru | University of Tartu | <p>While social vulnerability assessments should play a crucial part in disaster management, there is a lack of assessment tools that retain sensitivity to the situation-specific dynamics of vulnerabilities emerging in compounded or cascading hazard scenarios. We developed a novel scenario-based vulnerability assessment tool together with practitioners in crisis management and assessed the suitability of its components in</p> |

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| <p>response</p> | | | <p>past crises of a large-scale power outage, the COVID-19 pandemic, and a cyber-attack and in scenario-based table-top exercises. Rather than deterministically concluding about vulnerability based on prefixed factors, the framework guides relevant stakeholders to systematically think through categories of vulnerability pertinent to a scenario. We used a table-top exercise, interviews, and focus groups to demonstrate how the framework broadens the crisis managers’ understanding of the scope of factors that may cause vulnerability, the related sources of information and enables to identify individuals burdened by certain vulnerability mixes. The new digitalised tool could be applied to different crises to enhance preparedness, demand-driven relief and rescue during critical events.</p> |
| <p>Comparing hierarchical and inductive methods to characterize social vulnerability. – A Burkina Faso case study</p> | <p>Lotte Savelberg</p> | <p>The Netherlands Red Cross</p> | <p>Social vulnerability assessments play a crucial role in guiding the allocation of budgets and resources for effective disaster preparedness and humanitarian response. Climate change, escalating conflicts, and the climate finance and humanitarian funding gap make social vulnerability assessments essential. Despite advances in data collection, availability, and analysis, there remains a lack of consensus regarding the most suitable method to assess social vulnerability. This study sheds light on the consequences of methodological choices on social vulnerability assessments by comparing two commonly used methods in space and over time: the inductive principal component approach and the hierarchical INFORM approach. Our analysis focuses on a case study of 351 communes in Burkina Faso from 2015 to 2022, a period marked by conflicts and extreme weather events. By comparing the two methods, we find important differences in rankings of the communes’ social vulnerability. By investigation the spatial and temporal results, we offer insights into the potential consequences of using different methodological set-ups. Our results show a considerable difference in the spatial social vulnerability rankings of communes for the different methods. The hierarchical approach shows a larger standard deviation within the social vulnerability scores, and at least 50% of the communes have a rank differentiation of 50 positions compared to the inductive approach. The substantial differences in outcomes of the methods, implies that different methodologies may lead to different policy decisions in humanitarian and development programs. It is therefore crucial to better understand the methodological differences and to understand which methodologies can quantify social vulnerability both spatially and temporally when facing a lack of high-quality data. This study is a call for action to be very careful in relying entirely on one method and the need to develop a deeper understanding of the different methods available and which characteristics are required to satisfy the needs of humanitarian and development programs. When comparing the performance of the</p> |

| | | | methods with the challenges present in the quantification of social vulnerability, our findings underscore the need for contextualised approaches. |
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| Cascading disasters: From vulnerability to resilience (1) Chair: Clare Egger, Francesca Giardini | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Practitioners Perspectives of Disaster Resilience: towards a shared understanding of resilience in the Global South. | Desire Mphanje | University College Dublin | Resilience is a contested term, both in the way it is understood and, in the way, it is operationalised. Despite its prominence in international aid, there is little understanding of what resilience means and how it is actually used in developing country contexts in the global south, especially in Malawi. This article examines whether there is a common understanding of resilience or whether it is little more than a buzzword. A study was conducted focusing on 26 practitioners who were purposively sampled from the public service, and aid organisations both local and international. Using this in-depth empirical research conducted in Malawi, the results indicated that while there is some common understanding of resilience from ‘the top,’ in Malawi the understanding of resilience is limited and inconsistent, lacking a common core. The article concludes by proposing a framework for measuring resilience in Malawi to guide policy and programmes. Further research is however proposed on the operationalisation of the framework through the use of context-specific indicators." |
| Title: How cascading effects are perceived after disasters? Evidence from the 2022 Senigallia Flood | Davide Di Marcoberardino | Università Politecnica delle Marche | <p>Between 2014 and 2022, the municipality of Senigallia in the Ancona province of Italy, along with its surrounding areas, faced two devastating floods, resulting in loss of life, extensive damage, and significant disruptions. The overflowing of the Misa River led to the inundation of houses and communities, leaving them submerged in water and mud. The most recent flood, which occurred in September 2022, was even more severe, affecting a larger area that included 12 municipalities across the provinces of Ancona and Pesaro-Urbino. These municipalities are Arcevia, Barbara, Cantiano, Frontone, Cagli, Pergola, Sassoferrato, Castelleone di Suasa, Ostra, Serra Sant’Abbondio, Trecastelli, and the previously mentioned Senigallia.</p> <p>However, the impacts of floods extend beyond the immediate impact of water and mud on the population. Even in the post-World War II era, White (1945) emphasized the “Social Impacts of Flood Losses” highlighting the interruption of “goods and services</p> |

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| | | | <p>production” and illustrating the shutdown of industrial plants, damage to telephone systems, disruption of commercial transactions, and delays in railroad transportation. To ensure disaster resilience and consider potential disruptions to power and water supply, roads and bridges, as well as other consequential effects known as cascading effects (Pescaroli and Alexander, 2015) there is an urgent need for a joint assessment of flooding events and the vulnerability of critical infrastructure (Nones and Pescaroli, 2016). Furthermore, Koks et al. (2022) emphasize the significant economic impact caused by these disruptions at both the local and regional levels, intensifying vulnerabilities (Pescaroli and Alexander, 2016).</p> <p>The perception of citizens regarding the cascading effect triggered by natural hazards is often overlooked in the literature. However, understanding how individuals and institutions respond to these events (Parsons et al 2019) and raising public awareness regarding the various risks and consequences associated with natural events such as floods are extremely important.</p> <p>In this study, we aim to investigate the following research questions: i) Evaluate the incidence and characteristics of cascading effects encountered by both the population directly affected by water and mud, as well as those unaffected by them, ii) Investigate the level of preparedness and determine the extent to which individuals are equipped to handle these challenges, and iii) Examine the disparities in perception between individuals who were directly affected by water and mud and those who were not. To accomplish these objectives, we have administered the same online survey to two different samples: the population affected by water and mud during the event and the population residing in the affected municipalities.</p> <p>The first questionnaire has received the appropriate number of responses, while data collection for the second questionnaire is still ongoing. I anticipate completing the work, including data collection and analysis of the results, by the end of the summer.</p> |
| | <p>Dr. Laila Shahzad</p> | <p>Government College University Lahore Pakistan</p> | <p>Floods associated with anthropic vulnerabilities and climate extremes are increasing their impacts worldwide. However, the literature on the cascading effects that could be generated by a primary event is still limited and fragmented. The understanding of cascading effects and disruptions specific to tourism is particularly lacking, despite the growing role of this sector in worldwide economics. The work aims to fill the gap on the cascading effects of floods on tourism across the world. We analyze the academic peer-reviewed papers published between 2004 and 2022 to define how the phenomena is assessed, described, and integrated in practices of resilience. Our findings show that the current literature is significantly evolving, showing a tendency to identify and</p> |

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| | | | <p>focus on basic terminology until 2015, and shifting to the substantial analysis of case studies from 2016. Resilience measures have been mostly associated with continuity management and emergency planning practices. Our discussion defines and systematize some recurrent patterns in how cascading effects affect tourism globally. We suggest that further research is needed for understanding better underlying infrastructure dependencies and compound dynamics, proposing new comprehensive indicators to support resilience in tourism sector.</p> |
| | <p>D. Saran Prakash</p> | <p>Tata Institute of Social Sciences (TISS), Mumbai</p> | <p>In the context of cascading disasters, where multiple interconnected events occur and various actors at different levels and roles are involved, it becomes increasingly crucial to delve into the experiences and perspectives of women in relation to food insecurity within disaster contexts.</p> <p>Disasters have a profound impact on food security, disrupting the availability, accessibility, and utilization of food resources. Cascading disasters, characterized by their complexity and interdependencies, highlight the need for a comprehensive understanding of the challenges faced by women and the role they play in managing and securing food resources during crises. It is well acknowledged that gender dynamics intersect with other social identities such as race, class, and age, exacerbating vulnerabilities for women during disasters. Marginalized women, in particular, find themselves at a heightened risk of food insecurity due to a combination of limited resources, discriminatory practices, and restricted decision-making power. Despite these adversities, women consistently demonstrate resilience, resourcefulness, and active participation in disaster response and recovery efforts in general and in ensuring food security of the household, in particular. This paper goes beyond the idea of women's vulnerability to examining ways in which women exercise their agency during and after disasters.</p> <p>It interrogates traditional notions of women being passive, vulnerable, and silent victims of disasters. By recognizing and amplifying women's agency, a more nuanced understanding of the complex dynamics of what women do in the face of food insecurity can be achieved. The paper seeks to highlight the capacity of women and their actions which demonstrates that women actively engage in negotiating diverse impacts of disasters, including ensuring food security of the household.</p> <p>The objective of this paper is to contribute to the development of gender-sensitive interventions and policies that empower women and promote resilient food security outcomes within the broader framework of addressing cascading disasters. By</p> |

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| | | | exploring the unique experiences of women, identifying their agency, and emphasizing the importance of proactive risk management, this paper aims to inform strategies for achieving sustainable and gender-inclusive approaches in managing cascading disasters and ensuring food security for all. Such insights have the potential to foster meaningful change and promote more equitable and resilient societies in the face of complex and interconnected crises. |
| Farmer’s Risk Perception of Drought and rising temperature due to climate change in the arid region of Rajasthan: Impacts, adaptation and mitigation measures | Vandana Choudhary | Special Centre for Disaster Research, Jawaharlal Nehru University, New Delhi, India | The paper aims to explore the concept of ‘Risk and Vulnerability’ by investing the farmers perception regarding the risks associated with Drought and Heat Wave and their corresponding adaptation strategies in the dry land region of India. The research endeavors to concentrate on an area of grassroots investigation, meticulously chosen through a vulnerability assessment carried out utilizing the IPCC framework, with specific emphasis on the state of Rajasthan. By conducting a primary survey of 150 rural households within the agricultural community, the study seeks to elucidate the perceptions of the agriculture community in the Sikar district regarding the occurrence of drought and heat waves in the region. Furthermore, the study explores the impact of these events on their livelihoods and examines the adaptation and mitigation strategies employed by the community in response. Analysis of secondary data reveals that there has been insignificant decrease and increase in the drought and the Heat wave days respectively for the region. The household survey indicated that farmers perceive highly variable rainfall and increase in the degree of Hotness due to climate change, resulting in situation like Akal, Trikal and Bhujkal. Farmers in the regions have majorly responded to the events with the adjustment in practices of agriculture, shift to other non-farm activities, migration, storage of fodder etc. The adaption strategies vary from one household to another based on the social and economic status .Moreover there exist meager number of initiatives by the government to help these farmers to cope up with these adverse situations. The findings of this study emphasize the importance of capturing micro-level grassroots perceptions as they provide valuable insights into locally evolved adaptation strategies. Understanding these perceptions is also crucial in exploring the challenges and opportunities associated with building the more resilient society towards more extreme disasters." |
| Children and Youth in Disasters: Addressing their Needs across Disaster Risk Management Phases | | | |
| Chair: Hamed Seddighi | | | |
| Presentation Titles (if | Speakers | Institutions | Abstracts (if available) |

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| | Hamed Seddighi | University of Groningen | <p>This research focuses on the challenges faced in implementing current disaster preparedness education initiatives for children in Iran. Two prominent non-formal programs exist: The Earthquake and Safety School Drill Program (ESSD) and DADRAS (Ready Students for Severe Days). The deployment of these initiatives involves collaboration among various organizations. In-depth interviews with 48 participants, including school students, staff members of the Red Crescent and Ministry of Education, school administrators, Red Crescent volunteer trainers, personnel from the Medical Emergency Organization, and Fire Department staff, provide the basis for this study. The collected data underwent narrative qualitative analysis for examination.</p> <p>The analysis unveiled fourteen significant challenges related to the provision of disaster preparedness programs to school children. The core challenges within Iran's disaster education programs can be categorized under four themes: Communication (such as stakeholder communication, recognition, information dissemination, and reliability), Planning (including sustainable planning, schedule management, inclusivity, and educational resources), Coordination (both inter-organizational and intra-organizational), and Logistics (concerning staff, trainers, equipment, and budget).</p> <p>The results suggest that these programs need enhancements to ensure coverage of all Iranian children and must be given priority in terms of budget allocation and distribution. These initiatives require additional resources and structural improvements. Inclusivity is a critical component that needs greater focus, ensuring no child is overlooked, including out-of-school children, those in specialized institutions, and those in juvenile detention centers. The study also recommends a broader approach from governments, preparing children for a variety of disasters and not limiting focus solely on earthquakes, advocating an all-hazard approach.</p> |
| | Andra Covaciu | Ljungby municipality | <p>Children spend around five days a week in school for almost the entire year. Thus, it is sensible to best prepare them for coping with the potential occurrence of hazardous events while they are in school. The present research aims to explore the perceived importance and feasibility of implementing school-based disaster preparedness (SBDP) by the means of a case study of Ljungby municipality, Kronoberg county, Sweden. Through the means of semi-structured interviews, questionnaires and secondary data, the research unravelled how the respondents, in the form of both students and school staff perceive SBDP, and whether they see it as a potentially</p> |

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| | | | <p>useful tool for their schools. In addition, the paper focused on understanding how this type of disaster preparedness can contribute to the municipality’s resilience. We concluded that the respondents understand the importance of SBDP and consider that the administrations at school and municipality level should focus more on ensuring that crisis plans are available, as well as on short- and long-term strategic preparedness. In addition, a shift in focus from training only staff to including students as valuable resources and considering their levels of preparedness was noticed by the interviewees, as well as the need to increase the awareness regarding the available SBDP items in each school. The existent crisis plans might need additional consideration in order to ensure their adaptability to schools’ needs, capacities, lessons learnt and locations. Further studies are needed in regard to whether students-aimed SBDP can be used for creating a sustainable SBDP culture within communities, municipalities and later on, entire countries.</p> |
| <p>The aftermath of the COVID-19 pandemic for Dutch youth: Mental health under pressure.</p> | <p>Elske Marra</p> | <p>Rijksinstituut voor Volksgezondheid en Milieu (RIVM)</p> | <p>Introduction The COVID-19 pandemic and restrictive measures have impacted Dutch society, both during and after the pandemic. Restrictive measures taken in the Netherlands were aimed at limiting spread of COVID-19 infections in order to prevent hospital overflow, despite concerns, even public discussion, about a potential negative long-term impact on population health. We studied these effects during and after the COVID-19 pandemic using four different monitoring-studies with special attention to the mental health of Dutch youth.</p> <p>Methods The Network GOR-COVID-19, a research group consisting of different organizations, monitors the effect of the COVID-19 pandemic on population health from a disaster health-research perspective. Data is gathered through (1) yearly systematic literature reviews, (2) general practitioners (GP) registries (N ~1,6 million), (3) questionnaires every two years (N ~ 167.000), and (4) quarterly questionnaires panels (N ~5.000). Data analysis of quantitative data was done using descriptive statistics, trends, as well as more in-depth analyses (e.g., random forest regressions, (multi-level) multivariable regressions or latent class growth analysis). Qualitative data on open questions from the quarterly questionnaires were analyzed using descriptive coding, including a co-coder reliability check.</p> <p>Results All quantitative data consistently show a negative and long-term impact of the COVID-19 pandemic on the mental health of the Dutch youth (12-25 years of age).</p> |

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| | | | <p>Although background characteristics like gender, financial household settings and educational level correlate with psychological complaints, this effect was neutralized when adding loneliness and different stress variables to the models. Especially feelings of (emotional) loneliness and stress were confirmed as important risk factors for poor mental health among youth.</p> <p>Moreover, the quantitative data show that lockdown periods were succeeded by a steep decline in mental health variables (e.g., psychological complaints, loneliness, and suicide ideation). Recovery has barely set in since. Qualitative data confirm this long-term negative effect on mental health of the COVID-19 pandemic and lockdowns in particular. Specifically youth who experienced life transitions show vulnerability to social isolation and feelings of loneliness, while working and learning online and missing the opportunity to establish a new social network. Nonetheless, a small group of youth recounted how the COVID-19 measures positively impacted their mental health.</p> <p>Access to (mental) healthcare was limited at the start of the COVID-19 crisis in 2020, but restored during the pandemic. Mental healthcare utilization among youth show a comparable trend to the questionnaire data up to the end of 2022. It gradually returned to a pre-pandemic level since, suggesting that youth less frequently consult their GP for mental health complaints while these complaints remain present on a population-level.</p> <p>Conclusion Among other effects, the COVID-19 pandemic primarily affected mental health of the Dutch youth. Measures limiting social interactions seem to play an important role in these (long-term) mental health effects of the COVID-19 pandemic.</p> |
| <p>Psychological First Aid with Children and Youth in the Context of the Taal Volcano Eruption: Experiences and Reflective Practices in Evacuation Centers in Batangas, Philippines</p> | <p>Raphael M. Ferrer</p> | <p>University of the Philippines - Los Banos</p> | <p>The Taal volcano, one of the active volcanoes in the Philippines located 50 kilometers south of Metro Manila, erupted in January 2020 that forced thousands of people to leave their homes. More than 124,000 children were among those who were displaced and sheltered in evacuation centers.</p> <p>This paper reflects on the experiences of providing Psychological First Aid (PFA) with children and young people during the Taal volcanic eruption. The study gathers the reflections of PFA responders, using autoethnography that seeks to understand the dynamics of abruptly established communities, which bring together individuals from many places and cultures. The study investigates the difficulties and requirements in</p> |

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| | | | <p>providing psychosocial support for children and youth in evacuation camps.</p> <p>The PFA responders designed a process which included age-appropriate workshops and storytelling that helped amplify children's voices as they described their grief and dislocation as a result of the tragedy. Through this, the PFA responders reflected on the value of adaptable programs and activities designed to meet the various needs of people, especially kids and young adults. It underlines the need to consider age- and culturally appropriate activities in various evacuation locations.</p> <p>The Psychological First Aid process also revealed the precarious situation in evacuation centers due to the constrained space and the ongoing danger of the eruption's aftereffects. It highlights the critical need for Direct Provision models at evacuation sites to handle problems such as a lack of food and water, a shortage of necessary supplies, and a lack of medical services.</p> <p>The study also discusses the complex socio-political conditions surrounding disaster events such as the role of some politicians in exploiting disasters for political gains. It underlines how crucial it is for humanitarian and disaster response workers to share their knowledge and skills to establish and oversee systems in evacuation locations.</p> <p>Finally, several recommendations are discussed. This include the need for long-term initiatives and sustainable strategies to help the impacted children and their communities after the tragedy has passed. Other recommendations highlight the importance of inter-agency cooperation, affirming the need for open and non-exploitation alliances between governmental, non-governmental, academic, religious, and commercial institutions. The study intends to contribute to a more socially equitable and conscientious approach to PFA in working with children amidst disaster situations.</p> |
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PANEL SESSION 2 - 15:30-17:00 (ITC Building Langezijds)

| <p>Would future events echo the past ones in highly dynamic environments? Challenges in assessing compounding and multi-hazard risk Chair: Funa Atun</p> | | | |
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| <p>Presentation Titles (if available)</p> | <p>Speakers</p> | <p>Institutions</p> | <p>Abstracts (if available)</p> |

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| <p>Understanding multi-hazard risk through Impact Chains within the PARATUS Project. A closer look at the floods and COVID-19 pandemic in Romania</p> | <p>Andra-Cosmina Albulescu</p> | <p>Center for Risk Studies, Faculty of Geography, University of Bucharest, Romania & Faculty of Geography and Geology, “Alexandru Ioan Cuza” University of Iasi, Romania</p> | <p>In the pandemic and post-pandemic world, the co-occurrence of different types of hazards has become a challenging reality that is bound to change risk assessments by placing multi-hazard at their core. Since the beginning of the decade, human communities worldwide have faced new multi-hazard disasters, falling short of their management in many cases. Such events call for improved multi-hazard management approaches, which first require an in-depth understanding of the interactions between co-occurrent hazards, specific vulnerabilities, impacts, exposed elements, and vulnerability drivers.</p> <p>The aim of this study is to identify the elements that interact to increase the multi-hazard risk in the case of the flood events and the COVID-19 pandemic in Romania (2020-2021). The underpinning tool of this analysis is an Impact Chain, which represents a graph-resembling visual model composed of elements (i.e., hazards, impacts, vulnerability, exposed elements, vulnerability drivers) and the connections between them (i.e., causes, impacts, affects, relates to). These were elicited from various sources: scientific literature, official reports, statistical datasets, grey literature in the form of news reports, and expert judgments; and implemented into the Kumu visualisation platform, together with location maps and images of the impacts. The methodology is based on the guidelines provided by the PARATUS Project.</p> <p>The resulting Impact Chain shows that the most relevant impacts refer to the flooded/damaged houses, which forced the evacuation of people and may have favoured the spread of the SARS-CoV-2 virus, given the lack of pandemic-adapted flood management procedures. Furthermore, floods damaged the transport infrastructure, impeded access to a COVID-19 vaccination centre, and disrupted the service of ambulance. In this context, the development of inhabited areas and infrastructure at short distance from rivers, low-level individual preparedness, and a low-performance medical system emerged as prominent vulnerability drivers.</p> <p>These insights support the improvement of multi-hazard management plans, pinpointing their previous failures. Natural hazard management has to be adapted to pandemic conditions, and COVID-19 protective measures have to change so that they do not hinder proper flood mitigation. Although they do not solve this demanding conundrum, Impact Chains can significantly contribute to their resolution.</p> |
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| <p>Cross-European challenges for multi-risk assessment and management: insights from the first two years of MYRIAD-EU</p> | <p>Robert Sakic Trogrlic</p> | <p>International Institute for Applied Systems Analysis</p> | <p>Multiple single hazards and their interrelationships (e.g., triggering, compound, amplifying, consecutive) present significant challenges to risk assessment approaches and the implementation of disaster risk reduction in practice. Despite the increasing emphasis on multi-hazards in international policies, current practices remain single-hazard-focused. Transitioning towards multi-hazard risk assessment and management approaches becomes particularly complex when considering multi-sectoral and long-term perspectives.</p> <p>This talk reflects on the initial two years of the HORIZON 2020 MYRIAD-EU project. The main aim of MYRIAD-EU is to provide practical tools to develop forward-looking disaster risk management pathways that assess trade-offs and synergies across sectors, hazards, and scales. The project achieves this goal by developing an array of tools and methods, including a novel multi-risk assessment and management framework, functions for changes in exposure and vulnerability, software for multi-risk assessment, and multi-risk adaptation pathways. These tools and methods are co-produced and tested in five cross-European pilots located in Veneto, Scandinavia, the North Sea, the Danube, and the Canary Islands. Each of these five pilots focus on different hazards and sectors at different territorial scales to capture the diversity and complexity of the problem.</p> <p>During the initial two years of the project, significant emphasis was placed on understanding not only the state-of-the art in research, practice, and policy in general but also on the existing challenges within the pilot regions. Key to this effort has been a series of workshops involving local stakeholders conducted in 2022. Although each pilot targets very different perils and risk drivers, two core issues appear systematically in these workshops 1) the inadequacy of existing governance structures and processes for the purpose of multi-hazard risk assessment and management, across different levels of governance (local to international), and 2) the insufficient development of technical aspects related to multi-risk assessment and management, such as the quantification of hazard interrelationships, characterization of exposure and vulnerability dynamics, and the availability of impact data for multi-hazard events.</p> <p>This talk specifically focuses on the identification of common cross-European</p> |
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| | | | <p>challenges that emerged through these workshops. Furthermore, we will further explore how to confront both issues in pilots and beyond using the approaches and tools developed in the MYRIAD-EU project. By addressing the identified governance and technical gaps, we aim to contribute to the advancement of multi-hazard risk assessment and management practices across different sectors, ultimately enhancing multi-sectoral disaster risk reduction strategies.</p> |
| <p>Enhancing Urban Resilience to Compound Extreme Precipitation and Heat: Insights from Reduced Warming Scenarios in China</p> | <p>Yao Li</p> | <p>University of Twente, ITC</p> | <p>Weather and climate extremes, characterized by intense precipitation and heatwaves, pose significant risks and consequences, leading to devastating natural disasters. The frequency of compound disasters, where multiple extreme events occur in rapid succession, has increased in recent years due to global warming. The cascading impacts of these compound extremes often result in disproportionately severe damages. Recognizing the imminent threat of climate change, the 2015 Paris Agreement set the ambitious goal of limiting global temperature rise to well below 2°C above preindustrial levels, with efforts to achieve a 1.5°C increase. This goal holds the promise of significantly reducing the risks and impacts of climate change.</p> <p>Urbanization, a major driver of societal and environmental development, carries profound implications for global sustainable growth. By 2030, it is projected that nearly 60% of the global population will reside in urban areas, a significant increase from 47% in 2000. While rapid urbanization offers socio-economic advancement, it also exposes a larger number of people and critical infrastructure to natural hazards. Previous studies on urban impacts of climate-related hazards have primarily focused on fixed areas, neglecting the dynamic nature of urban land-use changes. Therefore, it is imperative to investigate future urban exposure to climate-induced hazards, considering the evolving urban landscape</p> <p>.</p> <p>In this study, we assess future changes in extreme precipitation and heat in China using RX5day, a widely accepted metric. We utilize multimodel projections from the Coupled Model Intercomparison Project Phase 6 (CMIP6) to quantify the changes in urban exposure to compound extremes of precipitation and heat under different warming scenarios. Our analysis particularly emphasizes the impacts at 1.5°C and 2°C warming levels, shedding light on the differential effects of these two warming thresholds.</p> |

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| | | | <p>Notably, our findings reveal that achieving the 1.5°C low warming target would substantially reduce urban exposure to compound extremes compared to a 2°C warming scenario. Moreover, the benefits of avoided impacts are more pronounced for intenser extreme events. These insights are crucial for understanding future vulnerability and devising effective mitigation and adaptation strategies.</p> <p>By gaining a comprehensive understanding of the potential impacts of extreme precipitation and heat in the context of urban areas, policymakers and stakeholders can better prioritize resources, develop resilient infrastructure, and implement proactive measures to safeguard communities from the compounded risks of climate change.</p> |
| <p>From Single to Multi-Hazard Recovery: A Statistical Approach Using Nighttime Light Satellite Data</p> | <p>Sophie Buijs</p> | <p>Vrije Universiteit Amsterdam - Institute of Environmental Sciences</p> | <p>Risk assessments and disaster management are generally approached from a single-hazard perspective, ignoring the spatial and temporal connections and feedback loops that are involved when consecutive disasters occur. Not only can the total impact of a multi-hazard event differ from the sum of the impacts of the individual events, but the response and recovery process can also be more challenging for multi-hazard events when compared to a single-hazard disaster. Depletion of financial and human resources after a first hazard may for instance increase people’s vulnerability at the time of a second event. This was demonstrated in northern Mozambique, where tropical cyclones Idai and Kenneth made landfall only six weeks apart, early 2019. Despite continued high needs and dependence on humanitarian aid after the second event, UN agencies and partners struggled to provide additional support, due to exhausted stocks and funds after their initial response efforts to Idai.</p> <p>This study (that is part of the MYRIAD-EU project), focuses on post-disaster recovery, which is an often overlooked and misunderstood component of the disaster management cycle. A single- hazard approach to understanding recovery does not sufficiently reflect the complexity that is involved in multi-hazard events due to the potential feedbacks and interactions between hazards and their effects. While several recent studies have made efforts to improve our understanding of the relationships between single natural hazards and the recovery thereafter, recovery dynamics after multi-hazard events are still poorly understood. Additionally, the studies that have looked into recovery after natural disasters are often focussed on a single hazard type or limited set of extreme events in a</p> |

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| | | | <p>specific region. To address this knowledge gap, this study sets out to compare economic recovery after multi-hazard events and single-hazard events on a continental scale.</p> <p>Visible Infrared Imaging Radiometer Suite Nighttime Light (VIIRS NTL) data (2013-2022) are used as a proxy for economic recovery. To characterize recovery after different single- and consecutive events, accounting for geological, meteorological, and hydrological hazards, weekly changes in night light intensity are computed from daily NTL data. A statistical comparison of the recovery profiles of single- and multi-hazard events will then result in an improved understanding of the different trends and dynamics that are involved with economic recovery after multi-hazard events. The results of this study can be used by policy-makers and aid organizations to improve their disaster management strategies. Moreover, the resulting characterisation of economic recovery after single- and multi-hazard events will support future research into the identification of socio-economic factors that affect the recovery in a multi-hazard context.</p> |
| | Tesse de Boer | Red Cross Red Crescent Climate Centre | <p>In 2020, two tropical storms (Eta and Iota) battered Central America in the span of just two weeks. These dual storms caused wide-spread damage due to strong winds, riverine flooding and landslides, particularly in Honduras. This retrospective analysis explores these risk interactions along with the available warnings and preventive actions, to draw lessons for future crises of a similar nature as part of the Global Crisis Risk Platform (GCRP) of the World Bank. Combining FORIN, geo-spatial compound risk analysis and of impact-based forecasting approaches, the case study draws on peer reviewed literature and key informant interviews, publicly accessible data and geospatial analysis to consider compounding and cascading risk interactions in 2018–2020 in Honduras, their attendant impacts and risk drivers, and available warnings as well as the communication and early actions associated with them. The research demonstrates that the unsafe conditions that directly produced the impacts observed during and after Eta and Iota were a product of underlying dynamic pressures, influenced by preceding crises and structural issues. Examples include migration dynamics as a result of multi-year drought and violence, resulting in settlement of more people in highly exposed peri-urban areas. Early warning system effectiveness was limited due to economic and political crises as a result of COVID-19, violence, and organizational issues in</p> |

| | | | <p>government agencies responsible for warning dissemination. The research finds that persistent root causes of vulnerability predispose Honduras to similar crises in the future, necessitating long-term interventions to reduce these structural risks.</p> <p>Furthermore, linking learning around accumulation of exposure and vulnerability to multi-risk in Honduras to potential improvements of impact-based forecasting approaches, anticipatory action protocols and formulating clear design criteria for decision-making tools for government and international actors.</p> |
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| <p>Quirky Disaster Research Misfits: Unconventional, Rare, and Exceptional Topics in Disaster Studies Chair: Cordula Dittmer</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Animals in disasters: the case of Emilia Romagna floods (2023) | Sara Bonati | Università degli studi di Genova; Universidade da Madeira | <p>According to a more-than-human approach, the relational space is based on both humans and non-humans agency roles. This is true also in those places where disasters occur and new relational spaces are created. Accordingly, what is the role attributed to non-humans in these contexts and what is their agent capacity?</p> <p>The presentation investigates the topic in relation to the floods that recently hit the Emilia Romagna region in Italy. The animal performativity is here investigated through the analysis of the storytellings that emerged during the emergency. In the Emilia Romagna emergency, some animals became heroes, like Mais the donkey that resisted and gave hope also to the rescuers, others were victims, like bees and pigs that died during the flood, while others were criminalised, like nourishes and mosquitoes. Accordingly, this emergency became also the emergency of non-humans, where narrative contradictions dominated the storytelling of the disaster.</p> <p>Thus, the purpose of this presentation is to consider both the human narratives that talk about animals and the agent capacity of animals in the disaster. In the first case, it is analysed how some narratives reiterate the power hierarchy between humans and non-humans and the role of consumption and capitalism in building them. In the second case, the focus is on how emergencies can become opportunities for non-human animals to question and/or rebel against the interspecies dominant logic of power. To conclude,</p> |

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| | | | <p>the presentation aims to contribute to the debate on more-than-humans in disasters considering the processes that discuss the human-imposed borders and what is the role of disasters in building or tearing down them.</p> |
| <p>Exploring the experiences of older informal caregivers in Aotearoa New Zealand during the pandemic: Critical Disaster Studies (CDS) perspectives</p> | <p>Shinya Uekusa</p> | <p>Department of Sociology and Anthropology, University of Canterbury</p> | <p>The COVID-19 global pandemic has brought attention to the risks faced by older adults in terms of morbidity and mortality. With the increasing occurrence of disasters, a growing aging population, growing care staffing shortage, and widening inequalities, there is an urgent need to address the issues affecting this age group, especially those who are caregivers for those who require care due to illness, injury, disability and old age. While older informal (or family) caregivers are crucial to the healthcare system, particularly, during times of disaster and crisis, they have received relatively little academic focus. This study aims to explore what helped and hindered informal caregivers’ ability to continue providing care amidst the health and social crisis in Aotearoa New Zealand. As a pilot study, we conducted 25 qualitative interviews with informal caregivers and analyzed their experiences during the pandemic, using grounded theory and the perspectives from Critical Disaster Studies (CDS).</p> <p>(Un)surprisingly, despite the perceived vulnerability resulting from increased care demands and limited resources, older informal caregivers responded to and coped well with the pandemic mainly due to their professionalism, self-sacrifice and emotional bond to the care recipients. While they expressed the need for supports and reported heightened anxiety and fear highlighting aspects of vulnerability the lives older informal caregivers during the pandemic, they also tapped into emerging (and pre-existing) resources to maintain their wellbeing and resilience during this prolonged disaster. In particular, throughout the “honeymoon” disaster phase, neighbors, family members and community groups recognized the specific vulnerability of older adults (both informal caregivers and care recipients) to the pandemic and subsequent lockdowns, filling the gaps in economic, human and social services. The sense of agency, togetherness and disaster communitas were evident.</p> <p>Drawing on theorizing of disaster communitas and disaster social capital, this study discusses how different communities to which these older informal caregivers belong can be acknowledged. However, caution must be exercised when relying on community-based responses to disasters, as this can lead to the responsabilization of communities and individuals and the neoliberalization of resilience. Popular portrayals of community</p> |



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| | | | <p>cohesion may inadvertently prioritize the needs of the privileged, overlooking the voices of older informal caregivers who are more marginalized and remain unheard.</p> |
| | <p>Phoebe Whittington</p> | <p>Portland State University</p> | <p>In the dynamic field of disaster studies, this research accentuates the often-overlooked role of public libraries in strengthening community resilience and adaptation to climate-induced disasters. By examining the Oregon wildfires of 2020, my research uncovers the latent potential of libraries in disaster risk reduction (DRR) and community resilience building. It places a special emphasis on a grassroots approach that acknowledges regional climate threats, unique community cultures, and the crucial role of libraries in serving a diverse range of vulnerable populations, from the elderly to the unhoused.</p> <p>Employing a triadic methodology of literature review, primary interviews, and a case study of the 2020 Alameda Drive Fire, the research aims to present an enriched understanding of libraries as key inclusive community hubs. These institutions contribute to developing economic, social, and community capital at the local lever, and their widespread presence across the U.S. landscape offers the potential to scale DRR library initiatives nationwide.</p> <p>However, significant challenges arise, including the lack of coordinated and robust disaster resources, and the potential constraints on library services imposed by societal or state attitudes towards certain communities they serve, particularly in regions hostile to LGBTQ+ identities or non-white races. Such issues hinder libraries' ability to develop effective disaster strategies and fully serve all segments of their communities. I propose a further research and development of practical, grassroots-oriented approach: library-centric disaster planning that integrates external disaster management expertise while considering state policies, societal attitudes, and budgetary constraints. Recognizing the complexities and unique needs of libraries in diverse geographic and cultural contexts, this approach encourages a tailored response to library-specific challenges and opportunities.</p> <p>My findings underscore the necessity of involving public libraries in disaster resilience planning at a grassroots level. By integrating libraries into resilience-building dialogue, policymakers and disaster management professionals can harness an existing infrastructure that is culturally resonant, adaptable to regional climate threats, and</p> |

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| | | | <p>inclusive. This research calls for a broader understanding of disaster studies, urging researchers, librarians, and policymakers to consider the integral role that the established infrastructure of libraries can play in resilience-building, equitable disaster mitigation, and recovery. Emphasizing a grassroots approach, the paper underscores the power of locality, culture, and inclusivity in shaping effective responses to the mounting threat of climate change-induced disasters.</p> |
| <p>Food systems for economic resilience on small island developing states: a case study on the endemic cucumber</p> | Rendell de Kort | University of Aruba | <p>The COVID-19 pandemic delivered a dramatic exogenous economic shock to Small Island Developing States (SIDS) with the sudden closure of borders to the arrival of tourists bringing home the economic and food security vulnerability of SIDS due to their high degree of economic dependency on tourism. Strong food security systems have therefore become a policy priority to build economic resilience and protect livelihoods in the advent of future disasters, be it anthropogenic or natural hazards. However, despite the recent interest in developing food security strategies, little literature exists documenting the binding constraints faced by the food systems on SIDS. This paper addresses the recognized challenges in terms of parameters specific to SIDS when applied to a unique local produce cultivated in Aruba, namely the small endemic cucumber called “Comcomber chikito”. To explore the dynamics, the authors leveraged on participation action research embedded in an educational and micro-financing initiative targeted food entrepreneurs on Aruba. The so-called AGRI Business Academy, set up by micro-finance organization Qredits in collaboration with the ministry of economic affairs of the Government of Aruba, enabled the co-creation of knowledge produced by both formal organizations and local stakeholders in close collaboration with researchers from ZonMw food security in the CAS islands research project.</p> <p>The results show binding constraints to food entrepreneurship on SIDS, particularly the role of innovation, the use of (new) technologies, entrepreneurial acumen, and risk mitigation capacity within food systems.</p> |
| <p>Is It Cute? Mascot Cultures in Disaster Contexts in Japan and the Philippines.</p> | Stanley Guevarra | Ateneo de Manila University | <p>Mascots have been used in the context of disasters, yet they remain underrecognized despite their potential in disaster risk reduction management (DRRM). In Japan and the Philippines, a contrast of mascot cultures shows how mascots trigger affective responses ranging from cuteness to disgust. In this paper, I argue that mascot cultures influence how the two countries make sense of disasters based on how people respond to mascots’ cuteness. Drawing from the nascent field of Cute Studies, I analyze some of the most</p> |

| | | | popular mascots used in disaster contexts between the two countries, such as Kumamon and the viral Covid mascots in the Philippines. Responses to mascots in Japan are characteristically positive for not only promoting cooperation but also generating empathy. Meanwhile, several mascots in the Philippines are negatively perceived, activating instead a political consciousness. Despite the difference in responses, these examples can teach both countries about effective mascot use in disaster contexts. Such a cross-cultural understanding demonstrates that mascots shape the way cultures experience disasters, which proves that they rightfully have a place in DRRM. I conclude by proposing actionable points that take advantage of mascot cultures to further strengthen DRRM in and between Japan and the Philippines. |
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| Humanitarian Engineering Design Chair: Alberto Martinetti, Peter Chemweno, Nina Trauernicht and Nikola Nizamis | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Resilience in practice: A multi-perspective interdisciplinary analytical model for post-disaster urban projects and programmes | Farnaz Arefian | Silk Cities; UCL | <p>City formation and maintenance - whether to be pre or post-destructive crisis - rely on the delivery of urban projects and programmes. ‘Build Back Better’ is one of the priorities for action in the Sendai Framework, 2015-2030, endorsed by international community. Thus, recovery and reconstruction activities must contribute to building the resilience of cities and communities. In practice this means facilitating change through integrating resilience-building strategies, policies and regulations in recovery and reconstruction projects/programmes, which are already complex in an aftermath of a crisis. Here is when the problem of “how to” arises.</p> <p>This proposed contribution will present research on the projects/programmes delivery systems for delivering “Building Back Better” in post-crisis situations from organisation theory perspective. Objectives of the original research were:</p> <ul style="list-style-type: none"> ● Understand the organisational characteristics of reconstruction programmes ● Enable a deeper understanding and support better practice through the contribution of a multi-perspective analytical framework for organisational design and management for reconstruction programmes. <p>It builds on inductive qualitative interdisciplinary research overarched by systems theory approach that firstly extracted common organisational characteristics of</p> |

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| | | | <p>projects/programmes for recovery/reconstruction through content analysis of disaster-resilience literature. They provided entry points to organisation theory and directions for further examination.</p> <p>Findings are summarised in a proposed multi-perspective analytical framework for examining programme delivery systems. Those common organisational characteristics were briefly as: new and innovative organisations, strategic with social nature and multi-organisational systems. Organisational architecture of the new and innovative and strategic reconstruction/recovery project/programme’s delivery system and the influences of social and multi-organisational nature of those projects/programmes will be further discussed.</p> <p>The multi-perspective model will help to reduce the chances of operational bottlenecks, conflicts and inconsistencies in practice when used for the programme/project formation. It will also be an evaluation tool for those implemented projects/programmes. The research contributes to better practice and sets the ground for further research on ‘Resilience in Practice’. Empirical examples come from Iran and Pakistan after disastrous earthquakes in Bam and Kashmir.</p> |
| <p>The Resilience of Critical Infrastructures: Do Social Vulnerability Factors Matter?</p> | <p>Milad Zamanifar</p> | <p>Asian Disaster Preparedness Centre and Technische Universität Berlin,</p> | <p>Effective and efficient post-disaster recovery is a key intervention for ex-post resilient infrastructures and restorative capacities of the affected society. Inclusive ex-ante recovery planning is thus essential to effectively address social parameters while efficiently meeting the technical requirements of the planning. However, there is a concern that infrastructure authorities may view the enhancement of resilience as an engineering problem, prioritizing the technical and economic aspects of critical infrastructure disaster resilience planning, while overlooking the humanitarian aspects and social vulnerability attributes. This paper examines this argument within the transport sector and investigates whether attributes addressing the needs of vulnerable social groups have been perceived as less relevant in the solutions for urban transport network disaster recovery problems. Furthermore, we delve into the underlying causes of this possible exclusion.</p> <p>Systematic content analysis of 46 reviewed studies suggests that social vulnerability factors have not been broadly incorporated in the decision-modeling process of resilient transport network investments. Furthermore, analysis of the experimental participatory</p> |

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| | | | workshop with disaster managers revealed an insignificant tendency to utilize available demographic data regarding social vulnerability features of the presented urban disaster scenario. As evidence for this claim, among 77 extracted attributes from 23 active decision-makers, only two attributes fall into the category of social vulnerability. In-depth exploratory ethnographic interviews with disaster management subject-matter experts led to key insights as challenges in integrating social vulnerability indicators into operational post-event resilience intervention planning and disaster risk governance in the critical infrastructure context. Among those, complexity and computational burden, post-event uncertainty, lack of spatially indicative data, legitimacy of exclusion, and deficiency of operational attributes can be highlighted. Finally, the authors argue that this exclusion is a function of sociocultural constructs, institutional capacities, and income levels that vary across different spatial contexts. This exclusion may stem from epistemological and axiological errors pronounced by a lack of procedural knowledge to facilitate the inclusion of social vulnerability factors in developing resilient infrastructures. |
| Lessons on appropriate technological level for the implementation of flood risk reducing technologies in Mozambique | Fredrik Huthoff | University of Twente/HKV | We present lessons learned from activities to support flood preparedness and Early Warning in Mozambique. Because of its geography and climate, Mozambique is frequently experiencing flood events, ranging from urban flash floods to river floods that cover areas of hundreds of square kilometers. These events cause huge economic losses, social disruptions, and often also losses of life. Well-known recent examples are the devastating impacts of cyclone Freddy in 2023 and cyclone Idai in 2019. The vulnerability of Mozambique to such extreme events has long been recognized and, as a result, various initiatives in recent decades have aimed at reducing flood risk, including ambitious approaches to implement technologically advanced methods for flood assessments and early warnings. Among these, some successes were made, but a concerning observation is also that many initiatives did not have a lasting impact, and some have even become obsolete shortly after their implementation. We argue that a lack of attention to appropriate technological levels for local implementation (considering hardware, software, governance structure, procedures, and available staff) is a common pitfall for absorption of new technologies into local workflows and procedures. |
| A cultural turn in disaster studies? Exploring epistemological, socio- | Nil Akdede | Atilim University | |

| historical and scalar perspectives | | | |
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| Adaptive governance by and for poor urban communities in the Global South | | | |
| Chair: Jan Fransen | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Exploring Community-Based Humanitarian Action during the COVID-19 Pandemic in Urban Areas of the Philippines | Maria Carinnes Alejandria | Universiti Brunei Darussalam | Globally, prior disaster management efforts have fostered partnerships among local government units, civil society, and communities (Farkas, 1993; Lugova et al., 2020; Samuels et al., 2010). This collaboration has continued during the pandemic (Djalante et al., 2020; Pasquier et al., 2020), with a stronger focus on community-based humanitarian action due to limitations on the activities of traditional aid providers. In the Philippines, urban informal settlements face unprecedented challenges as the convergence of flooding and the COVID-19 threat hampers external humanitarian actors from delivering aid and services. Against this backdrop, this study aims to document the experiences of community-based humanitarian actors in urban areas of the Philippines during the COVID-19 pandemic. The research explores the narratives of community leaders involved in providing aid to affected community members within the context of national and local government quarantine policies. Specifically, the study investigates their engagement with national-level humanitarian actors, the types of humanitarian activities they undertake, the factors influencing their decision-making, and their perceptions of gaps in civil-military humanitarian efforts during the pandemic. The importance of capturing evidence of actual humanitarian situations resonates with Levine's (2016) observation that an evidence base combining the research capabilities of academic institutions and the infrastructure of humanitarian organizations is crucial for informing practice. By emphasizing a localized understanding of humanitarian coordination, this study aims to contribute to a nuanced analysis of civil-military coordination, inform the development of relevant capacity-building programs for community leaders, and critically discuss the enhancement of military protocols during disasters. The narratives of local leaders reveal that humanitarian activities are identified based on the immediate needs of affected communities, given the urgency of the pandemic. Funding availability also plays a role in determining the scope of humanitarian activities. Local leaders highlighted additional challenges during program implementation, including calamities, transportation issues, housing concerns, and |

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| | | | limited mobility due to lockdown measures. Addressing these issues necessitates a holistic approach to humanitarian crises, ensuring the needs of vulnerable communities and marginalized groups are met. This approach should also account for the differential impact of crises and disasters on different community members. |
| | Mahed Choudhury | University of Calgary | Building community resilience to climate-induced disaster shocks requires an innovative, adaptive, and forward-looking approach. However, empirical data on such initiatives is lacking. Adopting an Adaptive Governance Framework, we gathered evidence that collaborative multi-loop social learning by multilevel institutions (local, regional, and national) can significantly enhance community resilience to climate-induced disaster shocks and reduce gaps between institutional disaster governance responsibilities and capacities. Following a Case Study approach, we investigated the disaster resilience of two coastal communities in Bangladesh. Our primary data collection techniques were Key Informant Interviews and document reviews. The results of our investigation revealed three key prerequisites for building community resilience to natural disasters like cyclones or floods: i) the presence of multiple nested institutional structures at the local level; ii) multi-loop social learning at multiple institutional levels; and iii) documentation of lessons learned from each disaster and the application of these lessons to disaster governance at all institutional levels. |
| | Emily Ragus | University of Amsterdam | Community-based early warning systems are a participatory approach in risk reduction which complements early warning systems, provides localised information, and promotes appropriate action, in a collaborative approach. Globally, disaster related incidents happen with appalling frequency, and result in loss of life, disruption to livelihoods, and compromise sustainable development, particularly for vulnerable communities. Urbanisation and its associated complexities, which include rapid population increases, migration, competition for scarce resources, relegates the urban poor to occupy land that is vulnerable and more exposed to threats. Compounding the issues further is changing climatic conditions which are increasing the severity and frequency of hazards. Early warning system is an integrated system which includes disaster assessment, forecasting, prediction, monitoring, and communication. The forecasting of disaster incidents is often accurate as it is assisted by advances in computing and satellite observation. However, there is recognition that the technical identification of hazards is insufficient, hence the critical role of participatory community-based warning systems as intermediaries, to facilitate to social participation of vulnerable communities in understanding of risks, timely dissemination, and to |

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| | | | <p>enable early action. This article seeks to explore the value of community-based early warning systems in the global south, for disaster risk reduction and building urban resilience in vulnerable communities. This article makes use of Quarry Road West informal settlement, in Durban South Africa, as a case study to investigate the innovative use of community-based early warning systems at the interface of flooding events. The article focuses on the 2022 devastating flooding disaster which resulted in 480 fatalities across the city. The research methodology employed within this article includes ethnographic inquiry conducted one year after the floods, supplemented by semi-structured interviews with selected community members, and relevant stakeholders. Results indicate the importance of both active participation of community members, and collaborative approach to disaster risk reduction for building resilience. The community-based early warning system is a collaborative production of knowledge which has enhanced flood resilience in Quarry Road West informal settlement.</p> |
| <p>Digital governance and climate adaptation: a case study of the use of the e-musrenbang participation tool within flood- and sea level rise-prone districts of Surabaya, Indonesia.</p> | <p>Ronan McDermott</p> | <p>University of Groningen</p> | <p>The introduction of information and communication technologies within governance holds out the promise of increased inclusion, deliberation and transparency. However, it has also been recognised that digital governance arrangements can reflect and reinforce challenges encountered in traditional forms of governance by re-configuring patterns of inclusion and exclusion, undermining deliberation and reducing opportunities for political mobilisation. These considerations are of direct relevance to advancing effective locally led climate adaptation, particularly in the urban environment where digital governance is proliferating most significantly. Nonetheless, the relationship between digital governance and climate adaptation demands increased scholarly attention that adequately captures not only its complexity but, given the relative novelty of many initiatives, the relationship between digital governance and climate risk over time. Against this backdrop, the paper develops a conceptual framework for understanding the digital governance-climate adaptation nexus. Empirically, it then outlines the implications for effective adaptation of e-musrenbang, an e-governance development planning tool utilised in Indonesia. Drawing on a case study of districts of Surabaya exposed to coastal flooding and sea-level rise, the paper provides a grounded understanding of the impact this tool has had on the effectiveness of adaptation. It also allows for the exploration of the interaction between risk and governance over time, given that the e-musrenbang tool was first established there in 2009. The implications of similar e-governance arrangements for climate-exposed urban contexts is also considered.</p> |

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| <p>Unraveling Social Entrepreneurship's Role in Supporting Nature-Based Solutions for Coastal Risk Mitigation at Mass Tourism Destinations: A Case Study in Bali, Indonesia</p> | <p>Syarifah Aini Dalimunthe</p> | <p>National Research and Innovation Agency (BRIN) Indonesia</p> | <p>Coastal erosion poses a significant challenge to Bali, a popular mass tourism destination. With 20% of its existing beaches eroded, the coastal environment and the tourism industry face substantial economic risks. This study focuses on the role of social entrepreneurship in implementing nature-based solutions for coastal risk mitigation, with a particular emphasis on the crucial role of mangrove forests in this process. By integrating tourists and local communities, social entrepreneurship emerges as a powerful mechanism for achieving sustainable coastal risk mitigation in mass tourism destinations.</p> <p>The study investigates the social entrepreneurship processes of four enterprises, namely KemBali Becik, Bendega.ID, and Mangrove Ranger and EcoTourism Bali, which are actively involved in supporting nature-based solutions for coastal risk mitigation. Through our analysis, we highlight the importance of identifying, developing, and realizing social opportunities as integral components of social entrepreneurship in this context. These enterprises effectively engage tourists and local communities, integrating them into their value chains to facilitate the creation and implementation of social opportunities that promote sustainable coastal risk mitigation.</p> <p>To enhance theoretical understanding, we propose a conceptual framework that outlines the principles of sustainable coastal risk mitigation through social entrepreneurship. This framework significantly contributes to the existing knowledge base by shedding light on the process of realizing social opportunities within this domain. Moreover, the practical implications of our findings are noteworthy, providing valuable insights for policymakers and stakeholders involved in fostering sustainable development in tourism areas.</p> <p>This research underscores the critical role of social entrepreneurship in implementing nature-based solutions for coastal risk mitigation in Bali. By leveraging social entrepreneurship, mass tourism destinations can address the pressing challenges of coastal erosion while simultaneously ensuring environmental resilience and promoting sustainable development.</p> |
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DAY 2: Wednesday November 1

PANEL SESSION 1 - 09:30-10:50 (ITC Building Langezijds)

A cultural turn in disaster studies? Exploring epistemological, socio-historical and scalar perspectives (1)

Chairs: Verena Flörchinger, Isabelle Desportes

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| | Terry Cannon | Institute of Development Studies | <p>Why do mainstream DRR organizations ignore the significance of culture in disasters? This paper argues that it is not enough to provide knowledge and understanding of how culture is relevant to disaster reduction. A crucial aspect is to understand why mainstream DRR organizations have (chosen?) to ignore how people perceive risk, and how risks are interpreted 'culturally' and through belief systems. It argues that political and economic factors create this barrier, so that DRR organizations are themselves 'culturally' determined to ignore culture. To include it would expose how and why much of what is done in the name of DRR is essentially pointless.</p> |
| | Abigail Ewen | University College London | <p>The project provides a historical overview of the way disability has been understood and developed in policy and governance discourses in Nepal.</p> <p>It asks, if urgent disaster response and resilience building has enabled or hindered struggles for inclusion in public life and collective action, through the acute experiences of people who identify as disabled. It tracks how those currently identifying as disabled experienced the 2015 Ghoroka earthquake and the 2021 Melamchi Flood. In doing so, it investigates the ways in which disability has been constructed in crisis response and resilience and the impact of this construction on the strategies employed for or by persons with disabilities to navigate risk. By employing an analytical framework derived from Foucauldian ideas on discourse, power and institutions the research carried out a discursive analysis of policy documentation and semi-structured interviews to identify the systems of meaning and institutionalised relations drawn on the social construction of disability. It did so through multiple perspectives including disability and disaster recovery specialists from government and civil society organisations and people with disabilities resident of the Sindhupalchok district. It frames the production of knowledge, namely, the discourses and institutions on disability as active contributors in shaping the direction of policy and intervention in the disaster space. It therefore understands identity as co-produced through individual and societal perceptions, policy structures and practical experiences of inclusion and exclusion.</p> |

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| | | | <p>The research demonstrates that 2015 Ghorka earthquake enabled a shift in the institutionalisation of ideas about disability, this is important because discourse and language have a powerful impact on the way something is understood and handled. However, there is a tension in the ways in which this policy change was produced. The urgency upon which these changes were developed and the influence of western actors in facilitating this change cannot be ignored. This is not to say that these discourses and aspirations of human rights and ‘inclusion’ that now dominate policy and civil society spaces of Nepal are incorrect because they are aligned to western ideologies, but they do reflect a reality that is far detached from the lived experiences and socio-cultural context of people with disabilities in risk impacted communities in Nepal, in other words, those whom these policy approaches are designed to include and protect. The research unpicks some of these socio-historical and socio-cultural framings in order to understand how this impacts the inclusion and exclusion of people with disabilities in risk and resilience activities in Nepal.</p> |
| <p>Legitimation Through Emergencies. The New Political Culture of Disaster in Peru from El Niño 1997/1998 to El Niño 2023/2024</p> | <p>Enrique Arias Arostegui</p> | <p>JLU Giessen</p> | <p>Every society has developed a particular way of dealing with disasters. Their interpretations are inextricably linked to a society's historical context and cultural values. Indeed, people and communities worldwide have historically formulated cultural constructions to confront disasters. They are not and have not been passive actors in the face of disasters, either in their responses or in formulating the concept of the disaster itself (Bankoff, 2002; Mauch & Pfister, 2009; Schenk, 2007).</p> <p>Extensive research indicates the dynamic interplay between disasters and society, elucidating the cultural practices that influence our perceptions and interpretations of disasters. Examples from various societies, such as Japan, Chile, and the Soviet Union, highlight how disaster reconstruction can foster new cultures of resilience and preparedness (Koikari, 2020; Gould et al., 2016; Elie, 2013).</p> <p>In the same vein, many authors agree that disasters are not only not natural but are also political (Guggenheim, 2014; Horowitz & Remes, 2021). Political struggles influence the consequences of disasters, and the pre-existing vulnerabilities to natural hazards are a consequence of political arrangements. Politicians play a pivotal role in determining the definition of a disaster and the necessity and nature of subsequent relief efforts</p> |

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| | | | <p>(Hilhorst, 2013). However, far too little attention has been paid to the political culture of disaster in each society and the impact of politicians' memories, experiences, and ideas in shaping this culture.</p> <p>This presentation examines the evolution of Peru's political culture of disasters over the past two decades. A new way to handle disasters was commenced during the extreme El Niño 1997/1998 in Alberto Fujimori's government and has continued ever since. I propose that a new political culture of dealing with disasters has emerged, in which the occurrence of a disaster is a moment where the president is legitimized through state action to offer relief. Since 1997, every national politician has benefited from emergency response after a major disaster, even as the vulnerabilities of the population and disaster victims have increased during those years.</p> <p>Due to its geographical conditions, Peru suffers from persistent climate anomalies such as floods, earthquakes, and volcanic eruptions, which often provoke disasters. Such disasters are unequally distributed throughout the territory, even though Peru has transformed its institutional architecture of disaster risk management in alignment with United Nations DRR policies.</p> <p>With the emergence of a new political culture of disaster that privileges emergencies, disasters are not moments when governments can suffer a breaking point or where their authority is undermined; indeed, disasters are events when politicians seek legitimacy and demonstrate their capacity for state action.</p> <p>This presentation explores the elements comprising this new political culture, focusing on three categories, thus: The instrumentalization of memory for political purposes; the unequal distribution of disasters; and the perceptions and memories of politicians regarding disasters. The three categories result from the analysis of policies, political speeches, technical studies, and in-depth interviews with disaster experts and politicians.</p> |
| <p>Reflections of Disasters in Indigenous Arts: The Patuas in India</p> | <p>Aparna Sengupta</p> | <p>York University, Toronto, Canada</p> | <p>Disasters be it natural or humanmade has been perceived from diverse viewpoints in human history. Modern scientific knowledge places enormous emphasis on disaster management, mitigation, resilience, and control, while the field of history and</p> |

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| | | | <p>anthropology has focused on various conceptions of disasters and tragedies as experienced and depicted by humans across time and space. The present paper will examine disaster through the lens of indigenous art of the Patuas in India especially their visual depiction of disaster, by combining the methodology of meaning making and indigenous and visual anthropology. The primary objective of the paper will be to take forward our understanding of disasters not as the common geographical-environmental process but a nuanced, often invisibilized impact they have on human life and imagination of social realities of life, death, spirituality, and religion.</p> |
| Academic journals and cultural sensitivity | Claudia Gonzalez-Muzzio | Ambito Consultores - GRID Chile | <p>Academic journals play a crucial role in promoting a more inclusive and equitable research environment through cultural sensitivity.</p> <p>Cultural sensitivity refers to the ability to appreciate and consider the diverse backgrounds, perspectives, and cultural experiences of a population within the research context. Cultural sensitivity ensures that research is conducted ethically, avoids bias, and produces findings that are relevant and applicable to the population.</p> <p>The measurement of cultural sensitivity in academic journals is not intended to encompass the totality of factors involved, but rather a combination of quantitative and qualitative methods that provide a more nuanced understanding. Five methods are proposed: 1) "Content Analysis" to examine the use of culturally appropriate terminology, consideration of cultural context in study design, or inclusion of diverse perspectives. 2) "Expert Review" where experts assess the extent to which articles demonstrate an understanding of cultural nuances, address power imbalances, and respect the values and norms of the population investigated. 3) "Author and Community Feedback" seeks comments from authors and the target community regarding the cultural sensitivity of published articles, gathers their views on how well the magazine integrates the attitudes, values, traditions, experiences, and norms of the population. This feedback can help identify areas for improvement and highlight examples of successful cultural sensitivity practices. 4) "Peer Review Process" where the journal includes cultural sensitivity criteria so that it becomes an integral part of the evaluation process of the articles received. Finally, 5) "Collaboration and Partnerships" where it is evaluated whether the journal engages in collaborative research projects and strong partnerships with diverse communities, promoting issues on topics that indicate a commitment to cultural sensitivity, ensuring that it is addressed in the research process,</p> |

| | | | <p>from study design to data collection and dissemination.</p> <p>The analysis will be carried out through a case study corresponding to the Journal of Latin American Studies on Disaster Risk Reduction (Revista REDER), in which the cultural sensitivity addressed by this journal is examined, as well as the influence this journal has on disaster research in Latin America from both a local and Global South perspective, as well as the possibility that arises from the published research to put into perspective the vision from Latin America in the context of disaster risk research at a global level through cultural sensitivity, as a way of decolonizing research in these matters.</p> |
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| | Miranda Simes | Northwestern University Sociology | <p>While risk models predicting future wildfire risk in the United States have been produced and implemented by federal institutions for decades, a new wave of predictive models has emerged, particularly among private, non-government organizations. In order to explain both the persistence and novel forms of these predictive assessments, it is necessary to examine the contexts in which they are produced. As Knorr Cetina reminds us, one must turn to the “machineries of knowledge production” that give rise to these wildfire risk models, and the symbolic elements that inform the cultures of epistemic production in existing and novel formats. How is risk defined as a matter of spatial relativity and futurity, and how are these definitions produced via epistemic practices among experts? I examine these questions through in-depth interviews with spatial analysts, wildfire management, and other individuals affiliated with the production of wildfire risk models among both federal and non-government organizations in the United States. In this paper, I identify tensions regarding model confidence and accuracy, visual elements of risk epistemology, and the continued importance of community trust.</p> |
| <p>Communication and Decision Making linked to vulnerability and disaster resilience (1) Chairs: Sten Hanson, Heather Handley</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| COMMUNICATION-RELATED | Sten Hanson | University of Tartu | This paper provides a first systematic account of communication-related vulnerability of war refugees based on a case study of Ukrainian refugees fleeing to Estonia to escape Russia’s invasion in 2022. Document analysis and semi-structured interviews |

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| <p>VULNERABILITY OF WAR REFUGEES: THE CASE OF UKRAINIANS ESCAPING RUSSIA'S INVASION</p> | | | <p>with crisis managers show how individuals who are displaced because of human conflicts may become more vulnerable due to various individual, social-structural, and situational factors that impede access to, understanding of, or responding to risk and crisis information. Access to vital information may be impeded by a digitised communication environment unfamiliar to the refugees and the authorities' lack of experience in dealing with mass immigration. Barriers to understanding arise from limited language skills and exposure to disinformation. Crisis managers may be unable to provide adequate support if they experience information overload and poor inter-agency cooperation. The study highlights important communication-related challenges that should be addressed at the national level to reduce the vulnerability of refugees.</p> |
| | <p>Mhari Gordon</p> | <p>UCL Institute for Risk and Disaster Reduction</p> | <p>Disaster communication and early warning systems can be highly effective in reducing the loss and damage from natural hazards and disasters. Warnings are processes which attempt to share hazard and risk information so that timely decisions and actions can be taken amongst the at-risk or affected populations. In March 2022, the UN revealed an ambitious plan that everyone should have access to and be protected by early warning systems in the next five years. However, warnings and communication are only as effective as the responses they evoke. Previously, it was largely presumed that people will prepare and respond to warnings if the information reached them; however, this technocentric approach overlooks the cultural, political, and social aspects which influence people's understanding of the information, perception of the risk, and decisions to take action. Response to warnings is determined by an individuals' or community's ability and access to resources, mobility, and other services. Despite the effectiveness of warnings being well recognised and established, there are still large gaps in designing inclusive and efficient warnings. Specifically, the linguistic and cultural barriers that can hinder participation in disaster preparedness, response, and recovery. This is of particular importance for noncitizens who may not speak the local language(s), such as asylum seekers and refugees. Warnings which do not take into account language, translation, and comprehension for a diverse population may result in risks and information being misunderstood, ultimately leading to poor decisions being made. Moreover, this can result in individuals or groups being further marginalised and at-risk. It is noted that minorities and vulnerable people, including asylum seekers and refugees, often face barriers to accessing, interpreting and responding to information on hazards and risks. Lack of access to the internet or telecommunications may also limit the ability to receive crisis-related information. In this panel, I will present my findings from a literature review and preliminary findings of fieldwork conducted over the summer of 2023. This is based on my PhD research project focused on experiences of natural hazards, disasters, and warnings whilst</p> |

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| | | | <p>seeking asylum. In my presentation, I will focus on the importance of translation, comprehension, and meaning, as well as the rights to and ethics of disaster information, for warnings which are inclusive of asylum seekers and refugees. This type of research can enable forcibly displaced populations to be accounted for and included in the appropriate design of effective and accessible warnings against hazards and disasters. This will support reaching the UN objective of having everyone protected by early warning systems by 2027 and reinforcing disaster resilience.</p> |
| <p>Mechanisms Behind COVID-19 Scepticism Among Socially Marginalised Individuals in Europe</p> | <p>Kristi Nero</p> | <p>University of Tartu</p> | <p>Demonstrating the high spectrum of vulnerabilities that can arise during a long-term crisis, the COVID-19 pandemic has highlighted the need to inform, motivate and support individuals to pursue protective measures to mitigate these vulnerabilities. Risk perception is an important driver for the acceptance of the governments' guidelines. And inversely, risk misperceptions and conspiracy beliefs which downplay the seriousness and trivialise the threat posed by the COVID-19, are likely to hinder health protective behaviour. Homeless and materially disadvantaged people are considered particularly vulnerable to COVID-19 infection. So far, there is no systematic knowledge about how the homeless and materially disadvantaged people perceive the risks of COVID-19 and what factors influence the development of sceptical views and underestimation of dangers posed by the virus. The aim of our study is therefore to: (1) Explore COVID-19 risk perception of socially marginalised individuals, focusing on their assessment of the probability of getting infected by the virus and the perceived harmful consequences of the disease; and (2) examine the factors influencing COVID-19 risk beliefs of these individuals. We use cross-sectional survey data with 273 participants from eight countries and data from 32 interviews and five workshops with managers and staff of social care organisations in ten European countries. Our results indicate that among survey participants, 49% can be labelled COVID-19 sceptics with regard to probability of getting infected, and 38% with regard to harmful consequences of the disease. We find that COVID-19 scepticism is related to low levels of all types of social capital, low trust in information from authorities and being a minority. However, the most important predictor is the respondents' general lack of concern about health risks. Additionally, the qualitative data indicates the multifaceted nature of COVID-19 scepticism, as it may relate to the origins of COVID-19, the probability of infection, its consequences and protective measures, among others. Improved understanding about factors influencing COVID-19 scepticism in these groups contributes to a better understanding of the information disorder during crises, and the ways in which this could be managed through policies against marginalisation, including in disaster risk reduction.</p> |

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| | Kate McNeil | University of Cambridge | <p>What have we learned about the experience of communicating during crisis events – to both policymakers and publics – from the covid-19 pandemic? This paper draws on findings from elite key informant interviews with science advisors and policymakers in Canada, the United Kingdom and New Zealand who participated in science advice and decision-making processes during the covid-19 pandemic. The paper describes how science advisors sought to communicate and manage uncertainty during the acute onset stage of the covid-19 pandemic, and the intertwined lessons learnt about science communication and public communication during these processes. In particular, the paper explores science advisors’ expectations and understandings concerning the linked relationship between effective science communication and the maintenance of public trust during crisis events, and a possible evolved role for other actors including communications experts and social scientists, on advisory committees during emergency contexts as an area of future potential learning.</p> |
| <p>Understanding Place Attachment and Adaptation Strategies in the Aftermath of Climate-Induced Disasters: Insights from the Lytton Creek Fire 2021</p> | Tugba Altin | University of Calgary | <p>- The escalating impacts of climate change have led to a rise in extreme climate events, exposing a growing number of people to trauma-inducing circumstances and sudden place-based changes in their home landscapes. While immediate tangible consequences of these events receive attention in post-disaster response and recovery efforts, the intangible effects on individuals and their post-event trauma recovery processes remain largely unaddressed. This interdisciplinary study intersects place, trauma, and cultural landscape theories to understand people's climate-induced disaster responses and their post-event experiences. The literature review highlights the significance of acknowledging people's trauma in the face of sudden place-based changes. Trauma responses, such as grief, anxiety, depression, and addictive behaviors, are often exhibited by individuals experiencing changes in their home landscape as if it is an existential threat. However, current climate adaptation and resilience planning practices largely overlook the trauma experienced by individuals, hindering effective policy implementation. Supported by study results focusing on place-based change and mental health in climate-impacted communities, this research argues that trauma must be considered when addressing the impacts of disasters and understanding people's responses to disaster-induced changes in their home landscape. Trauma recovery studies suggest that addressing trauma is crucial for initiating the recovery process. By reinterpreting terms like resilience and adaptation together with the community, this study aims to contribute to understanding the disaster-impacted community's response to post-disaster policies that target community resilience and adaptive capacity to future changes. The study focuses on Lytton, a community in British Columbia (BC) that experienced the Lytton Creek Fire in 2021. By examining how individuals navigate their home-making processes and develop climate adaptive</p> |

| | | | <p>behaviors in the altered landscape, this research aims to contribute to climate adaptation, community resilience, and place-based-change-induced trauma. The research methodology includes walking-audio and photo-elicitation methods, employing a hermeneutic phenomenological approach. This approach allows co-researchers to express the emotional, symbolic, and affective dimensions of their relationships with places, providing a deeper understanding beyond quantitative measurements. The study findings have implications for policymakers and practitioners involved in disaster management and climate resilience. By understanding the emotional and psychological dimensions of place attachment, holistic approaches to rebuilding climate-impacted communities can be developed. This research contributes to the field of Disaster Resilience Studies by shedding light on the post-event experiences of a wildfire-impacted community and their navigation of trauma and place attachment. By emphasizing the person-place relationship in climate adaptation strategies, the findings have the potential to shape future policies and interventions, ensuring that communities' emotional and psychological well-being is addressed alongside tangible aspects of recovery. In conclusion, this study explores the role of place attachment in understanding people's responses to climate-induced place-based change and disaster-induced trauma processes in a wildfire-impacted community. By investigating the lived experiences of individuals in Lytton, BC, this research aims to provide valuable insights into post-event recovery processes and the significance of the person-place relationship. Ultimately, the findings will contribute to the development of strategies that promote the resilience and well-being of communities affected by extreme climate events.</p> |
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| <p>Community Engagement in Disaster Management (1) Chair: Selby Knudsen</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Annekha Chetia | Tata Institute of Social Sciences, Mumbai, India | <p>Indigenous knowledge and practices embody human's profound understanding of nature and their ability to take local actions for maintaining and safeguarding their environment. Often left undocumented and undervalued, these knowledge sources are increasingly considered to be significant in the face of complex hazards and disasters. There is a growing realization that including indigenous knowledge into policy frameworks is the most effective element for achieving sustainable and long-term results in disaster management and risk reduction.</p> |

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| | | | <p>The paper argues that exploring indigenous perceptions of disaster and including indigenous ways of disaster mitigation into mainstream studies and research is a significant way of engaging community in disaster management. Where the top-down disaster management approach has not been affective according to its full potential and has created a gap between policy and practice, adopting newer strategies which would involve vulnerable people in the process of planning and disaster mitigation including response, preparedness, resilience and recovery will create different outcomes. As communities are a source of strength, experience and knowledge of living and adapting to the prevailing disasters in their own different ways, this knowledge when recorded and analyzed, provides the will and instruments for the indigenous communities to apply their own knowledge and feel responsible in managing and safeguarding their own environment, thus encouraging active community engagement.</p> <p>The paper takes into account the various debates around the mainstreaming of indigenous knowledge and its relevance in the present times by conducting a local area study among three indigenous communities of the district of Dhemaji of the North-East Indian state of Assam. The state is subjected to annual floods with the district of Dhemaji constantly topping the charts as the worst flood affected district for the last decades. The district is also the home to indigenous communities which have mastered the art of “living with floods”. It focuses on documenting the various indigenous perceptions related with flood as a disaster, vulnerability, risk and resilience and also the knowledge and practices of flood adaptation and resilience. It emphasizes on the fact that understanding these indigenous perceptions can provide area-specific solution for community engagement in flood disaster management in a sustainable and effective manner.</p> |
| <p>Involving the public at large, including vulnerable groups, in field training exercises: the PROACTIVE approach</p> | <p>Laura Petersen</p> | <p>UIC</p> | <p>The EU funded H2020 project PROACTIVE (PREparedness against CBRNE threats through cOMmon Approaches between security praCTitioners and the VulnerABLE civil society) aimed to improve preparedness and response to CBRNe (Chemical, Biological, Radiological, Nuclear and explosive) disaster events by employing innovative and inclusive approaches to engaging communities in disaster management activities.</p> <p>A certain amount of realism is often added to disaster field training exercises by involving volunteers as role play victims. However, usually these volunteers are already aware of the protocols and procedures practitioners are meant to implement during such trainings, as they are drawn from either off-duty first responders or medical professionals, or are actors who have been instructed to perform in a certain manner.</p> |



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| | | | <p>During the three field training exercises co-organised by PROACTIVE, role play victim volunteers were instead drawn from the local community. That said, it is important not to think of the public as a homogeneous mass and take into account that persons with varying functional needs limitations will be present at any CBRNe incident. Indeed, disasters have a disproportional effect on people and populations that are vulnerable, and marginalized populations will suffer most. That’s why PROACTIVE liaised with local Civil Society Organisations and ensured that at least 15% of the volunteers were representatives of a vulnerable group. In the end, 50% or more of the volunteers self-identified as having some form of vulnerability in all three exercises.</p> <p>Involving the public at large, who are unfamiliar with the practicalities involved in a CBRNe incident, increases the preparedness of not only first responders but also of the volunteers, leading to an overall increase in societal resilience. Further, involving vulnerable groups is an opportunity for them to voice their own needs, ensuring that practitioners consider these often hard-to-reach groups.</p> <p>In this panel, PROACTIVE will discuss the volunteer recruitment, the role of civil society organisations, the exercises themselves and how both CBRNe practitioners and the volunteers increased their own preparedness to CBRNe incidents from their participation in the PROACTIVE field exercises.</p> |
| | Phoebe Whittington | Portland State University | <p>This research focuses on the untapped potential of public libraries as vehicles for inclusive community engagement and communication in disaster management. Through a case study of Oregon wildfires of 2020, it elucidates how libraries, embedded within their unique communities and cultures, can serve as grassroots platforms for addressing regional climate threats and promoting community resilience, particularly focusing on how they cater to diverse and vulnerable segments such as the elderly, children, the unemployed, the unhoused, racial minorities, and those with mental health conditions.</p> <p>Utilizing literature review, primary interviews, and a case study of the 2020 Alameda Drive Fire, the paper uncovers the multifaceted role of libraries as critical, inclusive community hubs. Libraries significantly contribute to the development of economic, social, and community capital—the cornerstones of resilience.</p> <p>However, their ability to reach certain sections of the community may be limited by societal or state attitudes, particularly in areas that may exhibit hostility towards</p> |

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| | | | <p>certain groups like racial minorities, immigrants, or LGBTQ+ people. Public libraries also often face challenges due to the lack of coordinated and adequate disaster resources and internal strain within their organizations. These issues inhibit their capacity to effectively serve all segments of their communities before, during, and after a disaster and limit their role in disseminating important information or services that may contribute to disaster risk reduction.</p> <p>Addressing these challenges, the research proposes a grassroots solution: library-centric disaster planning incorporating external disaster management expertise. This tailored approach would acknowledge libraries' geographic, cultural, and financial diversity, and help develop strategies that resonate with different vulnerable groups, whilst considering state policies and societal attitudes. In order to implement such strategies however, more research, especially quantitative, must be done. The implications of this research extend to inclusive risk communication and community engagement practices. By integrating public libraries into disaster resilience planning at a grassroots level, they can serve as local bridges between disaster management professionals and all community members, thereby enhancing trust, preparedness knowledge, and disaster awareness.</p> <p>This paper encourages a rethinking of community engagement strategies, urging researchers, librarians, policymakers, and disaster management practitioners to consider the crucial, inclusive role public libraries can play. By leveraging libraries' infrastructure and cultural resonance, we can promote inclusive community engagement and foster a deeper, locally-oriented understanding of regional climate threats, ultimately enhancing community resilience to climate change-induced disasters.</p> |
| | Caroline Sorge | UCCRN | <p>This thesis explores ways to support self-recovery of residents in informal settlements after climate disasters. In particular, this study aims to understand how to better support residents in the Lavender Hill Township of Cape Town, South Africa following water-related climate disasters (i.e., droughts and floods). Interviews were conducted with Lavender Hill residents, as well as with various local non-governmental organizations (NGOs) and government partners, to understand how residents managed and recovered from recent droughts and floods. The participants represent a range of demographics, including men, women, children, and elderly. The results demonstrate that long-term recovery, including proactive planning for future climate disasters, is more impactful than short-term recovery assistance. In general, full settlement upgrading is preferred and considered more sustainable than house-by-</p> |

| | | | house recovery. The analysis suggests a number of ways to empower residents to invest in their own communities and prepare informal settlements for future climate disasters. This paper concludes with comprehensive recommendations for architects, urban planners, and policymakers to better support residents in the process of long-term, equitable, post-disaster recovery. |
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| Creative and Reflexive Methodologies for Disaster Studies (1) Chair: Kaira Zoe Alburo Cañete | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Dennis John Sumaylo | University of the Philippines Mindanao | <p>Disaster studies literature points to three general themes – structural (organisation-centred), instrumental (medium-centred), and cultural (people-centred (Sumaylo & Sison, 2022). While medium-centred studies highlighting crowdsourcing as a strategy can be classified into three – crowdsourcing architecture, practices and examples, and meta-crowdsourcing (frameworks, potentials, and pitfalls; Sumaylo, 2018). From these reviews, I highlight the potential of designing and implementing reflexive and intersectional methodologies in disaster studies involving people and culture using PRE Transformative Engagement (PRETE) Framework (Sumaylo, 2022) as guide. The acronym PRE stands for (social) power, relationships, and experiences of an individual placed in a precarious setting.</p> <p>This paper aims to unpack the impact of people’s culture and tradition on the traditional research methodologies as applied in disaster studies. It reviews how the new wave of methodologies used in the field of development communication may impact data collection in the Philippines. Using a constructivist-interpretivist qualitative research approach in geographically isolated and disadvantaged areas in the Philippines, this paper presents and reflects on the reflexivity of qualitative methods and its potentials and pitfalls as applied in participatory action research (PAR).</p> <p>In this study, I have employed traditional qualitative data collection methods (document reviews, interviews, and field observations) yet found that the guide provided by research textbooks on conducting interviews and field works changes in the field. University Ethics Committees often demand that one-on-one interviews be done in public to ensure that no coercion or bribery can be committed. However, this requirement also opens the supposed one-on-one interview to the public. In my field sites, it is common for people to gather in one place and discuss. They tend to join the</p> |

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| | | | <p>conversation if they see a neighbour or friend in an interview. It can also be the opposite with your interviewee inviting friends to join. Your initial one-on-one interview suddenly turned into a focus group discussion.</p> <p>In response to this scenario, this paper proposes using the PRE Transformative Engagement (PRETE) Framework as the basis for designing participatory action research methodologies and data collection methods in disaster studies. This framework envisions involving those who are geographically and socio-economically marginalised communities in developing their resilience. However, instead of approaching the process at the community level, disaster studies methodologies should be approached at the individual level tapping and harnessing their PRE in crafting participatory methodologies since PAR is subject to power dynamics. This process allows a deeper investigation of people and culture as significant variables in studies involving marginalised communities.</p> <p>This paper also suggests investigating gamification as a possible data collection method. This direction requires identification and possible modification of game elements and approaches as PAR. Further, using PAR can help identify nuances in the meaning-making process of communities that impacts disaster risk perception and reception.</p> <p>Lastly, disaster studies should always continue beyond mere recommendations and research dissemination. The benefit is biased towards the researcher and the institution they represent. Disaster studies dissemination is encouraged to be three-pronged – teaching, further research, and community extension and engagement, to embody the reflexivity and intersectionality of the research methodology.</p> |
| | Massimo Cattino | University of Glasgow | <p>(Social) vulnerability is a concept that often guides public investments and public policies, particularly in association with other notorious terms, such as resilience, and in relation to climate adaptation and disaster risk reduction interventions in urban areas. However, the traditional (social) vulnerability discussions and framings subtly underpin the denigrating perspective of 'you are in danger', while a great variety of lessons can be learned by communities dealing with severe climatic and non-climatic risks. This contribution proposes the concept of 'Unlearning' as a methodological approach for reframing (social) vulnerability, valorising local potentialities and giving a voice to marginalized communities often neglected and invisible in the official maps and data informing decision-makers. The results are drawn from an ethnographic-</p> |

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| | | | <p>autoethnographic fieldwork carried out in the community of the Morro do Preventório, Niterói (Rio de Janeiro, Brazil), a historically marginalized poor urban neighbourhood, and focuses on the results emerging from the thematic analysis of personal fieldwork diaries, of immersive participant observation notes, and of transcripts from focus groups and semi-structured interviews with community leaders, community members and institutional stakeholders (i.e., municipality’s relevant departments).</p> <p>Preliminary results reveal how activities produced in Preventorio by interdisciplinary teams including community members and leaders, local universities, and international academic partners allowed the co-production of novel data and maps on local risks and vulnerabilities related to climatic hazards, previously neglected and invisible in the official maps. The new locally produced maps have already been proven to be useful for exploring the territory’s local potentialities and establishing an innovative dialogue with the municipality and its relevant departments, who have shown particular interest in combining their ‘traditional’ official data with ‘alternative’ citizen-generated data and local knowledge in Preventorio. Furthermore, other emerging results indicate the crucial role of Participatory Action Research and militant researchers in ensuring meaningful long-term research impacts in the community. In Preventorio, in fact, the presence of community leaders who are researchers as well enabled a special context for working alongside the community in defining research needs, methods and objectives, through a dialogic process of co-construction that allowed the inclusion of marginalized communities in formal decision-making processes thanks to their innovative production of data and maps about and for disaster risk reduction and climate adaptation in their territory. Also, it is worth underlining the importance of open data that is co-constructed by the interested community, particularly in terms of what needs to be mapped, how to map it, and the consequences of mapping, alongside the implications in terms of empowerment and legitimacy. The role of mapping in making visible the invisible, in fact, showed a great significance not only in terms of knowledge construction, but territory construction and emancipation as well, highlighting the need for local and indigenous knowledge driving decision-making, for prioritising actions according to the communities needs and priorities, and outside the dominating paradigms and hegemonies in which they are excluded. Finally, themes arising from the personal ethnographic-autoethnographic work allowed for a reflection on the role of the ‘neoliberal’ academia researcher in the relation between communities and institutions, and between reality on-the-ground, research and policymaking. In particular, the</p> |
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| | | | <p>personal ethical challenges from the perspective of a Global North researcher working with aspirations of decolonizing methods in a Global South context will be highlighted and discussed.</p> |
| | <p>Matthias Kokorsch</p> | <p>University Centre of the Westfjords</p> | <p>Using photo voice and virtual walking tours for assessing place attachment and risk perception in two avalanche risk areas of the Westfjords in Iceland.</p> <p>Globally, climate change is exacerbating the impacts of climate-related, natural hazards including avalanches. However, there is limited knowledge about how small and remote communities are affected by and perceive the effects of a changing climate with hazards that increase in intensity and/or frequency. Consequently, there is a call for more actionable and interdisciplinary climate adaptation research, which takes its starting point in understanding the local concerns of people living in small remote communities. Understanding a community's place attachment is vital for effective land-use planning that aligns with local needs and priorities. Our studies examined the methodologies employed to grasp these values, emphasising the significance of meaningful participatory approaches. It also sheds light on the challenges encountered due to Covid-19 restrictions, which prevented direct face-to-face engagement with community members. We addressed this issue through "virtual walking tours" as an alternative to traditional walking transect methods, aiming to investigate the relationship between place attachment and perceptions of the landscape in a small fishing community in the Westfjords, during the pandemic. The evaluation of this method demonstrated its suitability for conducting comprehensive and cost-effective community consultations. Participants expressed enjoyment and found the technology (online video calls and StreetView imagery) user-friendly and engaging. To further enhance the method, several recommendations are proposed, including the integration of virtual tours with in-person methods whenever feasible, incorporating additional sensory input, adopting a slower pace, and offering more opportunities for participants to divert to personally significant locations. Other contextual considerations encompass the use of participants' native language and the facilitation of virtual walking tours with pairs or small groups of participants. In another study, based on the same theoretical foundation, photovoice was tested to gather respondents' perceptions of the place in which they live and the hazards they face through personal narratives of photographs. Despite its limitations, the photovoice method was found to be a suitable tool for gaining valuable insights into the communities while ensuring comfort and enjoyment for both participants and the</p> |



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| | <p>Christelle Juin Ancha, Karl Daniel Begnotea, & Melody Teodoro</p> | <p>University of the Philippines & DOST- PHIVOLCS</p> | <p>researcher.</p> <p>Critical reflection requires us to recollect and contemplate our work. It also allows us to discern our intersecting social identities and how these influence our decision-making processes and practices. In the context of disaster studies, highlighting critical reflection as a significant component of knowledge production has yet to be recognized. In this article, we present our reflections based on our personal experiences as social science researchers and practitioners engaging in community-based early warning systems and disaster risk reduction and management in the Philippines. As researchers and practitioners, we have encountered a multitude of challenges and insightful reflections throughout the implementation of the Dynaslope Project, a research program that develops early warning systems for deep-seated and catastrophic landslides. In the process of critical reflection, we identify three key themes that we argue have the potential to question power imbalances, institutionalized habits, and traditional research practices that may prevent the establishment of transformative engagements in community-based early warning systems. The first is agency as a shared consensus. In integrating transformative community-based early warning systems, we realized that when researchers and the "researched" share the same standpoint, a collective agency emerges, which encourages the "researched" to elevate their knowledge building through organizing, mobilizing, and lobbying policies. Agency was also attributed to the community's volunteering as co-researchers in landslide monitoring. Community members freely and willingly participate in early warning system activities, and in that sense, they exemplify agency. The second is accompaniment as power. In comparison to traditional research, wherein the social realities of the "researched" are removed from knowledge production, our critical reflection revealed that accompaniment eliminates oppressive power imbalances between the researcher and the "researched". Accompaniment expands structures that enable the researcher to participate in non-hierarchical knowledge building. The third is institutionalization as sustainability. In the Philippines, the lack of sufficient resources to support research prompts researchers to leave their projects within short periods of time. We realized that institutionalizing research may sustain knowledge building better.</p> <p>Critical reflection has helped develop our practice of integrating transformative community engagement into scientific endeavors. It is a beneficial process for protecting researchers from the constraints of traditional research. We developed a critical consciousness about our practice and theory that can help us become better practitioners. Using a co-created critical reflection process, we explore, learn from, and develop our praxis on community engagements. We dive into the setting,</p> |
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| | | | <p>consolidation, analytical, and change stages of the critical reflection process using creative qualitative research tools such as photovoice, journaling, and group reflection dialogues. During group dialogues, we established a group culture suitable for learning and reflection, examined the fundamental assumptions about the significant events and critical incidents from community engagement practice experience, and articulated change awareness.</p> <p>While it needs further refinements and modifications to make the process suitable for the use and intentions of other researchers, the critical reflection process can be further developed by adopting iterations on the process, tools, and group culture towards critical and creative disaster risk studies and methods that are transformative and developmental.</p> |
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| <p>Flood Risk Governance: International Perspectives to Building Flood Resilient Societies (1) Chairs: Steven Ashley Forrest, Anne Bach Nielsen</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Building flood resilient communities in low level risk awareness environments | Anne Bach Nielsen | University of Copenhagen | <p>Social media and crowdsourcing (SMCS) are increasingly used as tools to govern disasters. Nevertheless, we have a limited understanding of how these technologies support disaster risk management processes. Based on a comprehensive literature review of over 300 papers, we present a state of the art of the existing research field linking SMCS with disaster risk governance. The paper provides insight into major trends in the knowledge production of research published from 2008-2022. It maps the use of SMCS across disaster phases, geographies, applied methods, and types of hazards.</p> <p>Building on these findings, we identified two priorities for future research. First, existing research predominantly focuses on preparedness and response. To strengthen resilience, we suggest a turn to research SMCS in long-term recovery and prevention. Second, and despite a minor shift following the Covid-19 pandemic, research continues to favour North America, Southeast Asia, Australia and Europe and questions related to technical issues and implementation. Research should focus on the power shifts that these technologies produce, the contexts in which they are supposed to be applied, and the sociocultural conditions that co-produce, potentially vulnerable, outcomes of SMCS in disaster governance.</p> |

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| <p>Understanding Interdependencies in Community-Based Urban Pluvial Flood Risk Management: A Comparative Study of Amsterdam and Rotterdam, Netherlands</p> | <p>Zequiang Pan</p> | <p>University of Groningen</p> | <p>Policymakers and scholars are increasingly aware that urban pluvial flood risk management strategies need to be tailor-made to the local context (e.g., local knowledge, interests, etc.). Diverse actors collaborate on context-specific pluvial flood risk management strategies, with particular attention to the roles and responsibilities of local authorities and local collectives (e.g., citizen groups). In urban pluvial flood risk management, the relationship between these two actor groups can be considered interdependent. For example, local authorities need local collectives to make adjustments to their own gardens and roofs to have sufficient space for water storage. At the same time, local authorities are necessary to monitor pluvial flood risk, design an overarching flood risk management strategy and fairly distribute resources. So far, however, these interdependencies between local authorities and local collectives and how they are negotiated throughout the planning process, remains an under-researched topic.</p> <p>Drawing on the concept of ‘interdependency’, this paper reflects on the interdependent relationship between local authorities and local collectives in community-based urban pluvial flood risk management in different governance processes. The study focuses on two micro community-level cases—the RESILIO project in Amsterdam and the Dakpark project in Rotterdam, both flood-prone delta cities in the Netherlands grappling with climate change impacts. Applying a mixed-method approach incorporating Social Network Analysis and in-depth interviews with representatives from local authorities and local collectives in both cases, we aim at better understanding: 1) what contributes to different interdependencies in the different planning process, 2) what this implies for the roles, relationships, and responsibilities of the actors involved, and 3) which strategies are applied for overcoming tensions between local authorities and local collectives in the specific context of urban pluvial flood risk management. The research concludes that interdependencies between local authorities and local collectives are contingent upon the local actors involved, institutional frameworks, and local contexts, all of which influence the roles and relationships of actors within the planning process.</p> |
| <p>Transition to flood resilient landscapes</p> | <p>Annemargreet de Leeuw</p> | <p>Deltares</p> | <p>Flood resilient landscapes provide an attractive perspective on how society can deal with uncertain climate change and resulting increase of flood risk, whilst developing in a sustainable and fair way. Sustainable from the perspective of carrying capacity of water, soil and ecosystem, and fair from the perspective of addressing the needs of different groups in society.</p> |

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| | | | <p>A common approach to a transition process in an area is to start from spatial challenges such as a flood risk management target, working towards sustainable agriculture, development of housing, achieving the energy transition, complying to the water framework directive. This approach often brings complications such as misaligned programs in time and space for these different challenges. From an academic point of view, the answer lies in programming and execution of projects in cooperation, working towards more integrated solutions. Practice shows that this is complicated.</p> <p>Therefore, a participatory design approach is set up to redefine what a valuable landscape for future society would be. What values are important in a certain area, and what is the quality that the future landscape should have? The hypothesis is that starting discussions from a perspective of value creation helps to sketch this desirable future flood resilient landscape and to set up transition pathways to change the landscape towards the desired perspective.</p> <p>To this end, a framework of potential societal attitudes to future flood risk management is developed and the approach is tested in three rural cases in the Netherlands. Urban cases are under development. The results are promising and will be shared. The approach offers the prospect of keeping deltas safe beyond 2100 at socially acceptable costs and with public support now and in the future.</p> |
| <p>Perpetuating Inequalities: Planned retreat policy impacts in flood-affected communities of Southern Québec, Canada</p> | <p>Mahmood Fayazi</p> | <p>Université de Montréal</p> | <p>In 2017 and 2019, over 14,500 homes were flooded, affecting more than 6,500 households in Québec province in Canada. The severity and scale of damage required the introduction of a disaster governance tool, named the Special Intervention Zone (ZIS) policy to prevent the reconstruction of buildings in specific zones. In high-velocity flood zones (so-called 0-to-20-year), renovation and reconstruction could only occur if damage estimation did not exceed ½ the cost of a new build. Otherwise, affected populations were encouraged to relocate, receiving up to \$265,000 in compensation. Research on climate resettlement suggests that the most vulnerable individuals, lacking resources and networks, are hit hardest by floods and flood governance tools. However, little is known about the diverse impacts of floods and recovery policies on homogenous suburban communities in southern Québec. These communities consist mostly of non-immigrants and have above-average household incomes (CAD \$78,913 median). The study investigates how planned retreat policies perpetuate inequalities in communities</p> |

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| | | | <p>where traditional factors of inequality like historical marginalization, segregation, and sociotechnical disparities are not evident. A mixed research method is ongoing to identify factors associated with high levels of damage and demolition, and to capture the experiences and perspectives of relocated households. Preliminary results provide valuable insights into the social impacts of relocation, highlighting challenges, anxieties, and disruptions faced by relocated households. Additionally, the study reveals that those who remained in flood zones benefited from increased property values during the COVID-19 real estate boom. Conversely, those who relocated experienced a range of outcomes, including avoiding stress and costly protection efforts but also facing loss of home equity, diminished place attachment, exacerbated socio-economic hardships, and negative psychological impacts.</p> <p>By examining the justice implications of managed retreat, this study enhances our understanding and paves the way for constructive engagement and effective governance by households, local governments, and supporting organizations involved in the managed retreat process.</p> |
| <p>Building flood resilient communities in low level risk awareness environments</p> | <p>Nina Blom Andersen</p> | <p>University College Copenhagen, KATRISK</p> | <p>In a Danish case study, an urban affluent community in a Nordic welfare setting was studied to investigate community resilience in case of climate change induced incidents, namely flood from cloud bursts, which the community is prone of. It is expected that the area will be even more exposed in the years to come due to climate change (DMI 2022).</p> <p>The first aim of the study in the municipality of Frederiksberg is to investigate the citizen engagement and involvement in household flood preparedness. A second purpose is to analyse awareness of the community’s needs in a response phase not least the understanding of the potential for bridging the residents with resources with the more vulnerable and less resourceful inhabitants. We suggest that both practices can indicate community resilience and suggest potential needs to strengthen resilience initiatives in the community (Magis 2010). Theoretical perspectives of practice theory (Heidenstrøm & Kvarnlöf 2018) and additional analytical concepts regarding risk awareness, self efficacy (van Valkengoed & Steg 2019) guide the analysis.</p> <p>Through quantitative and qualitative methods - a survey consisting of answers from 1015 inhabitants and 6 focus groups with participants from the municipality - the study investigates the prerequisites for community resilience in a site not previously exposed</p> |

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| | | | <p>to repeating comprehensive disasters.</p> <p>Both survey results and the qualitative data material display that few residents are engaged in flood preparedness activities concerning own household, own block, or in narrow district. The data do additionally show that the awareness of future floods is very low, not least regarding that the municipality experienced a severe flood in 2011.</p> <p>Initial findings indicate that the existing networks seem strong and examples of good neighborliness and care for fellow residents are identified in the qualitative material. However, either qualitative or quantitative datasets holds the signs of preparedness or readiness to help fellow citizens outside own network. The tendency is that while existing networks seem strong, there are on the contrary only very few signs of emerging networks.</p> <p>These preliminary findings are potential constrains for building flood resilience in the civil society of Frederiksberg in a future of more frequent climate related events, and it raises the question which initiatives that are needed to support community flood resilience. The study aims is to understand how to potentially mobilize citizens in a context where very few are even aware of the risk of future incidents with high impact. van Valkengoed, A. M., & Steg, L. (2019). Meta-analyses of factors motivating climate change adaptation behaviour. <i>Nature climate change</i>, 9(2), 158-163.</p> |
| <p>Flood risk allocation, (Mis)Recognition and Shifting Resilience of riverine communities in Flood Governance in Bihar, India</p> | <p>Kaniska Singh</p> | <p>IIT Bombay</p> | <p>Monsoon Flooding is an integral part of the Himalayan riverine ecosystem. Owing to the difficulty of controlling floods, building a flood-resilient society seems a desirable policy goal but is increasingly becoming a shorthand for disaster risk reduction. Likewise, in the Indian state of Bihar, where 73 % of the area is prone to flooding, flood risk allocation through structural defences remains a predominant strategy for mitigating flood risk and building flood-resilient communities. This also raises questions of fairness in flood governance.</p> <p>Therefore, this study looks to answer the following question from a disaster justice lens — How do the trade-offs in allocating flood risk within flood governance shape the process of building flood-resilient communities? A field study was conducted with riverine communities of Kosi floodplains in Bihar. It used ethnographic methods such as field observation, conversations, & narratives and text analysis of the policy documents to generate and analyse field data.</p> |

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| | | | <p>The study finds that the state’s approach to building ‘resilient villages’ through structural defences involves inequitable trade-offs between protecting the countryside and reproducing hazardscape for the unprotected riversides. This reproduction means intensified erosion and the crisis of habitability & livelihood for the riverside population. Next, governance actors’ narratives of non-deservingness and blame of the riverside population legitimise the unequal trade-offs.</p> <p>The study observes that building a flood-resilient society through structural defences raised recognition and distribution injustices. It compromises the riverside population’s capacity to adapt and prompts demands of maladaptive structural defences by them, reducing their resilience in the long run. However, the population seeks accountability and recognition from the State by collaborating with local NGOs through advocacy and legal recourse which facilitates their capacity to demand injustice and vulnerability reduction, which in turn facilitates their resilience.</p> |
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PANEL SESSION 2 - 11:20-12:40 (ITC Building Langezijds)

Communication and Decision Making linked to vulnerability and disaster resilience (2)

Chair: Eefje Hendriks

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| | Andrew Powell | CTPSR, Coventry University | Humanitarian shelter and settlement assistance reaches only a small percentage of disaster-affected populations and does not always enable the reconstruction of safer houses. Behavioural science facilitates a better understanding of the needs, preferences, wisdom and behaviours of disaster-affected people. Incorporating insights from behavioural science can enable affected populations and aid organizations to understand the impact of their practices and strategies and; in turn design more effective and inclusive programs with greater reach. This study aims to explore which behavioural concepts and theories enable a deeper understanding of which, when and the extent recovery assistance is effective in enhancing resilience. The study explores underlying assumptions and beliefs in post-disaster recovery assistance and compares them with evidence-based behavioural theories to identify gaps and pathways for improvement. At the United Kingdom Shelter Forum (UKSF) 2023 we engaged interactively with |

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| | | | <p>practitioners to understand the current use, awareness and understanding of behavioural frameworks in the design, implementation and evaluation of shelter and settlement approaches. We share our preliminary results that call to take into account the social and environmental context of the affected population. The theoretical and empirical evaluation implies an evaluation and redesign of governmental and humanitarian reconstruction support programs is long overdue. We conclude in emphasizing the importance of targeted and facilitated ‘social learning interactions’ in enabling vulnerable populations to share and enhance their own adaptive capabilities for building resilience and community-driven solutions.</p> |
| <p>Flood or not? : Production of vulnerability through ineffective risk communication in Kosi Basin</p> | <p>Kaniska Singh</p> | <p>IIT Bombay</p> | <p>Risk communication by the state and non-state agencies is crucial in every phase of flood risk governance (FRG), from preparedness to timely evacuation to relocation of the affected communities to safer areas. The success of risk communication between the state and the at-risk population depends on the accessibility, comprehensibility, nature of interaction and trustworthiness of the information & the sender. Whereas the ineffectiveness and poor risk communication can shape decision-making, the outcome of FRG and, most importantly, produce flood vulnerability.</p> <p>This study, therefore, explores how different facets of risk communication shape the vulnerability of the at-risk population in the Kosi River sub-basin, where preparedness is one of the critical ways through which the riverine community evades loss and damage at the time of recurring floods. The 2021 Kosi River flooding in Bihar raises a peculiar case where at-risk populations contested the government’s decision of not declaring floods despite the crop losses. The case examines the challenges of last-mile disaster communication, the nature and multiple interpretations of the water discharge data from the Kosi barrage and its role in shaping people’s response, preparedness and vulnerability towards the flood.</p> <p>The study further finds that the institutional regulation, and the absence of timely information dissemination about the flood water discharge by the Kosi barrage in Bhimnagar, Nepal, left no time for the at-risk riverine population to prepare for the upcoming disaster. The lack of a robust communication channel damaged the harvested field crops in the downstream region. The amalgamation of untimely information dissemination, digital infrastructure inaccessibility, the region’s energy poverty and the pre-existing vulnerabilities shaped the extent of damage and loss for the riverine communities.</p> |

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| | | | <p>The study also suggested that the sudden midnight discharge of the floodwater from the Kosi barrage emanated from a top-down and exclusive interpretation by the barrage operators/engineers. The floodwater discharge information, primarily expressed in scientific, numeric and technical parameters, is interpreted differently by different governance actors and community members. Yet, the interpretation by the formal governance actors as the decision-makers takes precedence over the community’s interpretations, hence getting excluded from the decision-making. This process resulted in contestation between the state and the at-risk population. The untimely dissemination through indirect communication channels compromised the people’s agency to protect their crops, livestock and houses, leading to loss and damage. Furthermore, the varied interpretation and dissemination of information by decision-makers dismisses the eligibility claims for disaster relief by the at-risk riverine population and exacerbates their future vulnerabilities by excluding their experiences and denying compensation critical for just recovery.</p> |
| | Thomas Kox | Weizenbaum Institute | <p>Impact-based warnings are becoming increasingly popular and encouraged, including by the World Meteorological Organization (WMO). What are these, and how can they be created and communicated? How can we foster partnerships and communicate meaningful information with stakeholders to empower the public? What are the gaps requiring research to help assist agencies looking to develop these systems? The WMO’s World Weather Research Programme High Impact Weather project conducted a series of international workshops in late 2022 to investigate perceptions of the global community around what the research gaps and challenges are relating to impact forecasting and warning. Research has shown mixed results in how effective impact forecasting are in achieving a behavioural response. There are also questions around whether the forecasts should be aimed at stakeholders (such as emergency managers) or the public. The environment is changing due to global warming, and people’s experiences with the COVID-19 pandemic have demonstrated different appetites for risk. There is exponential growth in technology, the use of Artificial Intelligence and large language models such as ChatGPT, and access to social media, allowing information sharing to reach unprecedented levels. In this evolving context, we must look to the future and forecast how and what we will need to communicate years from now. In this way we can design our monitoring and forecasting capabilities, and our partnerships and priorities, to meet the needs of society.</p> |

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| <p>The Protection Motivation Theory under the lens of frequent flood experience: What role does experience play in decision-making processes, and what can we learn from it concerning communication strategies in a changing world?</p> | <p>Lisa Köhler</p> | <p>University of Potsdam, Helmholtz Centre for Environmental Research</p> | <p>With the increasing frequency of flood events in many parts of the world, understanding the drivers behind individuals' engagement in protective behaviors is crucial. Aligning with this, it becomes more important to understand better how past experiences impact these behaviors. This study explores the influence of frequent flood experience on individuals' protective behavior by extending the Protection Motivation Theory (PMT) and examining potential variations in the effects of PMT factors across different experience levels. The level of flood experience is defined as the number of floods people have already experienced. The research focuses on the flood-prone federal state of Saxony (Germany).</p> <p>Using multigroup structural equation modeling (SEM), this study seeks to investigate the relationships between PMT factors and protective behavior among individuals with varying levels of flood experience. Additionally, the study incorporates factors such as social norms and knowledge that have been shown to contribute to the explanatory power of PMT to assess if their impact on adaptive behavior varies depending on experience. Furthermore, individual protection motivation profiles are created for different levels of flood experience to enable tailored communication and motivation strategies for flood-prone residents.</p> <p>Preliminary outcomes of the study support the assumption that individuals' motivation to undertake protective measures is influenced by their experience level. Specifically, the influences of risk perception and economic considerations on protection motivation differ significantly.</p> <p>To conclude, the research findings will provide valuable insights into the interplay between flood experience and decision-making processes related to protective behavior. Understanding the factors that hold greater influence for individuals with different experience levels can inform the design of communication approaches that effectively address the diverse motivations and needs of specific subgroups. Policymakers, practitioners, and communication specialists can use this knowledge to develop nuanced and effective strategies to motivate protective actions. By providing evidence-based insights into the differential influences of risk perception, economic considerations, and other factors, this study discovers new opportunities for tailored communication strategies to engage individuals with diverse flood experience backgrounds effectively."</p> |
| | <p>Xu Shiyong</p> | <p>Nanyang</p> | <p>Floods are one of the most common natural disasters in the world and are becoming</p> |

| | | Technological University (Singapore) | <p>more prevalent due to climate change and urbanisation. With the evolution of flood management practices, the notion of resilience has gained prominence as a valuable approach. It emphasizes the need to supplement conventional engineering solutions with mitigation and adaptation measures that involve individuals and communities at risk. Nevertheless, existing operationalizations of flood resilience often treat institutional and individual factors as distinct dimensions, lacking a comprehensive understanding of the role of communication in bridging this gap and facilitating the transition of responsibilities. This study addresses this by examining how flood risk communication (FRC) affects individual protection actions to enhance resilience at the community level, through integrating behavioural theories such as Protection Motivation Theory (PMT) to form a conceptual framework to understand the processes that influence individuals' decisions to adopt flood protection measures. A total of 297 online survey responses were collected from residents in over 10 flood-prone municipalities across Thailand, and the data was analysed using structural equation modelling (SEM). The findings suggest that effective FRC should include risk information, stakeholder responsibilities and preparation measures. Moreover, accessibility of information and trustworthiness of the information was found to be important in motivating individuals to prepare for flood risks, which in turn enhances community resilience. This study highlights the importance of understanding how FRC affects individual motivations to promote the uptake of precautionary measures and enhance community resilience.</p> |
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| <p>Community Engagement in Disaster Management (2) Chair: Selby Knudsen</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Dennis John Sumaylo | University of the Philippines Mindanao | <p>The Community Engagement Continuum (CEC) of Frances Bowen and colleagues (2010) posit that community engagement has three levels – transactional, transitional, and transformational – with each level having a set of rubrics as a measurement of success. However, the CEC is yet to be observed in communities tagged as geographically isolated and disadvantaged areas (GIDA). Using a constructivist-interpretivist qualitative research design, I observed how two GIDA communities in both upland and island areas in Mindanao, Philippines negotiate community engagement practices in the context of pre-disaster communication. This paper highlights power, relationships, and experiences as links to attaining a possible transformative level of engagement due to this investigation. Spotlighting social</p> |

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| | | | <p>power, relationships, and experiences (PRE) in pre-disaster communication means paying attention to the individual, who is a part of the community, and targeting their specific needs, thereby targeting the entire community.</p> <p>This study proposes the PRE Transformative Engagement (PRETE) Framework (Sumaylo, 2022) to link transitional and transformation engagement. This framework is positioned as a conduit for communicating information and compelling action from a target population. Its goal is to ensure community empowerment and resilience by bridging a transitional engagement to a transformative one. Identifying transmission and role interchange points provides an avenue that allows government and community to work together to start building disaster resiliency. This can be achieved through cooperation and co-creation between these two communication agents, despite socioeconomic and geographical inequalities and a digital divide. The prefix PRE is also highlighted in the framework leading the communication practitioner that this framework is applicable BEFORE facing any actual threat. Pre-disaster communication is, after all, the initial stage in the spectrum of disaster risk reduction and management.</p> <p>The positive impact of operationalising the PRETE Framework in engaging communities is the ability to develop a targeted engagement plan by recognising two main actors (sender and receiver) with dual roles. Transmission methods and role interchange are meeting points for cooperation and co-creation activities between GIDA communities and local governments. Cooperation and co-creation, activities grounded on interpersonal communication, are significant aspects of the PRETE Framework, giving the main actors in the communication process the ability to control their resiliency-building.</p> <p>This study also outlines possible choke points in implementing the framework. The framework demands restructuring current communicative practices in relation to engaging isolated and disadvantaged communities. The targeted approach might be expensive in terms of budget and workforce. The contextual basis of the framework is geographic isolation and socioeconomic inequalities.</p> <p>Notwithstanding, this paper suggests operationalising the PRETE Framework in pre-disaster communication efforts, specifically community engagement activities. It is also suggested to look at the framework as a possible basis for developing new methodologies and methods for Participatory Action Research.</p> |
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| <p>Memorizing actor’s role and their interaction in multi-level governance — Community-based flood risk management in China’s Sponge City Program</p> | <p>Zeqiang Pan</p> | <p>University of Groningen</p> | <p>Increasing pluvial flooding risks in the cities acknowledges the importance of considering local context and local actors in the decision-making of urban planning. Community-based flood risk management comes with multi-level governance incorporating formal and informal actors. However, there is a knowledge gap regarding the structure of formal and informal actors, their institutional roles and multi-level interdependencies.</p> <p>This research focuses on the interaction of local authorities and community residents in community-based flood risk management: the interdependency of the actors’ network structure and the dynamics behind the network structure. A mixed-methods approach with Social Network Analysis and Individual Interview Analysis is used to understand local authorities and local communities’ roles, positions, and the factors that triggered their relationships change in the multi-level governance process. A micro case of Guangzhou, the flooding-vulnerable city in the Pearl River Delta Area, is selected as a case study to investigate China’s Sponge City Program for urban pluvial flood risk management.</p> <p>The results show that: firstly, the flood risk management in Sponge City Program at the local level is a multi-level governance process. Secondly, the roles, positions, and relationships of local authorities and community residents are changing dynamically in the decision-making process. Thirdly, the roles of local authorities and community residents complement each other’s management limitations, thereby achieving synergy. But tension in-between local authorities and community residents must also be recognized, which needs to be transferred from constraining to enabling factor. This paper recommends a more inclusive Sponge City Program locally by involving diverse actors in the early stage and highlighting area-specific policy-making in the decision-making process.</p> |
| <p>Trust in Times of Crises – Lessons learned from Norway</p> | <p>Christian Webersik</p> | <p>Centre for Integrated Emergency Management, University of Agder, Norway</p> | <p>The gravity of the Covid-19-pandemic evolved differently in every country. In general, framing factors such as geography, political and health care system influence its development. Nonetheless, the successful handling of a crisis by government and people is only possible if both work together towards the same purpose. This cooperative approach is facilitated by levels of trust. Thus, the following article argues that basic levels of trust before a crisis affect its handling positively. To elaborate on the topic, Norway is regarded as a case of a country with high degrees of trust. Its effectiveness and fortitude are especially tested during critical situations. Therefore, through a qualitative methodological approach parameters and mechanisms of the inherent trust capacity of the Norwegian people are analyzed in context of the</p> |

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| | | | <p>pandemic as a critical, trust-testing situation. The results identify standardized indicators and specific preconditioning practices of trust as supportive towards mutual trust between a government and a people that handle the pandemic as an entity. Yet, safety mechanisms of mistrust hint to a scheme of particularistic and universalistic trust during crises. Out of these outcomes, core lessons are derived, such as decreasing uncertainties through transparency and safety as well as highlighting the responsibility and awareness of individuals to contribute to the common achievement of the collective. These findings point to the potential of trust to prevent chaos and aggravations of crises.</p> |
| <p>The Mother of Home and the Community: The Resilience of Women in Maripipi Island, Philippines in Community Engagement and Disaster Preparedness</p> | <p>Renz Prudenciado</p> | <p>Asian Institute of Technology</p> | <p>Building Resilience in Maripipi Island, Philippines also focuses on cisgender women's crucial role in community engagement, disaster preparedness, and resilience. Cisgender women's nurturing and compassionate nature has earned the trust of community members, making them an essential resource in the face of natural disasters. Despite their remarkable contributions, cisgender women in Maripipi Island remain under-compensated, their work is deemed ""voluntary"" and poorly paid. This study highlights the need for recognizing the invaluable contributions of these cisgender women and strengthening local government policies that aim to bridge the gap in work injustice. The resilient character of Maripipi Island is a testament to the adaptability of women who seamlessly integrate their responsibilities as mothers and community leaders. The immense potential of cisgender women in cultivating resilient communities should serve as a call to action for policies that prioritize gender equity and community welfare.</p> |
| <p>Is the notion of 'community' a problem in disaster studies?</p> | <p>Terry Cannon</p> | <p>Institute of Development Studies</p> | <p>The default language in talking about disasters at the local level is 'community'. It is rare for the word 'people' or 'locality' to be used. Instead researchers, donors and other organizations all claim to be working with 'communities'. It is also reflected in the prefix 'community-based', which can be added to any problem so as to fix it. This presentation challenges the way that 'community' is perceived and framed so that it is not used for the people's benefit but for ours as organizations. It argues that using the term 'community' distracts from understanding the actual explanations of problems. It makes it unnecessary to analyse causation and the root causes in exploitation and oppression and instead creates a comforting role for us.</p> |
| <p>Creative and Reflexive Methodologies for Disaster Studies (2) Chairs: Maria Carinnes Alejandria Gonzalez</p> | | | |
| <p>Presentation Titles (if</p> | <p>Speakers</p> | <p>Institutions</p> | <p>Abstracts (if available)</p> |

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| <p>Exploring Trauma and Place: Employing Photo Elicitation and Walking Audio to the People's Experiences of the Lytton Creek Wildfire 2021</p> | <p>Tugba Altin</p> | <p>University of Calgary</p> | <p>Understanding the experiences of individuals who have undergone traumatic events and their relationship with the places affected requires a research design that can holistically reveal the interplay between place, person, and process. In this study, two methods informed by visual sociology, photo elicitation and walking audio, are employed to gain insights into the experiences of individuals impacted by the Lytton Creek Wildfire in 2021. This research contributes to the existing literature by employing methods that are informative, decolonizing, and facilitate co-researcher collaboration in knowledge production. Photo elicitation offers a suitable method to understand the experiences of trauma. Co-researchers are encouraged to use non-verbal mediums, such as photographs, to describe and elaborate on their experiences. By incorporating tangible reflections on intangible feelings through images, the co-researchers offer a new understanding of their experiences and meanings associated with the experiences. This method allows co-researchers to have agency in revealing their experiences and ensures a more comprehensive understanding. Furthermore, photo elicitation facilitates the exploration of the subjective nature of the person-place relationship and captures the variations in meanings associated with a particular place. Traditional research methods often overlook the hidden meanings in participants' narratives, photo elicitation cultivates co-researchers active contribution to both data production and meaning-making processes, minimizing the loss of valuable insights. Walking audio, another method employed in this study, helps uncover the fluid and dynamic interpretation of place and place relationships. Through on-site experiences, co-researchers are able to reflect on events, their associated feelings, and the meanings tied to specific locations. This method enables a holistic understanding of co-researchers' on-site experiences and their place-based responses. Drawing from studies in forced displacement and attachment theory, walking audio has proven effective in capturing the place-based experiences and ascribed meanings of individuals. By recording on-site commentaries, co-researchers shed light on how they perceived and process the alteration in their home landscape that goes beyond directed questioning, allowing for a deeper exploration of their experiences. To ensure the well-being of the co-researchers in this trauma-focused study, a trauma-informed approach is central. Both the sensory exposure of the co-researchers to the post-disaster home landscape and the potential triggers for the researcher are acknowledged. Creating a trauma-informed space fosters a safe environment for co-researchers to share their experiences and contributes to the development of a practical guideline for the community. By including the perspectives of those directly affected, the resulting knowledge and recommendations are more inclusive and relevant to the community's needs. In</p> |

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| | | | <p>conclusion, this study employs photo elicitation and walking audio as methods to explore the experiences of individuals impacted by the Lytton Creek Wildfire. These methods offer informative and decolonizing approaches to knowledge production, emphasizing co-researcher collaboration and the integration of sensory responses. Additionally, a trauma-informed approach ensures the well-being of all involved. The findings of this research will contribute to the literature on trauma, place attachment, and disaster recovery, providing valuable insights and practical guidelines for communities affected by similar events.</p> |
| | <p>Abigail Ewen</p> | <p>University College London</p> | <p>The project asks through the case of Nepal, if urgent disaster response and resilience building has enabled or hindered struggles for inclusion in public life and collective action, through the acute experiences of people who identify as disabled.</p> <p>It tracks how those currently identifying as disabled experienced the 2015 Ghoroka earthquake and the 2021 Melamchi Flood. It reveals the ways that response and resilience building has impacted on or been used to change the way disability is imagined and incorporated in policy and legislation and how this shapes inclusion and exclusion by people with disabilities at the local level. In order to capture the experiences, knowledge and voices of people with disabilities a unique participatory timeline methodology was developed and embedded within semi-structured interview methods. This enabled participants to recount memories about how they felt as a person with disability, tapping into reflections on their identity, experiences and needs while anchoring these within the context of disaster.</p> <p>This allowed the research to track change across the 2015 earthquake and the 2021 Melamchi flood and their response cycles and provided participants an opportunity share their experiences. Three types of smiley faced counters were 3D printed to represent people’s feelings, ultimately expressing whether they felt either ‘Good’, ‘OK’ or ‘Not Good’ towards certain questions relating to themes on support, needs and confidence with their disability, this then allowed the opportunity to probe further qualitative information. These counters were printed to be tactile for people with sight impairment to be able to participate within the research. This more participatory method was excellently received by participants and resulted in rich and relevant data while allowing the opportunity to probe for more marginal and exploratory findings. Participants were asked to reflect their opinions on the methodology and how it could be improved and adapted to be more considerate for those with different types of disability. Reflexivity and collaboration were deeply embedded within the methodology and research process with the intentional aim to explore the successful</p> |

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| | | | <p>application of these creative methods their challenges and their impact on power dynamics within the research process when applied specifically to research with people with disabilities in low- and middle-income settings. These methods helped facilitated an atmosphere of collaboration and cohesion and left participants feeling their voices and experiences were being heard, in most cases, for the very first time.</p> |
| <p>The co-production of risk-oriented policies for urban areas yet to come: Tomorrow's Cities bottom-up approach to policy development</p> | <p>Thaisa Comelli</p> | <p>Institute of Risk and Disaster Reduction, University College London</p> | <p>Cities in the geographical and political global South are experiencing unprecedented growth, which increases exposure to natural hazards and exacerbates socio-spatial vulnerabilities. As this pattern accelerates, it is necessary to plan not only for short-term risky urban futures, but particularly for long-term ones. In this session we will reflect on the research and knowledge exchanges with multiple partners that led to the implementation of Tomorrow's Cities risk-informed urban development planning approach in – so far - six peri-urban areas in Ecuador, Turkey, Palestine, Kenya and Nepal. Tomorrow's Cities (UKRI GCRF Urban Disaster Risk Hub) is impact oriented and aims to reduce future disaster risk for poor and marginalised populations in yet-to-be-developed areas (Galasso et al., 2021). It draws on interdisciplinary future methods, leading to a framework that operates in five stages: (1) harnessing different social groups' aspirations and visions for the future; (2) developing scenarios that express both qualitative future expectations and quantitative urban trends; (3) exposing community-produced scenarios to multi-hazard simulations; (4) learning about impacts and discussing risk; and (5) grounding learning into the governance system of cities for concrete impact (Cremen et al., 2023).</p> <p>Given the complexity of such framework, this presentation will discuss Tomorrow's Cities exclusively from the lenses of its bottom-up policy development approach, which encompasses spatial and non-spatial actions that aim to tackle the impacts of future hazards. Two key highlights will capture the innovative take of Tomorrow's Cities on risk-oriented policy development through creative and reflexive methodologies:</p> <ul style="list-style-type: none"> • The bottom-up design of 'policy bundles' for the future, which starts from a 'critical stakeholder mapping' that disaggregates the socio-urban landscape of the city from a power-laden perspective. In practice, this means that different local and indigenous groups (e.g., women, disabled, refugees, landowners, renters, ethnic minorities – depending on the challenges in each area) discuss their own expectations for the future, and test and develop policy options that could reduce future risk under certain hazard conditions whilst meeting their aspirations. Such policies emerge from a collective urban development problem framing that is conscious of hazards, and slowly unfolds into a more sophisticated understanding of the root causes and drivers of disaster risk. |

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| | | | <ul style="list-style-type: none"> The co-design of spatial policies (i.e., future land uses and infrastructure), which departs from creative methods from the arts and humanities. Tomorrow’s Cities co-mapping/design approach evolves as a series of drawing exercises that capture individual life trajectories, collective aspirations, the translation of aspirations into urban assets, and the translation of urban assets into concrete spatial proposals. These are later incorporated into a GIS-based computational platform that allows participants to unpack policy-impact links, and to understand how their aspirations and normative views are materialised when designed against quantitative urban trends. They therefore confront desired with probable futures. <p>We will discuss the above points whilst illuminating other innovative aspects of Tomorrow’s Cities interdisciplinary and co-production methods for future risk reduction.</p> |
| <p>Deconstructing and (re)constructing narratives in disaster research</p> | <p>Katy Davis</p> | <p>Oregon State University</p> | <p>Narratives are used to make sense of the world, to understand complex challenges, and to imagine change. Inequity and unequal power structures are understood to be the root causes of disasters, but dominant narratives often frame climate change as an ‘externalised’ threat and propose technocratic approaches to defending the status quo. This distracts from solutions that address the root causes of disaster.</p> <p>In my PhD work, I engaged in narrative analysis of Canadian governmental climate and health policy documents relevant to Inuit Nunangat, where social determinants of health include ongoing colonialism and policy, shaping Inuit experiences of climate change. In my work, I attempted to understand the ways that dominant narratives of climate change and health are conceptualising these intersecting disaster(s) of environmental change and ongoing colonialism.</p> <p>The dominant narrative focused on knowledge, technological innovation and resilience, externalising the threat of climate change and proposing solutions that leverage knowledge and innovation. A second narrative highlighted collective responsibility and partnership, identifying inequity as a driver of harm but not engaging with power relations when detailing solutions. A third narrative, present in fewer documents, centred sovereignty and relationships, identifies inequities and colonial policy as drivers of harm in the context of climate change, and proposes solutions that address root causes and further Indigenous sovereignty. How we tell the ‘story’ of climate change determines how we act and adapt. If dominant policy narratives distract from addressing the root causes of harm, inequities and violence</p> |

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| | | | <p>will be perpetuated through inappropriate actions and missed opportunities. Narratives identified in this analysis offer other ways of telling this story.</p> <p>In this presentation I want to discuss the results of this work, and reflect on the possibilities, value, and challenges of analytically deconstructing and reconstructing narratives of harm, possibility, and change in disaster research and policy more broadly. This involves thinking reflexively about positionality, as well as critically about the assumptions we have around narrative form and structure.</p> |
| <p>The importance of critical reflection in fostering transformative engagements in community-based early warning systems and disaster risk reduction and management.</p> | <p>Jesusa Paquibot</p> | <p>University of the Philippines; DOST-PHIVOLCS</p> | <p>Critical reflection requires us to recollect and contemplate our work. It also allows us to discern our intersecting social identities and how these influence our decision-making processes and practices. In the context of disaster studies, highlighting critical reflection as a significant component of knowledge production has yet to be recognized. In this article, we present our reflections based on our personal experiences as social science researchers and practitioners engaging in community-based early warning systems and disaster risk reduction and management in the Philippines. As researchers and practitioners, we have encountered a multitude of challenges and insightful reflections throughout the implementation of the Dynaslope Project, a research program that develops early warning systems for deep-seated and catastrophic landslides. In the process of critical reflection, we identify three key themes that we argue have the potential to question power imbalances, institutionalized habits, and traditional research practices that may prevent the establishment of transformative engagements in community-based early warning systems. The first is agency as a shared consensus. In integrating transformative community-based early warning systems, we realized that when researchers and the "researched" share the same standpoint, a collective agency emerges, which encourages the "researched" to elevate their knowledge building through organizing, mobilizing, and lobbying policies. Agency was also attributed to the community's volunteering as co-researchers in landslide monitoring. Community members freely and willingly participate in early warning system activities, and in that sense, they exemplify agency. The second is accompaniment as power. In comparison to traditional research, wherein the social realities of the "researched" are removed from knowledge production, our critical reflection revealed that accompaniment eliminates oppressive power imbalances between the researcher and the "researched". Accompaniment expands structures that enable the researcher to participate in non-hierarchical knowledge building. The third is institutionalization as sustainability. In the Philippines, the lack of sufficient resources to support research prompts researchers to leave their projects within short periods of time. We realized</p> |

| | | | <p>that institutionalizing research may sustain knowledge building better.</p> <p>Critical reflection has helped develop our practice of integrating transformative community engagement into scientific endeavors. It is a beneficial process for protecting researchers from the constraints of traditional research. We developed a critical consciousness about our practice and theory that can help us become better practitioners. Using a co-created critical reflection process, we explore, learn from, and develop our praxis on community engagements. We dive into the setting, consolidation, analytical, and change stages of the critical reflection process using creative qualitative research tools such as photovoice, journaling, and group reflection dialogues. During group dialogues, we established a group culture suitable for learning and reflection, examined the fundamental assumptions about the significant events and critical incidents from community engagement practice experience, and articulated change awareness.</p> <p>While it needs further refinements and modifications to make the process suitable for the use and intentions of other researchers, the critical reflection process can be further developed by adopting iterations on the process, tools, and group culture towards critical and creative disaster risk studies and methods that are transformative and developmental."</p> |
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| <p>Flood Risk Governance: International Perspectives to Building Flood Resilient Societies (2) Chairs: Steven Ashley Forrest, Anne Bach Nielsen</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Verena Flörchinger | Disaster Research Unit, Freie Universität Berlin | <p>Global climate change has driven up the likelihood of extreme climate and weather events, including the increased frequency and intensity of floods. This is having a profound impact on ecosystems, economy, settlements, and human health, which is gradually being felt in various regions in the world.</p> <p>The research examines the architecture of Disaster Risk Management (DRM) in Iran and Germany with a focus on lessons learned from recent floods. For the analysis, an Integrated Disaster Risk Management (IDRM) approach is adopted, which, in addition to the interaction of disaster risk management actors, their roles and responsibilities and the temporal dimensions of disaster management, addresses the challenges of resilience</p> |

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| | | | <p>to disasters as a whole-of-society process. For this purpose, a qualitative analysis of relevant institutional documents published and used by authorities and organisations related to DRM is conducted. It also compiles scientific publications that provide information on the effectiveness of prevention, preparedness, and response for future challenges. By reviewing lessons learned from recent events, gaps, capacities and potentials towards an IDRM can be identified and prioritised. Despite different environmental, climate and socio-cultural conditions, as well as different DRM structure in Iran and Germany, the comparative analysis helps to understand contextual conditions, reflects the DRM structures, and explores the potential advantages of mutual learning from flood disasters as a global concern affecting people across geopolitical borders.</p> <p>In regard to disasters and increasingly complex social structures that are globally interconnected, national DRM systems, such as in Iran and Germany, will be subjected to global scrutiny. The presentation illustrates integrative perspective for a more resilient society with respect to the DRM in Iran and Germany with a case study approach. Beyond avoiding any generalisation, the case study aims to reflect experiences and lessons that may result useful to other regions and other DRM architectures.</p> |
| | Willi Bauer | Friedrich-Alexander-Universität Erlangen-Nürnberg | <p>Risk is urbanizing in Malawi. As painfully demonstrated by the devastation caused by Cyclone Freddy early 2023, Malawian cities are not inherently ‘resilient’. Yet, this longstanding assumption created a void in terms of institutional capacities and critical infrastructures. Further, urban DRR is hindered by a reactive, donor-driven governance system focusing on large-scale disasters and a historical anti-urban bias. Hence, small-scale disasters, such as localized floods, and everyday risks remain overlooked, despite their increasing impacts. And while Freddy has triggered policy responses, urban risk is still barely considered, leaving large parts of the urban population in a vulnerable situation devoid of sufficient governmental support. This presentation illustrates the urbanization of multiple risks in Lilongwe and its challenges towards inclusive DRR. It is guided by three main questions. How does the urban form shape risks? Which mismatches between risk perceptions of different actors are observable and which risks tend to go overlooked? How can we advance towards a more holistic perspective on urban risks in Malawi?</p> |

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| | | | <p>This presentation draws on empirical fieldwork done in Kawale, a high-density area in bordering on the Lilongwe River, its considered “lifeblood”. Currently, the river is supposed to be restored as part of the Lilongwe Ecological Corridor Initiative, a tourist-oriented conservation and restoration project that has been reframed as flood-protecting in the aftermath of Cyclone Freddy. This presents unique opportunities and challenges. On one hand, flooding could become a permanent topic on Lilongwe’s urban agenda when linked to a high-profile project. On the other hand, risk remains underconceptualized in the design and detached from local needs. Supposed flood protection might hence expose urbanites to risks caused by the prohibition of everyday uses of the river. This presentation seeks to stimulate a discussion on locally inclusive DRR in Lilongwe capitalize on the opportunity presented, while avoiding its pitfalls.</p> |
| <p>Explaining enforcement gaps in flood risk sensitive land use governance in Accra from an institutional analysis perspective</p> | <p>Sylvia Kruse</p> | <p>University of Freiburg</p> | <p>Research on flood disaster risk management has shown that effective flood risk management is closely connected to land use governance, i.e. the land use system embracing diverse relevant stakeholders, (e.g., landowners, public authorities, disaster management organizations) and their formal and informal land development practices. In our research we scrutinize the often-observed enforcement gaps between existing formal regulation of building activities and the yet existing unauthorized encroachment in flood prone areas. The research aim is to identify factors that help to explain these enforcement gaps in flood risk sensitive land use planning by applying an institutional analysis and development (IAD) perspective.</p> <p>For our empirical research we selected Accra, the capital of Ghana, which makes an interesting case for several reasons: Firstly, Accra has a long history of both regular and outstanding flood events leading to sever disasters being additionally challenged by climate change. Secondly, Accra encounters conditions of high growth and in-migration rates leading to increased demand for land. Paired with land litigation and limited security of tenure, unplanned settlements and encroachment of flood prone areas have sprung up, resulting in an increased vulnerability of those settling there, suffering apart from flood risk also poor housing and access to social and infrastructural services. These conditions stand for many similar cases in Sub-Saharan Africa offering thus an ideal case for exploratory research on factors explaining enforcement gaps in flood risk management. The research builds on an analysis of policy documents as well as an interview study conducted with diverse stakeholders related to flood risk sensitive land use governance in Accra. Applying a qualitative content analysis, we identified the explanatory factors focusing on the set of formal and informal rules in use that were mentioned in connection with the enforcement</p> |

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| | | | <p>gaps. Key factors identified include the mismatch between objectives of landowners and land statutory land managers, weak awareness of the community, multiple sales of the same land, land conflicts, duality of customary and statutory legal land systems, legal loopholes, missing political will, limited staff and logistic capacities, economic inducement payments, cost of land and social need for housing vulnerable.</p> |
| <p>Study on flood risk for internally displaced persons and their hosts in the Sahel, North-Central, North and East Regions of Burkina Faso</p> | <p>Hyeonggeun Ji, Marc van den Homberg, Marijke Panis, Rodrigo Mena</p> | <p>510 of The Netherlands Red Cross; Institute of Social Studies (ISS), Humanitarian Studies Centre</p> | <p>Burkina Faso is threatened by frequent and often more severe floods, such as in 2010 and 2020. Among the most impacted are the people who are displaced due to conflict as they have ended up in the most flood-prone areas in the Sahel, North-Central, North and East Regions of Burkina Faso. ICRC and the Burkina Faso Red Cross Society, from their respective mandates, work on preparedness aiming to reduce the risk of these vulnerable communities and on humanitarian response. However, a detailed understanding of the impact of these floods and the current and future flood risk, including the exposure and vulnerability of the displaced people (and also their host communities), their coping capacity, and how this could be strengthened is lacking due to the insecure environment and a focus of the existing flood-related studies in Burkina Faso only on the capital city Ouagadougou. The Multi-Hazard Analysis in Conflict Settings (MHACS) project trained local enumerators, living in the affected areas, to conduct semi-structured interviews using Kobo on their mobile phones. 144 interviews were conducted in French and the local language with key local governmental and humanitarian actors as well as IDPs and host communities. The interviews were transcribed and analyzed through coding. Host community, local government authorities and experts, as well as IDPs, attribute the flood risk of IDPs to their increased exposure (unplanned settlements in flood-prone areas), physical vulnerability (limited physical assets, substandard housing, poor functioning public infrastructure like drainage system), social vulnerability (the accumulation of trauma after being hit by conflict already, no savings) and lack of coping capacity (weak knowledge about their destination, very limited access to healthcare, water resource and flood information). Host communities share vulnerability to floods with IDPs, although they tend to possess both tangible and intangible resources that enable them to better prepare for and respond to flood events. The linkage between conflict-induced displacement and flood risk is complex, rather than a linear causal link. Factors contributing to the vulnerability of IDPs to floods are not solely conditioned by conflict setting but are more linked with social contexts in the area of destination.</p> |

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| | | | For this reason, research participants argued for adopting an area-based approach that considers both IDPs and host communities in flood-prone areas, given the shared vulnerability among them. While tailoring proper trauma treatment and planned settlement to the specific needs of IDPs is crucial, the overall flood risk governance should consider the root causes of disaster risk in the area beyond a simplistic view of a causal link between conflict, displacement, and flood risk. |
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PANEL SESSION 3 - 13:40-15:00 (ITC Building Langezjds)

The Role of Social Media in Disaster Risk Management (1)

Chair: Nathan Clark

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| Strategies of social media use in disaster management: commonalities and diversities among emergency responders vs the public | Dr. Nathan Stoloro | Tel Aviv University | <p>This paper aims to investigate the commonalities and divergences in how emergency organizations leverage and perceive the utility of social media solutions for reinforcing societal resilience to the public across varied societal contexts, compared to those of the public. Specifically, we will elucidate, on one hand, how emergency organizations view the role of social media solutions, including their perspectives on crafting messages, the modalities of information dissemination, means of measuring target achievement, and their appraisal of diversity's role in social media utilization. Additionally, we delve into the actual use of social media solutions by authorities and first responders. On the other hand, we explore the public's perceptions of these uses in relation to their needs and expectations about societal resilience. The commonalities signify the potential of social media use in crisis management, while the divergences underscore areas warranting improvement and further contemplation. Addressing these commonalities and diversities can enhance the governance of social media use in crisis management.</p> <p>This study was conducted as part of the ENGAGE project, funded by the European Commission as part of Horizon 2020 (Grant Agreement No. 882850). Empirical data were collected through: 1) interviews with representatives of emergency organizations; 2) structured surveys of emergency organizations and populations; and 3) content analysis of public comments on social media posts of emergency organizations. The data were collected during the COVID-19 pandemic in seven countries: Israel, Italy, Spain, France, Sweden, Norway, and Romania.</p> |



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| | | | <p>In general, the commonalities and diversities are divided into five main themes that emerged from the qualitative data, which correspond with five communication needs: cognitive (information), affective (emotions), integrative (sense of community), escapist (disengagement) and participative (uni/multidirectional flow of information).</p> <p>An illustrative example of divergence can be observed in the emphasis that emergency organizations place on top-down communication. They argue for its importance during crises for swift information dissemination. However, a content analysis of public commentary reveals discord; members of the public often miss these messages due to the fast-paced nature of social media and the lack of organization. The public also expressed a sense of disengagement, feeling that top-down information restricted their ability to ask questions and obtain clarifications. Conversely, an example of commonality can be drawn from the recognition among interviewees of the importance of leveraging multiple social media platforms to reach a varied demographic. While it's not always feasible due to resource limitations, emergency organizations that have successfully utilized multiple channels have elicited positive responses from the public – sharing a similar perception of the importance of using multiple social media channels.</p> <p>This nuanced understanding of the interplay between authorities, first responders, and the public in the use of social media for crisis management can serve as an invaluable tool for strengthening institutional policies, processes, and routines for integrating and applying social media and crowdsourcing (SMCS) technologies in crises. This, in turn, can contribute to creating more disaster-resilient societies.</p> |
| | Anne Bach Nielsen | University of Copenhagen | <p>Social media and crowdsourcing (SMCS) are increasingly used as tools to govern disasters. Nevertheless, we have a limited understanding of how these technologies support disaster risk management processes. Based on a comprehensive literature review of over 300 papers, we present a state of the art of the existing research field linking SMCS with disaster risk governance. The paper provides insight into major trends in the knowledge production of research published from 2008-2022. It maps the use of SMCS across disaster phases, geographies, applied methods, and types of hazards.</p> <p>Building on these findings, we identified two priorities for future research. First, existing research predominantly focuses on preparedness and response. To strengthen resilience, we suggest a turn to research SMCS in long-term recovery and prevention. Second, and despite a minor shift following the Covid-19 pandemic, research</p> |

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| | | | continues to favour North America, Southeast Asia, Australia and Europe and questions related to technical issues and implementation. Research should focus on the power shifts that these technologies produce, the contexts in which they are supposed to be applied, and the sociocultural conditions that co-produce, potentially vulnerable, outcomes of SMCS in disaster governance. |
| Understanding Communication-Related Vulnerability to Disasters | Sten Hansson | University of Tartu | The concept of social vulnerability has been increasingly applied in disaster literature, but its communicative drivers have remained understudied. In this paper, we put forward a heuristic framework for explaining how communication-related factors may adversely affect people's capacity to prepare for and respond to disasters. This will help researchers, policy makers, and practitioners in the field of disasters and crises to systematically identify individual, social-structural, and situational factors of vulnerability that shape how people access, understand, and act upon information about hazards. We integrate ideas from recent literature on information disorders – various forms and effects of false or harmful information that are characteristic to modern communication ecosystems – to improve our understanding of how the new media environments may transform the ways people learn about hazards and cope with disasters. |
| The Urban Problem of Disasters (1) Chair: Maansi Parpiani | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Niti Mishra | Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences | Dramatic changes in urban infrastructure due to global economic restructuring have brought the transformation process known as ‘postmodern urban landscapes’ into the academic limelight. These processes reproduce radical social, cultural and spatial deviations which have implications on vulnerability demonstrated as gentrification of older cities. The process of gentrification in cities followed by large consumeristic development of shopping and entertainment facilities is contrasted by homelessness as an ever-present phenomenon of the urban areas (Horlick-Jones, 1995). The tendency of channelling the vulnerable to reside in risk prone areas and then bringing about their eviction for flood management and mega projects in coastal areas has become a continuous feature of the political economy in cities (Douglas 2016). With nearly half – billion Asian population living in slum the pursuit of alternate safe, secure and socially just forms of urbanisation can be seem as overwhelming. |

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| | | | <p>As urbanisation increases, cities become a political field where contestation on social and environment justice are played out (Douglass, M. 2016). Asian cities have witnessed continuous co-option of spaces for megaprojects that have infringed on welfare schemes/programmes of vulnerable population causing poor neighbourhoods to choose relocation to hazard prone areas (Miller, M. A., & Douglass, M. 2016). Coupled with these, trends of impact of climate change, ignoring inequalities and migration where the immigrant population is left out of welfare schemes creates more vulnerability. These changes in urban forms have sharpened the contrast between the newly established privilege and marginal groups (Horlick-Jones, 1995).</p> <p>The existing urban spaces are home of shock and stressors that deteriorate coping and resilience of vulnerable neighbourhoods, informal settlements and migratory population. The present study discusses resilience of resettled population from lens of spatial justice. The site of study is a resettlement colony in Mumbai, which was adversely impacted during the pandemic. Located in one of the most vulnerable wards in Mumbai, M-East ward, the study explored resilience of the community to epidemic using the spatial justice lens for inquiry. The community owned social capital was the sole contributor to the adaptive capacity of the existing community. The study argues that addressing risk drivers and vulnerability of the community remains the same in such settlements. The question of disasters in urban communities need to focused on these drivers to build resilience. The space occupied by the community are unjust, that impacts coping and resilience, at times resulting in practices of maladaptation. We argue that disasters in urban context especially for the most marginalised are not a single event driven such as the pandemic, but systematic nature of inherent vulnerability in space, everyday lives and practices that make becomes the root cause of disaster.</p> |
| <p>The role of the state in distributing the cost of flood disasters: a comparative case of flooding in Nigeria and Ghana.</p> | <p>Tolulope Ajobiewe</p> | <p>Middle East Technical University</p> | <p>Environmental hazards in the new century have not only increased, they have surpassed those witnessed in the 20th century. The reasons are obviously multifaceted, and resulted among other things to loss of lives, income, spread of diseases and property damage. To get a better picture of this trajectory, a UN Office for Disaster Risk Reduction (UNDRR) report on ‘human costs of disasters’ recorded that between 1980-1999 and 2000-2019, the number of reported disasters had increased by 3,136; death toll from these disasters, by 400,000; and economic losses incurred, by 1.34 trillion</p> |

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| | | | <p>dollars (UNDRR, 2019). Beyond this reproduction of figures, which as this research hopes, offers a glance over on environmental change all over the world, especially in the new millennium. Much has been written about the rapid urban growth in the new century, more so because every corner of the world now consists of dense agglomerations of people. This “sheer scale and speed of urban transformation across the world” – to quote Cohen (2006), presents formidable challenges, to the lengths where an exhaustive expose on these challenges (urban risks, the rise of informal settlements, and urban poverty to mention a few) is but a discussion of urban issues today.</p> <p>In any case, this research will focus on urban flooding, not only because flooding has accounted for 44% of all disaster events from 2000 to 2019, affecting 1.6 billion people worldwide, the highest figure for any disaster type (UNDRR, 2019). Also, because, urban areas have become the major sites for flooding in recent years, with catastrophic and devastating consequences. In that sense, the study will investigate the incidence of urban flooding in Nigeria and Ghana from 2012 to 2022. The point is to illumine and (re)emphasize the role of the state through its institutions, and urban legislations in distributing the costs of disasters across the Nigerian and Ghanian cities respectively. Although much has been written about urban floods in Nigeria and Ghana with respect to institutional factors, pertinent questions have not been thoroughly addressed, for example: (1) What role does state institutions play in distributing the costs of disasters evenly/unevenly across the city? (2) What comparisons can be made between the 2012 floods, the recurring floods afterward, and the 2022 floods with regards to urban legislation and regulations?</p> |
| <p>Handling Compounded Uncertainty in Spatial Planning and Humanitarian Action in Unexpected Floods in Wayanad, Kerala: Towards a Contextualised Contingency Planning Approach</p> | <p>Mrudhula Koshy</p> | <p>Norwegian University of Science and Technology</p> | <p>Increasing environmental crises due to climate change calls for bridging the research and operational logics of spatial planning and humanitarian response. This article explores how long-term spatial planning and short-term humanitarian responses relate to three facets of uncertainty that are particularly relevant in developmental contexts (contexts with chronic vulnerabilities, scarce resources and weak institutional mechanisms), namely epistemic uncertainty, ontic uncertainty, and ambiguity. We explore these facets through a case study of uncertainty, that of unexpected monsoon floods in 2018 and 2019 in Wayanad, a peri-urban, spatially dispersed, landlocked hill district in Kerala, a coastal province in the south-west of India. Through the case, we show that compounded uncertainty leads to ambiguity in action, but that this ambiguity can be ameliorated by a contextualised</p> |

| | | | contingency planning approach. We conclude the article by outlining the approach in spatial planning that prioritises flexible and adaptable planning, decision-making and governance to enhance iterative organisational learning and action, as well as cross-sectoral dialogue to deal with uncertainty. |
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| Community Engagement in Disaster Management (3) | | | |
| Chair: Selby Knudsen | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Laura E.R. Peters | Oregon State University | <p>Anticipatory disaster risk reduction (DRR) is an essential human right for the ~1 billion people living in informal settlements who are disproportionately exposed to climate-related hazards due to their high vulnerability. Participatory community approaches are recognized as being critical for effective and sustainable disaster prevention, mitigation, and preparation through to response, but research on how to coproduce anticipatory DRR with people living and working in informal settlements is scant. Their exclusion is even more pronounced in challenging contexts, such as those characterized by social-political fragility and violence. As a result, a significant portion of the global population is left behind in best practices for community engagement tied to global DRR ambitions, with DRR actions working neither with nor for the people most at risk. The signal case of urban informal settlements controlled by territorial gangs in Tegucigalpa, Honduras, illustrates the need for new thinking on how to inclusively mitigate, prepare for, and respond to natural hazard-related disasters. Our research examines the coproduction of early warning systems linked with response capacities for floods and landslides through the case study of the international NGO GOAL’s work across the city with a focus on nine urban informal settlements with high levels of territorial gang violence. We explore how GOAL navigated informality and violent conflict to support the early warning and response system as an inclusive social process rather than a technical exercise. We identify four cross-cutting strategies employed by GOAL in support of local vulnerability reduction and capacity building based on a local systems approach. This research breaks new ground in identifying how to bridge the gap between knowledge and action in designing inclusive and sustainable early warning and response systems together with the millions of people around the world affected by the intersection of informality, violence, and disaster</p> |

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| | | | risks. |
| | Mayank Ojha | MIT Urban Risk Lab | Active participation of local residents plays a crucial role in ensuring effective response and recovery in disaster management. This is particularly evident in Japan, where over 90% of local governments rely on the involvement of communities, especially for the operation of shelters to make up for limited human resources. Consequently, communication and information sharing related to the operations and management of emergency shelters becomes crucial in the aftermath of disasters. Effective crisis communication necessitates conveying standard operating procedures to community shelter managers, receiving real-time updates on shelter needs and contingencies, and disseminating vital information on shelter availability, capacity, and facilities to evacuees. Chatbots, emerging as a beneficial outcome of social media proliferation, simulate human conversation through text chats or voice commands. They offer a novel way for a human-in-the-loop information and communication technology, to streamline communication, enhance situation awareness, and improve coordination during crisis situations, while providing local residents with familiarity and ease of use. The Urban Risk Lab at MIT developed a chatbot-based RiskMap Hinanjo system with the aim of mitigating challenges associated with communication gaps, ensuring timely dissemination of information, and fostering collaboration among emergency managers, shelter operators, and residents. This study presents the findings of utilizing the RiskMap Hinanjo system during Kumamoto City’s annual disaster drill. |
| | Ranjan Datta | Mount Royal University | How does one decolonize and reclaim the meanings of disaster management, particularly in the context of Indigenous community-based research? Indigenous communities have long experienced Indigenous wildfire management misrepresentation by Western researchers. Is it possible to build a collaborative wildfire research knowledge that is culturally appropriate, respectful, honoring, and careful of the Indigenous communities? What are the challenges in disaster management research, researchers, and Western methodology research training? How have ‘disaster management’ – decolonial theory and practice, cross-cultural research methodology, critical perspectives on environmental justice, and land-based education – been incorporated into the disaster management? What can be done against this disallowance? According to Eve Tuck and K Wayne Yang’s (2012) suggestion, this article did not use the concept of decolonization as a substitute for ‘human rights’ or ‘social justice’, but as a demand of an Indigenous framework and a centering of |

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| | | | Indigenous land, Indigenous sovereignty and Indigenous ways of thinking in wildfire management. This paper discusses why both research and researcher increasingly require decolonization so that research can create a positive impact on the participants' community, and conduct wildfire management research ethically. This paper is our decolonization and relearning stories. It presents how to decolonize disaster management research to not only reclaim Indigenous traditional ways of knowing in the disaster management research but also to create communities abilities to control in disaster management. We conclude by arguing that decolonizing disaster management from Indigenous perspectives creates more empathetic educators and researchers, transforming we as researcher for communities' needs, and demonstrating how we can take responsibility to promote and advocate Indigenous perspectives in western disaster management policy and practices. |
| The Mother of Home and the Community: The Resilience of Women in Maripipi Island, Philippines in Community Engagement and Disaster Preparedness | Renz Prudenciado | Asian Institute of Technology | Building Resilience in Maripipi Island, Philippines also focuses on cisgender women's crucial role in community engagement, disaster preparedness, and resilience. Cisgender women's nurturing and compassionate nature has earned the trust of community members, making them an essential resource in the face of natural disasters. Despite their remarkable contributions, cisgender women in Maripipi Island remain under-compensated, their work is deemed "voluntary" and poorly paid. This study highlights the need for recognizing the invaluable contributions of these cisgender women and strengthening local government policies that aim to bridge the gap in work injustice. The resilient character of Maripipi Island is a testament to the adaptability of women who seamlessly integrate their responsibilities as mothers and community leaders. The immense potential of cisgender women in cultivating resilient communities should serve as a call to action for policies that prioritize gender equity and community welfare. |
| Creative and Reflexive Methodologies for Disaster Studies (3) | | | |
| Chair: Yvonne Su | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Many Homes and Many Disasters | Suchismita Goswami | University of Copenhagen | This study represents a multi-sited ethnographic method to uncover the experiences of four women relocated to the urban outskirts of the city after disaster-induced relocation. Urban disaster literature has noted that a common disaster mitigation |

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| | | | <p>strategy has been to relocate people from central city locations to the peripheries under the pretext of averting future disaster risks. Over the years it is also seen that people relocated in the peripheries have amplified vulnerabilities.</p> <p>To illuminate how urban place-making in disaster response accentuates ‘vulnerabilization’ (Alcántara-Ayala, I et, al 2022), I embark on a journey with these four women to revisit each place they once called home in the city of Chennai. As an ethnographic research, this work draws inspiration from Truc’s (2011) approach to recreate memory in a place where places of memory have disappeared.</p> <p>Within this paper, I delve into the findings regarding the urban vulnerabilities and daily urban risks encountered by this group of four women. I also highlight how the shift in the urban agenda exacerbates the vulnerability of these communities. The paper further explores the intricate process and challenges stemming from this memory reconstruction method. Firstly, I address the concern that memories are not neutral, showcasing how collective memory and historical tracing can be employed together to navigate certain obstacles. Furthermore, this paper also opens up how ‘memories of place’ and ‘places of memories’ can be followed as metaphors to engage in multi-sited ethnographic research. Walking with people in their sites of memory has also become an interesting point to reflect how respondent shifts in their version of stories when they are in the memory of place and places of memory. I show how I traversed this complex process by corroborating the two versions and triangulation of findings to come to a conclusive end.</p> |
| <p>When is a ‘flood’ a flood and what are the implications for flood risk governance?</p> | <p>Steven Ashley Forrest</p> | <p>University of Hull</p> | <p>Serious gaming can be a creative approach to both provide benefits to participants and collect data within disaster studies. The immersive fictional environment created by serious games can move beyond data collection being only extractive and instead encourage conversations between players that breakdown, or at least reduce, the power distance between their official roles (e.g. between policymakers and community representatives). This project created a serious game (“The Flood Recovery Game”) to encourage conversations between relevant actors bringing in their own knowledge and experiences to explore their roles in post-flood recovery, as well as to identify ‘gaps’ in post-flood recovery at the local level in Hull and the Humber region.</p> <p>“The Flood Recovery Game” was developed using evidence from a systematic literature review on the topic of post-flood recovery more generally, a review of 36 policy reports as well as 26 semi-structured interviews that focused more on post-flood recovery in the UK/Hull and Humber region. A story-based approach leads</p> |

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| | | | <p>players to engage with 12 post-flood scenarios and then draw from their own experiences (professional, lived, educational) of flooding and flood recovery to construct and explain their own ideas on responding to the scenario. The game format and use of scenarios and resources cards provided a fictional environment for players to explore post-flood recovery whilst addressing potential concerns of negative comments towards individuals/actors and a potential ‘blame game’ between different practitioners, policymakers, and community representatives. Using fictional roles as opposed to occupying real-life roles and by valuing a diversity of experiences and expertise in the game design, it aims to reduce power imbalances between players and give each an equal opportunity to contribute their ideas.</p> <p>The game was played as part of a workshop on post-flood recovery with 33 representatives and community members from 16 actors, including the Environment Agency, Aviva Insurance, Hull City Council, Humber Emergency Planning Service, and NHS Healthcare. Data was collected through in-game logs (involving buzzers and post-it notes), immediate post-game discussions and mind-mapping during the workshop on ‘effective’ post-flood recovery. Furthermore, to explore the long-term impacts of gameplay, interviews were undertaken with selected participants a year after the workshop.</p> <p>The open-discussion format of the serious game encouraged players to build on each other’s ideas and extend them by incorporating their own knowledge and experiences. Due to the diverse range of stakeholders participating in the workshop, it also led to exchanges of ideas with people able to provide answers to others in a form of peer-to-peer learning. Critical reflection of the role of facilitators and their facilitation approach, issues of co-creation in game design, and success of data collected emerged as issues. Looking to the future, there is scope to utilise the serious game to further work with members of the public, FRM professionals in other locations, as well as practitioners and policymakers who do not predominantly focus on flooding but do take actions that can affect post-flood support and recovery.</p> |
| <p>The importance of critical reflection in fostering transformative engagements in community-based early warning systems and disaster risk reduction and</p> | <p>Jacquelyn De Asis & Hiarianne Gasmen</p> | <p>University of the Philippines; DOST-PHIVOLCS</p> | <p>Critical reflection requires us to recollect and contemplate our work. It also allows us to discern our intersecting social identities and how these influence our decision-making processes and practices. In the context of disaster studies, highlighting critical reflection as a significant component of knowledge production has yet to be recognized. In this article, we present our reflections based on our personal experiences as social science researchers and practitioners engaging in community-based early warning systems and disaster risk reduction and management in the</p> |

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| <p>management.</p> | | | <p>Philippines. As researchers and practitioners, we have encountered a multitude of challenges and insightful reflections throughout the implementation of the Dynaslope Project, a research program that develops early warning systems for deep-seated and catastrophic landslides. In the process of critical reflection, we identify three key themes that we argue have the potential to question power imbalances, institutionalized habits, and traditional research practices that may prevent the establishment of transformative engagements in community-based early warning systems. The first is agency as a shared consensus. In integrating transformative community-based early warning systems, we realized that when researchers and the "researched" share the same standpoint, a collective agency emerges, which encourages the "researched" to elevate their knowledge building through organizing, mobilizing, and lobbying policies. Agency was also attributed to the community's volunteering as co-researchers in landslide monitoring. Community members freely and willingly participate in early warning system activities, and in that sense, they exemplify agency. The second is accompaniment as power. In comparison to traditional research, wherein the social realities of the "researched" are removed from knowledge production, our critical reflection revealed that accompaniment eliminates oppressive power imbalances between the researcher and the "researched". Accompaniment expands structures that enable the researcher to participate in non-hierarchical knowledge building. The third is institutionalization as sustainability. In the Philippines, the lack of sufficient resources to support research prompts researchers to leave their projects within short periods of time. We realized that institutionalizing research may sustain knowledge building better. Critical reflection has helped develop our practice of integrating transformative community engagement into scientific endeavors. It is a beneficial process for protecting researchers from the constraints of traditional research. We developed a critical consciousness about our practice and theory that can help us become better practitioners. Using a co-created critical reflection process, we explore, learn from, and develop our praxis on community engagements. We dive into the setting, consolidation, analytical, and change stages of the critical reflection process using creative qualitative research tools such as photovoice, journaling, and group reflection dialogues. During group dialogues, we established a group culture suitable for learning and reflection, examined the fundamental assumptions about the significant events and critical incidents from community engagement practice experience, and articulated change awareness.</p> <p>While it needs further refinements and modifications to make the process suitable for the use and intentions of other researchers, the critical reflection process can be</p> |
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| | | | further developed by adopting iterations on the process, tools, and group culture towards critical and creative disaster risk studies and methods that are transformative and developmental. |
| The Recoverygram: A Participatory and Empowering Approach to Document Post-Disaster Recovery | Yvonne Su | York University | <p>Conducting research on post-disaster recovery can be seen as extractive and even harmful to affected communities. Surveys and interviews are often top-down and ignorant of language and literacy barriers. As such, much has been developed in terms of participatory and/or visual research approaches that are people-centred. One of them is a participant-aided sociogram, or a recoverygram is applied narrowly to post-disaster recovery. A sociogram is a graphic representation of social links that a person has. The participant-aided approach was developed by Hogan, Carraso, and Wellman (2007) to create a visual depiction of a participant’s personal social network during an interview. The approach builds on the well-known name generator technique for creating social networks of individuals (see Burt 1980; Laumann 1973; Wellman 1979). I developed the recoverygram for my PhD research through rigorous testing in the field to overcome the challenges of asking sensitive questions about money and remittances after disasters. I created the recoverygram as a hands-on approach for respondents to tell their story of recovery in a way that allows them to control their own narrative and disclose financial information as they wish. The recoverygram allows interviewers and respondents to visually depict how and when their networks have contributed financial and non-financial resources to their recovery process. The hands-on approach and visualization allows both the interviewer and respondent to see concrete representations of they are discussing (Hogan, Carraso and Wellman 2007:117). This systematic and participatory approach to analyzing social networks and post-disaster recovery is a creative and engaging way for respondents to document how they mobilized resources (financial and non-financial) from their different social networks for post-disaster recovery. This method contributes a novel approach to asking questions about sensitive topics such as money and remittances, as the participatory approach allows respondents to feel comfortable and in charge of the information that they choose to disclose. The result is rich data on the respondent’s basic social network, the financial and non-financial resources the household could mobilize from their social capital ties, the timing of the assistance they received and the importance of the ties for recovery.</p> |
| Cascading disasters: From vulnerability to resilience (2) Chairs: Clare Egger, Francesca Giardini | | | |
| Presentation Titles (if | Speakers | Institutions | Abstracts (if available) |

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| | Ahlke Kip | University of Münster | <p>Natural disasters and extreme weather events have a severe impact on entire communities and human-induced climate change increases the likelihood of more intense and more frequent extreme weather events (IPCC, 2022). While climate change-related events and certain natural disasters primarily affect less developed countries in the global south, research is dominated by European and US samples. Against this background, we conducted a meta-analysis on the impact of natural disasters and extreme weather events on the mental health of affected adults with a focus on countries that do not classify as highly developed based on the Human Development Index. Systematic searches in three databases and MeSH searches yielded a total of 208 potentially eligible studies after title and abstract screening. Preliminary results after full-text review of 100 studies included 25 studies with observational data and two studies with comparative data on exposed vs. unexposed individuals. Eighteen studies investigated the aftermaths of earthquakes, mainly the 2010 Haiti earthquake (k = 5), the 2010 Pakistan/Kashmir earthquake (k = 5), and the 2005 Nepal earthquake (k = 4). Further disasters included floods and associated mudslides (k = 3), the 2004 tsunami (k = 2), typhoons (k = 2), and a hurricane. Besides the beforementioned countries, studies were conducted in Peru, India, Vietnam, China, Mexico, Iran, Sri Lanka, and the Philippines. Overall, 54.6% of investigated individuals were female, the mean age was 31.6 years. One fifth of individuals were illiterate or only received primary education. The aggregated short-term prevalence for posttraumatic stress disorder 1-12 months after onset of the natural disaster was 33% (95% CI 16-56%; k = 14) with considerable heterogeneity between individual studies. Long-term assessments (2-12 years) yielded a prevalence rate of 30% (95% CI 17-47%; k = 7), again with considerable heterogeneity. The two studies that investigated the prevalence of depression 1-12 months after the onset yielded rates of 6% and 28%, the aggregated prevalence rate for long-term assessments (1-12 years) was 28% (95% CI 20-39%, k = 4). One study estimated prevalence rates for panic as well as generalised anxiety disorder and found rates of 9% and 2%, respectively. No studies yielded data on pre-onset vs. post-onset mental health and only two studies data that compared exposed vs. non-exposed individuals regarding PTSD. The latter ones found a significant higher symptom severity in exposed individuals (p < .0001) and a risk ratio of 1.71 for a PTSD diagnosis after exposure to a natural disaster. Our preliminary results highlight the severe impact that natural disasters have on the mental health of affected individuals in less developed countries, especially regarding depression and PTSD. Conclusions are limited by the observational character of most included studies that does not consider other</p> |

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| | | | <p>influences on mental health, for example armed conflicts in the studied countries. Yet, the interaction between a higher risk for exposure to extreme weather events and a pre-existing higher vulnerability (e.g., due to lower levels of literacy and less functional health care system) demands our attention in light of our findings.</p> |
| <p>Facing the "Unknown": Disaster Risk Management System Responsibilities and Disaster Workers' Experiences During the Coronavirus Pandemic in Peru</p> | <p>Enrique Arias Arostegui</p> | <p>JLU Giessen</p> | <p>The COVID-19 pandemic presented unprecedented challenges for humankind, including curfews, remote work, widespread deaths, mass vaccinations, and a heightened sense of global vulnerability. Among the most affected were health workers, who faced immense pressure as frontline responders to emergencies worldwide. Even as vaccination efforts progressed and the virus was brought under control, health workers continued to bear the long-lasting consequences of the pandemic. In addition to the healthcare sector, the novel coronavirus created a new challenge for emergency workers engaged in crisis management and disaster risk management systems, who had to rearrange their protocols and routine activities to face the pandemic.</p> <p>This paper analyzes how the Peruvian system of disaster and disaster workers who typically face emergencies and disasters face the coronavirus pandemic in Peru. Due to its geographical conditions, there are persistent climate anomalies like heavy rains, earthquakes, volcanic eruptions, and droughts, often causing disasters. Therefore, since the 2000s, like other Latin American states, Peru has transformed its civil defense services into a disaster risk management system following disaster risk reduction policies promoted by the United Nations.</p> <p>In addition to dealing with disasters triggered by natural events, Peru has a history of grappling with health crises and political mismanagement. During the 1990s, there were approximately 500,000 cases of cholera, and since then, the flimsy health system has coped with outbreaks of AH1N1 influenza (2009) and Zika (2016). Soon after the coronavirus crisis started in 2020, Peru had the highest number of deaths, surpassing 6,500 deaths per one million people. As of June 2023, the total fatalities exceed 220,695.</p> <p>The novel coronavirus challenged the disaster risk management system and its workers, who usually act after a disaster, in the case of earthquakes or landslides, or during an emergency, facing floods or heavy rainfalls. Unlike in previous situations, their lives were directly at risk due to COVID-19. Moreover, the predictable behavior of hazards in previous disasters contrasted with the uncertainty and lack of organized knowledge surrounding the pandemic.</p> |

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| | | | <p>This presentation will examine how uncertainty and surprise caused by the novel coronavirus affected the national level (the disaster risk management system) and personal level (disaster workers). The research will analyze the Peruvian system's responsibilities during the COVID-19 pandemic and examine disaster workers' perspectives, values, and beliefs.</p> <p>I aim to answer the following questions: What are the similarities and differences between the COVID-19 emergency and previous disasters? What role did the disaster risk management system play during the pandemic? How did the pandemic influence the experiences and beliefs of individual disaster workers? I have analyzed policy documents, newspaper articles, political speeches, and technical studies to answer such questions and conducted in-depth interviews with disaster workers and politicians. I have selected disaster workers with ample disaster management experience who participated in the coronavirus response.</p> |
| <p>Decentralization and cascading disasters: A decade of implementing the Philippine Disaster Risk Reduction and Management Act of 2010 in Mindanao</p> | <p>Likha G. Minimo</p> | <p>University of the Philippines Resilience Institute</p> | <p>The Philippines is among the countries that has enacted a national policy specific for disaster risk reduction and management (DRRM). Supported by the Local Government Code of 1991, the Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act no. 10121), further decentralized responsibilities and resources for DRMM to local authorities. Aside from formalizing and funding the regular DRRM operations in the local offices, longer-term land-use and development planning was also expected of the Local Government Units (LGUs). This study focused on the implementation of the Act in Mindanao, the island group farthest from the capital and where an autonomous region has been established (i.e., the Bangsamoro Autonomous Region in Mindanao or BARMM). By integrating geospatial methods with qualitative analysis of interviews with representatives from different levels of government, the research revisited the DRRM for events that affected Mindanao during the first decade of the law. Scenarios for multiregional cascading hazard events that have not tested the current system in the island were also simulated. From these, advantages and disadvantages that emerged from implementing a decentralized system when dealing with cascading disasters were identified. Results show that the shift to the disaster risk reduction paradigm required under RA 10121 is yet to be fully realized. Many LGUs in Mindanao struggle to formalize DRRM offices and roles, and to focus on long-term plans for disaster prevention and mitigation, rather than short-term response and preparedness. The mainstreaming of DRRM into development plans has proved challenging, due to concurrent roles, the lack of local expertise and the non-prioritization of land-use and</p> |

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| | | | <p>development planning by chief executives of LGUs. Although some no-build zones have been established, even LGUs that have recently been severely affected by hazard cascades have failed to mainstream DRRM into land use and development plans. Unless addressed, delays in the updating of these plans as well as the formalization of DRRM offices in many LGUs will continue to undermine the effectiveness of the system in Mindanao. Key interventions for mitigating and preventing of disaster impacts in the island group were found to be (A) direction setting and knowledge transfer across government levels and political boundaries, (B) essential partnerships linking national oversight and local legislation for DRRM and land-use planning, and (C) the development and maintenance of hazard monitoring, communication, transport, power, and local social networks. Based on the above findings, the following are recommended to improve the DRRM system in Mindanao: 1) provide the funding needed by LGUs in deprived regions to implement the changes required by RA 10121; 2) require greater accountability at local government level for the implementation of the law, particularly with regards to the formalization of DRRM offices; 3) Increase the integration and alignment of the activities of relevant government agencies responsible for different aspects of the system; 4) improve access to DRRM science and technology at the local level; 5) invest in systematic training and education; 6) improve the national data management system.</p> |
| <p>Governance of Cascading Disasters—Challenges for Disaster Management in Germany</p> | <p>Daniel F. Lorenz</p> | <p>Disaster Research Unit (DRU), Freie Universität Berlin</p> | <p>Germany has been affected by a large number of crises and disasters in the last 10 years. In addition to events that the disaster management system was able to handle comparatively easily, such as river floods, forest fires or snow disasters, it was also confronted with events that placed much greater qualitative and conceptual demands on it—to name a few—the refugee crisis in 2015/16, the SARS-CoV-2 pandemic since 2020, or the heavy rain and flood events in Western Germany in 2021 with over 180 fatalities. The former can be described as “classic disasters”, characterized by the fact that they can be relatively clearly delimited in time and space and can be managed with proven structures (cf. Yamori and Goltz 2021), whereas the latter tend to exhibit characteristics of “complex disasters”.</p> <p>Based on international debates, in which one has for some time been aware of the increasing complexity (Smet et al. 2012), different severities (Quarantelli 2000; Fischer 2003) and temporalities of disasters as well as increasingly complex interaction effects (“compound disaster” (Wachira 1997), “consecutive disasters” (Ruiter et al. 2020)) and “cascading disasters” (Pescaroli and Alexander 2015; Cutter 2018)), the presentation will attempt to classify the recent events and underlying trends and developments in relation to disaster management by presenting a novel analytical scheme.</p> |

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| | | | <p>In particular, social cascades and the resulting involvement of (institutional) actors with very different organizational and institutional preparedness and in some case hardly any experience in disaster management, such as administrations or companies in various past situations, will be focused on.</p> <p>The presentation is based on several research projects on different flood or heavy rain events (INVOLVE 2015-2018; HoWas21 2021-2023), on the SARS-CoV-2 pandemic (BePal 2020-2021) and on the refugee crisis 2015/16 (WAKE 2018-2022). Selected empirical findings from these research projects are categorized and analyzed by drawing on insights and theorems from social science disaster research to highlight the social cascading effects that turned these events into complex disasters. The used analytical scheme can not only be used for scientific comparative analysis of past disasters but has also already been validated by various actors in disaster management and can be applied to guide and assess strategic adaptation processes in disaster management organizations.</p> |
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PANEL SESSION 4 - 15:30-16:50 (ITC Building Langezijds)

The Role of Social Media in Disaster Risk Management (2)

Chair: Matthieu Branlat

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| Filling the Institutional Void: Exploring the Role of Institutional Entrepreneurship in Online Communities in Times of Disaster | Dr. Mahmudul Hasan | University of Southampton | Disaster creates uncertainty. Information exchange is required to reduce disaster-induced challenges. Disaster victims need official information from authorities and local information from people on the ground. During a disaster, multiple authorities (e.g., emergency response agencies, police) issue important information for public consumption. However, obtaining official information from multiple sources is time-consuming because the victim must manually visit each source. Furthermore, the information provided by these sources is often generic and not directly actionable but must be transformed to fit the local context. Many disaster incidents have been documented where victims seek information from online communities. An online community is “a group of people who communicate and interact, develop relationships, and collectively and individually seek to attain some goals in an IT-supported virtual space” (Ma & Agarwal, 2007). However, the existing institutions in online communities are often ill-suited or unwilling to transform official information |

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| | | | and disseminate it. Institutions are widely diffused practices, rules, or organizational forms that enable and regulate social actors' behaviour and make social life predictable (Hargrave & Van De Ven, 2006; Lawrence, Hardy, & Phillips, 2002). Research suggests that institutional entrepreneurship may emerge as a response to existing institutions failing adequately to cope with emergent needs. This research project, therefore, looks at how institutional entrepreneurs can help transform official information to fit the local context during times of disaster." |
| Disaster communication on twitter: A catalyst for civic engagement amongst Zimbabweans in the aftermath of Cyclone Idai | Everjoy Grace Chiimba | University of Mainz | Informal disaster communication through the widespread use of social media have captured the interest of many scholars highlighting the many uses for affected populations, relief organisations and governments. Continuous informal exchange of information through these technologies has transcended the boundary of disaster communication, leveraging technology to enhance humanitarian action, giving hope to practitioners, and affected communities of timely insights into the needs and situation in the affected areas. This study therefore explores the nature of Twitter interactions amongst Zimbabweans after cyclone Idai hit Zimbabwe in March 2019, by focusing on the ways that Twitter was used as a public communication space during the disaster. Following extensive social interactions on twitter during cyclone Idai by people outside the affected area, this article analyses discussions on Twitter during the peak period (March- April) in 2019 to answer the following research question: To what extent did cyclone Idai induce civic participation on Twitter? The study finds that in the aftermath of the cyclone, Twitter was mainly used by people outside the affected area for solidarity, disseminating of second-hand situational information, coordinating relief efforts, commentary on the handling of the disaster by the government and discussing wider socio-political issues. Most importantly the discussions showed geographical and social disparities in use and access to Twitter providing a salient case study into understanding the aspirations of those "observing from a distance" (Soriano et al., 2016) since people from the area did not have access to social media. The study concludes by reflecting on the different themes, highlighting how cyclone Idai triggered civic engagement of ordinary Zimbabweans in a country that has a restricted communication landscape and previous experience with digital repression. Overall, while the discussions beyond the cyclone show hope for better disaster management, they also unlocked wider issues revealing the everyday aspirations of Zimbabweans beyond the disaster. |
| | Tanu Gupta | Indian Institute of Technology (IIT) Roorkee, India | Social media platforms have been generating a massive amount of data in real-time that can be analyzed and used to support government and relief organizations in preparing quick and effective action plans for disaster response. Effective disaster |

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| | | | <p>response requires a broad understanding of disaster situations, such as the emergency necessities of the people, their sentiments towards emergency needs, and the geographical distribution of their requirements and opinions. However, in literature, many studies exist that estimate the emotions and sentiments of the people during a disaster; they are inept in identifying and mapping the public sentiments toward emergency needs. This paper proposes a framework called 'SentimentMapper'. This framework quickly maps the sentiments of people toward emergency needs using social media data to plan for effective disaster response. In order to perform an automatic analysis of sentiments using Twitter data, we introduce a BERT Convolutional Neural Network (BCNN). BCNN performs the sentiment analysis of the collected data from the disaster-affected people regarding essential needs like food, shelter, medical emergency, and rescue during different disasters.</p> <p>Next, we present a tweet-text independent approach to detect the location of the tweets posted on Twitter and discover the impacts in different areas due to any disaster event. Furthermore, we also study the variations in public attitudes about the essential needs during identical or different disasters. As a case study, the proposed framework has been used on the dataset collected from Twitter during the Assam flood 2021 in India and validated with the corresponding survey reports published by the government agency.</p> <p>The case study findings suggest that the proposed framework can effectively fetch the spatial distribution of the public sentiments about emergency needs and provide a lucid overview of the disaster-affected area to the rescue personnel. Additionally, the framework allows us to develop basic statistics like the distribution of the emergency needs of the people and statistics of the most vulnerable areas in the disaster hit area. Such facts can be incredibly helpful for policymakers to understand the disaster situation and to manage the disaster relief and response resources required for the affected community. Therefore, the proposed framework will provide a micro-level understanding to the disaster managers regarding the crisis and assist them in preparing a more efficient and effective disaster response plan.</p> |
| <p>The Urban Problem of Disasters (2) Chair: Maansi Parpiani</p> | | | |
| <p>Presentation Titles (if available)</p> | <p>Speakers</p> | <p>Institutions</p> | <p>Abstracts (if available)</p> |

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| <p>Dealing with urban heritage in post-disaster reconstruction</p> | <p>Farnaz Arefian</p> | <p>Silk Cities; UCL</p> | <p>The evolution of global vision on urban heritage represented by international agencies and stakeholders has progressed to give special prominence to communities living in historic towns and urban fabrics. Sudden destructive incidents, whether to be as a result of natural incidents or human-induced conflicts often entailing questions about the future of urban heritage, especially the built heritage. Urban heritage does not end at monuments and dealing with historic urban contexts present a highly complex scenario for decision makers and stakeholders. In a post-crisis situation, the interrelations of historic urban contexts, social, psychological and economic factors present a highly complex scenario for decision makers, practitioners and affected communities and individuals.</p> <p>The contribution identifies layers and levels of dealing with the built heritage which takes place especially in traumatic situations when urgent needs of locals, destruction of the built heritage and competing forces present high-level of complexities. They represent different operational complexities and organisational behaviour from managerial perspective that must be dealt with accordingly.</p> <p>This presentation/contribution will build on the findings from the examinations of several historical and contemporary cases of recovery and reconstruction in historic landscapes. It offers a several key points as food for thought. Tapping on the capacity of heritage for enhancing social recovery, the key points provide the opportunity for self-reflection of the part of the global community regarding the past and where theory, policy and practice stand today, to help for directions for a better future. Example of points to be discussed are below.</p> <ul style="list-style-type: none"> ● Cultural heritage, urban recovery, and social recollection ● The dilemma: rebuilding the past versus updating damaged historic urban fabric ● The dilemma: social participatory processes Vs non-participatory heritage conservation ● A web of disciplines, new approaches and technologies ● From shaping the agenda to implementation in the field <p>International examples range from historic cases of post-World War II to those contemporary cases of post-disaster and post-conflict from different countries and cities, such as Examples may come from Syria, Libya, Iraq, Italy, UK, and Iran.</p> |
| <p>Understanding the spatial</p> | <p>Monia Del Pinto</p> | <p>Loughborough</p> | <p>Urban Public Open Spaces (UPOS), i.e. the uninterrupted network of publicly</p> |

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| <p>functioning of cities to tackle urban disaster risk: reconceptualization of spatial vulnerability at the urban scale.</p> | | <p>University</p> | <p>accessible streets and squares in a city, represent a key physical and social infrastructure for the everyday functioning of urban systems, and activate as widespread critical infrastructure in the earthquake emergency.</p> <p>Novel evidence from multidisciplinary research on urban morphology and disaster studies has shown that, in earthquake-prone areas, the way UPOS are configured, managed, and used, impacts the disaster risk potential of the whole urban system. In particular, the study demonstrated that (i) during emergency the interplay of configuration of the UPOS network and the superimposed land use prescriptions can influence variations of exposure to secondary hazards and capacity of self-protection of pedestrians, generating spatial unsafe conditions, and that (ii) these are the outcome of contextual processes rooted in systemic causes including, but not limited to, technocentric, expert-led, a-spatial and disaster-blind planning policies, disconnected from DRR action (Del Pinto, 2021).</p> <p>The study redefined the notion of Spatial Vulnerability (SV) at the urban scale, associated with reduced performances of the spatial network during urban evacuation, and manifesting as increased exposure and reduced capacity of self-protection of its occupants. SV retains a physical and social connotation – the former associated to the network itself as shown in (i); the latter linked to the systematic exclusion of the role of space and agency of its users from the planning discourse, consequent to (ii).</p> <p>By exposing trends and attitudes in everyday and emergency planning that neglect the socio-spatial components of cities, the research demonstrated that spatial disaster risk drivers stay undetected and embedded in the everyday functioning of cities, and only manifest in the emergency. The identification of Spatial Vulnerability at the urban scale is a key step to tackle its (re)production, mediated by policies and practices of use shaping access to, and use of, space. The systematic exclusion of configurational space and its users from the planning and DRR discourse emerging in the study, with the consequent considerations on capacity of self-protection and external protection, open broader questions of spatial justice that need further exploration.</p> <p>To date, the spatial impact on urban disaster risk stays unaddressed, and its potential for urban resilience untapped.</p> |
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| | Tristian Stolte | Vrije Universiteit Amsterdam - Institute for Environmental Studies | <p>In this study, we compile and review the required information to do a global-scale urban vulnerability assessment for different hazards. Over the past decades, cities around the globe have rapidly increased in size. A larger concentration of people, assets, and economic activities in cities also mean that more elements are potentially located directly in harm’s way if a hazard occurs. The impacts of natural hazards are often expressed within the disaster risk framework, which describes disaster risk as a probabilistic function of hazard (i.e. the natural hazard event that potentially causes harm), exposure (i.e. those elements that are potentially in harm’s way), and vulnerability (i.e. the characteristics of the exposed elements that make them more or less susceptible to harm). Thus far, urban vulnerability has been investigated primarily on the local scale and is often led by data availability rather than suitability. To enable a more informed decision making process in vulnerability assessments, we aim to provide an overview of relevant vulnerability indicators for six different hazards (pluvial flooding, coastal flooding, drought, earthquakes, heatwaves, and waterborne diseases). We create an exhaustive overview of almost 2000 relevant urban vulnerability drivers through a semi-systematic review of the peer-reviewed scientific literature (3000+ papers). Our focus is on empirically derived vulnerability drivers, but we supplement this with information from modelled, theorized, adopted, and unknown derived sources. Additionally, we identify several forms of dynamic vulnerability within the city, which shows that urban vulnerability is often not as one-directional as we allow it to be in vulnerability assessments. The results can be used to inform researchers and urban decision makers tasked with disaster risk reduction on viable vulnerability indicators. As a next step, we will dive into the urban vulnerability data availability and compare that to the data requirements that we find in the current study.</p> |
| | Dr. Jacquleen Joseph | | <p>Urban resettlement is a growing reality in metropolitan cities across the world. Resettlement happens for reasons such as illegal encroachment, disaster risk and development projects. This paper seeks to study the growth and functioning of the Resident’s Welfare Association (RWA) Groups at resettlement sites in the city of Chennai, Tamil Nadu, India. RWAs were formed as part of the “Our Tenements, Our Responsibility” scheme launched by Chennai in the year 2022. The RWAs are meant to function as a body of community residents for the maintenance of the tenements through collection of maintenance charges from the residents of the tenements. The</p> |

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| | | | <p>money collected is then matched by the state government as a matching grant. This study looks at the resettlement site of Kannagi Nagar, one of the oldest resettlement sites in Chennai, to understand how RWAs have been implemented in the site, how it functions and how well it has been received by the communities. Resettlement in the city of Chennai is often the result of eviction of people from their areas of residence due to development projects, disaster risk and impacts and court orders. The communities that are evicted are often from the economically weaker sections of society, the urban poor. These communities have often migrated from other parts of the state of Tamil Nadu in search of livelihood opportunities and quite often are forced to encroach on public land to remain close to their new-found livelihood. Resettlement often forces individuals to give up these livelihood opportunities or travel long distances to access their current livelihood work. Thus resettlement presents a significant challenge to the livelihood of the resettled. The resettlement residencies are often constructed under housing schemes and require beneficiary contributions. In some cases the people have to pay a direct amount upfront, in other cases the government body that resettles them pays for the beneficiary contribution and in other cases rent is collected from the residents for a period of time to complete the beneficiary contribution. This presents itself as another drain on the economic resources of residents who are already facing livelihood challenges. Kannagi Nagar, as one of the oldest resettlement sites in Chennai, paints an interesting picture as it followed the rent structure which, along with a maintenance charge, is collected by the Estate Office, a government entity. RWAs represent a massive shift for the residents of Kannagi Nagar and this study seeks to capture that shift. The study views the RWAs as the latest in a long slew of technologies implemented by the neoliberal state to shift the responsibility of maintaining the resettlement site onto the communities. It juxtaposes the neoliberal tendencies of the “Our Tenements, Our Responsibility” scheme with the biggest concern facing the residents of Kannagi Nagar, a lack of livelihood opportunities. This allows us to understand the impact of RWA as a body that impedes the resilience of urban poor in the era of increasing disasters and climate.</p> |
| <p>Workshop: Research safety and security Chair: Rodrigo Mena</p> | | | <p>Workshop Description: Safety and security risks for humanitarian and disaster fieldwork are largely overlooked in academic discourses. We argue that this emerging field of research provides an opportunity to share fieldwork experiences, bring to light unspoken safety and security dilemmas, and learn from other</p> |

researchers and practitioners in the field. To foster a community of practice that considers fieldwork safety and security as an ethical obligation, we will present the latest research on safety and security issues, followed by a practical workshop. The workshop will provide participants with the basics of safety and security guidelines for fieldwork in disaster studies and provide a space to discuss previous experiences and future concerns. Participants are invited to critically engage with their fieldwork preparations, risk assessments, and post-fieldwork approaches

Organisers: Rodrigo Mena, Lea Likefedt, Thea Hilhorst, Martha Welander

**Latin perspectives on
slow disasters: Conceptual reflections from Latin America and beyond
Chair: Ricardo Fuentealba**

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| <p>La despolitización de los desastres: la adaptación del paradigma global de la gestión del riesgo de desastres en el Perú</p> | <p>Enrique Arias Arostegui</p> | <p>JLU Giessen</p> | <p>El presente trabajo analiza cómo ha convivido la implementación del paradigma internacional de gestión del riesgo de desastres y el aumento de vulnerabilidades en el caso peruano. Desde la primera Conferencia Mundial sobre Reducción de Riesgo del Desastre en 1994 hasta la aprobación del Marco de Sendai para la Reducción del Riesgo de desastres 2015-2030, gran parte de países han reformado sus arquitecturas institucionales para gestionar los riesgos de desastres siguiendo los paradigmas y recomendaciones de las Naciones Unidas. Sin embargo, a pesar de la creciente homogenización en cuanto a leyes, planes y estrategias, lo que se ha denominado la dimensión formal de los desastres (Hilhorst et al., 2020), las víctimas y damnificados por desastres han aumentado en los últimos años (UNDRR, 2019).</p> <p>En el caso del Perú, debido a su ubicación geográfica, el país sufre la persistencia de anomalías climáticas como lluvias intensas, terremotos, erupciones volcánicas y tsunamis, que suelen provocar desastres. Entre los años 2003 y 2019, se registraron más de 86,000 emergencias, en su mayoría vinculadas a fenómenos de origen natural, que afectaron a más de 17 millones de personas en un país con una población de 30 millones de habitantes.</p> <p>La presentación analiza cómo la adaptación del nuevo paradigma ha servido para legitimar las acciones del gobierno peruano en materia de gestión del riesgo de desastres, al mismo tiempo que ha contribuido a despolitizar y desvincular los desastres del modelo de desarrollo, enmarcando los desastres como problemas técnicos, dejando</p> |

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| | | | <p>de lado sus raíces históricas y políticas. En este contexto, la adaptación del paradigma global ha servido para la transformación de la arquitectura institucional en materia de gestión de riesgo de desastres, pero al mismo tiempo ha convivido con el aumento de zonas vulnerables a peligros naturales desde finales de los años noventa. Además, la inequitativa distribución de recursos asignados para la gestión del riesgo de desastres ha contribuido a reproducir la desigual distribución de afectados por desastres en el territorio peruano.</p> <p>La presentación está dividida en cuatro secciones. La primera sección proporciona una explicación del desarrollo del paradigma global de desastres. La segunda examina su adaptación al caso peruano. La tercera enfatiza el aumento de la vulnerabilidad producto de la acción estatal. En la cuarta sección se analiza cómo dichas vulnerabilidades y la deficiente implementación del paradigma global se hicieron evidentes con la aparición del fenómeno El Niño en el 2017. Por último, se propone que la distribución inequitativa de los desastres en el país es consecuencia de problemas estructurales en la sociedad, como la relación entre los ciudadanos y los gobernantes.</p> <p>Para la elaboración del presente se han examinado marcos legales, publicaciones estatales, artículos en revistas académicas y otras fuentes relevantes en materia de gestión del riesgo de desastres. Además, se han llevado a cabo entrevistas en profundidad con expertos en desastres y políticos con el fin de complementar la información oficial.</p> |
| <p>Disastrous velocities and perplexing luminosities: reflections from a forest catastrophe in central Chile and beyond</p> | <p>Marcelo Gonzalez Galvez</p> | <p>Pontificia Universidad Católica de Chile</p> | <p>Readdressing an exploration concerning the reconstruction process of the town of Santa Olga, which was destroyed during the massive wildfires occurred in Chile in 2017, in this presentation we attempt to discuss the relation between the visibility and sounds of disasters, and how they are aligned to their velocities and the way they are experienced. To do so, we are going to compare our argument on the luminosity of sacrificial extractivism (González Gálvez, Gallegos and Turén 2021) to what takes place in other sacrifice zones in Chile –particularly Quillagua’s draught and Puchuncavi’s pollution – which we have been developing as part of an artistic interdisciplinary project entitled “Disaster’s Affects”. Eventually, this comparison will lead us to propose that anthropogenic disasters, more than different velocities, display different rhythms that trigger different affects and alertness among local populations and beyond.</p> |

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| Disasters In-the-waiting: The Painstaking Slowness of a Fast Disaster | Tomás J. Usón | Institute of Geography & IRI THESys, Humboldt University of Berlin | In recent years, several studies have raised concerns about the rhythms and temporalities commonly associated with disasters and risks. By emphasizing on the slow condition that disasters might present, new positions have proposed a necessary reevaluation of our understanding of disruption from a temporal perspective. As an analytical concept, slow disaster seeks to broaden our conception of catastrophes beyond their explosive quality, highlighting the gradual and protracted nature of many environmental threats. While these studies have made significant contributions to rethinking the temporalities and rhythms of extreme events, they have also tended to reproduce some of the temporal assumptions inherent in event-based approaches to disasters. As slow processes, issues such as contamination are still conceptualized as events already occurring within a specific space and time, overlooking the fact that impending events that have yet to happen can also be catastrophic arrangements with ongoing, profound emotional consequences for affected populations. This paper aims to problematize the assumptions related to both event-based and process-based approaches to fast and slow disasters by exploring the implications of an impending disaster. Drawing on ethnographic research conducted in Huaraz, Peru—a city awaiting a glacial-based outburst flood coming from the Andes— in this paper I reflect on how the act of waiting for an imminent event can also constitute a form of slow violence and degradation of everyday life. Yet, I also examine how this waiting period can give rise to alternative practices aimed at creating a sense of security and overcoming the uncertainties imposed by precarity and spatial inequalities. |
| Discussant for Latinx perspectives on Slow Disasters | Débora A. Swistun | Universidad Nacional de Avellaneda | |
| Filmmaking as a Research Method and Output in Disaster Studies | | | |
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| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Fire, Water, Earth, Air | Rico Kongsager | University College Copenhagen | When we think about climate change, we think about deforestation in the Amazon, melting glaciers, hungry polar bears, and Asian Tsunamis. Something happening far away. But in remote areas of the Nordic region, small local communities are already seeing direct implications of the climate catastrophe that will soon affect us all. They |

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| | | | <p>are fighting to figure out how they can save their homes. This film tells these stories, weaving together the global crisis with local Nordic experiences of climate change through the elements of fire, water, earth, and air in places seemingly safe and secure.</p> <p>FIRE, WATER, EARTH, AIR is a story in four parts, exploring the climate change resilience in small communities in Sweden, Denmark, the Faroe Islands, and Norway, told by four local teams of filmmakers who, in close collaboration with Phie Ambo, create one coherent narrative from the unique stories of their lands. With unprecedented wildfires, storms, landslides, and flooding, it is clear that the inhabitants cannot prevent climate change altogether. The change in the place they call home reflects a global reality: how do we deal with environmental risks by implementing emergency strategies that teach us how to live with climate change? This call to action drives the storytelling in FIRE, WATER, EARTH, AIR to inspire hope in a time when thousands of people face displacement or adaptation.</p> <p>The film gives the people of small communities living at the brim of the next climate emergency in the Nordic region center stage. Through the four elements, their stories complement or contrast one another to show the complexities of understanding what is at stake. We see them engage in emergency and adaptation exercises by the research group CliCNord (www.clicnord.org). Many of them are elders, retired farmers, or fishermen who witness the weather change every season but are too tired to do anything about it. They hold extensive knowledge of the land, passed down through generations. Others are families with small children who play in nature, ignorant of what the future holds. Through the eyes of the locals, the film oscillates between scientific findings, adaptation strategies, and the daily life of people still figuring out what climate change truly means for life as they know it.</p> <p>The local stories of getting by in the eye of the hurricane are embedded in the research project CliCNord which shows how to prepare for and respond to emergencies. In the footage, we capture the dust particles after a storm, dive into the mud of landslides, watch the flames of a wildfire, and submerge in the flooding of small islands. We watch the researchers in their work to convince locals about their adaptation strategies. In this way, we experience that the future of small remote communities is, to some extent, in the hands of scientists and politicians speaking a language of numbers, CO2-</p> |
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| | | | reduction targets, tipping points, and sustainable lifestyle choices. |
| A video-storytelling from post-flood reconstruction in Funchal (Madeira) | Sara Bonati | Università degli studi di Genova & Universidade da Madeira | <p>In disaster studies, and especially in social sciences applied to disasters, the return of results to the community using creative approaches is becoming more and more a fundamental step of the research. Accordingly, this presentation aims to show how video-walking interviews have been used to build a video-storytelling of the transformations that hit the old town of Funchal after the 2010 flood. The short video-product has been realised by researchers-turned-videomakers using the testimonies collected during the fieldworks that took place in 2018. The timing of the fieldworks was dictated by the times of reconstruction and urban regeneration that invested the area. This work is part of a 10 years research on the post-flood in Funchal.</p> <p>The interviews focused on the story of the neighbourhood before, during and after the disaster and had the purpose to question the reconstruction process and identify situations of disaster capitalism that took place in the area. In particular, the research focused on the connections between post-disaster reconstruction, regeneration processes and tourist gentrification that was showing the first signs in the area. The video-walking interviews were realised according to a participatory approach that saw the involvement of local actors and gave space also to moments of confrontation between them. The video-product was presented for the first time in May 2018 during the exhibition ‘Os rostos da regeneração’ (The faces of regeneration) that took place in rua Santa Maria (the core of old town).</p> <p>The results show that the flood represented a turning point that moved some non-residents (in particular artists) to activate actions of regeneration in the area, meeting in some cases the hostility of the residents. This creative turn contributed to arouse interest in the neighbourhood that became attractive also for external investments transforming it over the years into a restaurant street with a consequent gradual expulsion of residents, still in place today.</p> <p>Video available here: https://cierl.uma.pt/?page_id=30086</p> |
| Exploring Video Voice and Participatory Video with Displaced LGBTQ+ people in Brazil | Yvonne Su | York University | <p>This article critically reflects on the implementation of videovoice and participatory video to explore the perspectives of LGBTQ+ asylum seekers, refugees and migrants regarding their journey to and experiences in their host country of Brazil. The project was motivated by our previous research on the impact of the pandemic on Venezuelan LGBTQ+ asylum seekers in Manaus. At the start of the pandemic, in the epicentre of</p> |

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| | | | <p>the COVID-19 outbreak in Latin America, fake news stories on social media claiming that LGBTQ+ people were the source of COVID-19 spread caused Venezuelan LGBTQ+ asylum seekers in Manaus to fear for their safety. They stressed that their lives had become even more precarious, and they felt increased anxiety about finding work and settling in Brazil. In addition, the interviewees felt they had very little support from the Brazilian state. They stressed that the government was not doing enough to protect citizens, let alone asylum seekers. These LGBT asylum seekers felt frozen due to the pandemic as their asylum applications had been paused and most were fearful of public spaces. For that study, we conducted 56 short surveys and 28 semi-structured interviews with Venezuelan LGBTQ+ asylum seekers but we realized, as others in the literature have, that surveys and interviews can fail to capture the everyday nuances and complexities of migration. Video voice and participatory video allow us to move beyond words, and in utilizing a medium free from the burdens of language or literacy, LGBTQ+ asylum seekers, refugees and migrants can present their world to the global community on their own terms. In the age of Instagram and TikTok, LGBTQ+ asylum seekers, refugees and migrants are already familiar with the universal reach of videos so instead of asking participants to take specific videos, we give them the tools and space to tell their stories of migration, asylum-seeking and placemaking through social media trends they are already familiar with and interested in creating. We will also present the lessons learned and challenges we faced while experimenting with these methodologies such as tensions over knowledge and content co-production in migration research especially regarding creative control, authorship and empowerment.</p> |
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DAY 3: Thursday November 2

PANEL SESSION 1 - 09:30-10:50 (ITC Building Langezijds)

Governing systemic disaster risk: perspectives from the south (1)

Chair: Annisa Triyanti

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| | Niti Mishra | Jamsetji Tata School of Disaster Studies, Tata Institute of Social Sciences | <p>Urban governance is significant in creating or reducing risk in cities. Urban regimes that have focused on economic growth or livelihood generation are now conversing on disaster risk management (Rumbach A, 2016). Risk governance is central to risk decision-making, that involves risk assessment, management, communication engaging multiple actors. The collaborative form of disaster governance are systems and processes that involve a range of actors across disciplines of public organisation, levels of government agencies, and private and communities (Tierney, 2012). It recognises several functions that were conventionally considered the responsibility of the state and now spread amongst various set of institutions and sectors. Even with this extended view the major responsibility is seen as that of the government as the only unit that bears the expense of investment necessary to reduce disaster risk (Rumbach, A. 2016).</p> <p>Government is vital in managing systematic risk for which framework and mechanism needs to be designed to build long term DRM. Efficient and equitable governance is polycentric or decentralised with coordination. Praxis dictates that management of disaster risk requires modification at local level (Mitchell J 2006) but questions arise on capacities of local actors to effectively manage the risk (Bae. Y, et.al, 2016). Governance strategies for disasters are influenced by and inclined towards societal basis of governance and disaster governance regimes will also shift with changes in predominant governance realignments (Tierney, 2012).</p> <p>Studying the framework of Disaster Risk Management in a megacity such as Mumbai has emerged from the need to understand the practice of disaster risk governance in urban areas. Existing scholarships on megacities and disaster studies have focused on needs for resilience, disaster preparedness, urban risk reduction, importance of institutions, governance and others (Zhang, et.al, 2016; Mitchell 2006, Rumbach A, 2016 Douglas 2016) there is still need felt for studying evolution of disaster management at city level, institutional development with the emergence of urban risk in context of continuously expanding city like Mumbai. The present study argues on the multiplicity of risk in Mumbai city, the traditional focus has been flood control and prevention measures which has guided the set up of institution and management of risk in the city. Asian cities are heavily influenced by emergency/ disaster management</p> |
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| | | | <p>interventions from flood/famines response in the past. Their policy, practice and framing of risk is often centered towards flood risk management. The current study looks at the decentralised disaster response structure in the city to understand risk framing and evolution of institution that steer the disaster risk management. The city disaster management as an institution received an impetus to address the concerns of the July 2006 floods that impacted the city. Since then, it has devolved response and invested in technical solutions to address flood management that occurs annually in the city. The study has looked at ward level functioning to understand the risk and systems in place to address the disaster risk. The research has referred to IRGC framework to view the management of disaster from urban risk perspectives</p> |
| <p>Multi-hazard interrelationships and dynamic risk scenarios in urban areas: a case of Nairobi and Istanbul</p> | <p>Robert Sakic Trogrlic</p> | <p>International Institute for Applied Systems Analysis</p> | <p>According to the existing projections, 70% of the world’s population will be living in cities by 2050, with around 60% of the areas to be urbanized by 2030 yet to be built. Urban areas are often hotspots of disaster risks, due to a high concentration of populations, assets, stark socio-economic inequalities, and inadequate infrastructure. These areas are often prone to multiple hazards, which interrelate in time and space, leading to mounting impacts. Yet, existing disaster risk reduction strategies remain focused on tackling risks of single hazards, thus losing the opportunity to create synergies in risk management and informing resilient urban development. To address this gap, this paper investigates multi-hazard interrelationships and dynamics of disaster risk in two large cities: Nairobi and Istanbul. Through an interdisciplinary approach based on the systematic review of blended sources of evidence (e.g., scientific and grey literature, media and social media), co-production workshops with local stakeholders, and in-depth interviews, the paper: i) identifies single hazards impacting the cities, ii) designs a matrix of multi-hazard interrelationships, iii) co-produces scenarios relevant for urban planning, and iv) identifies potential uses, challenges, and opportunities for mainstreaming multi-hazard thinking in disaster risk reduction in the cities. Our results show that Nairobi and Istanbul are impacted by 19 and 23 natural hazards, respectively, with over 100 hazard interrelationships in the cities, both theoretically possible and evidenced. It finds that multi-hazard thinking is largely not integrated into policy and practice but identifies a large number of potential benefits of doing so (e.g., Increased preparedness and understanding of impact, prevention of risk creation, understanding capacity and resource needs). There are a</p> |

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| | | | number of challenges for multi-hazard integration, including governance (e.g., siloed working of institutions, centralized policymaking), understanding of multi-hazards and associated interrelationships, response-focused disaster risk management, and focus on imminent risks. Despite prominent challenges, participants also identified several opportunities for mainstreaming multi-hazard considerations (e.g., ongoing development and revision of policies and legislations, increased awareness of multi-hazards). Through engaging with stakeholders on the ground and systematic review of evidence, our results offer a useful contribution to the discussion of multi-hazards and their translation from academic thinking and global policy directions to resilience-building strategies in the cities. |
| Beyond volcanoes, super typhoons, and faults: Debris flows uncovering vulnerabilities in the Philippine Disaster Risk Reduction and Management System to cascading hazards | Likha G. Minimo | University of the Philippines Resilience Institute | Cascading hazards are very common in the Philippines. Owing these to its location along the Pacific Ring of Fire and the Pacific Typhoon belt, the country remains highly ranked in the hazards index. Matching these with a massive population and layers of systemic vulnerabilities, certainly disasters await when interventions are not applied in a timely manner. This study revisits multiple cases of debris flow events from 2012 to 2022 in Central and Southern Philippines to identify systemic vulnerabilities to cascading hazards. Field survey and remote sensing were coupled with key informant interviews at different government levels. While of slightly varied geological background and hydrometeorological conditions, the debris flows triggered by Super Typhoon Bopha (Pablo) in 2012, Typhoon Tembin (Vinta) in 2017 and Tropical Storm Megi (Agaton) in 2022, all lead to communities being wiped out and survivors being displaced. Operational, planning as well as administrative issues in each site, at different levels were recognized. Although national and local protocols have existed and have been improved since the enactment of the Philippine Disaster Risk Reduction and Management Act of 2010 and the issuance of guidelines for mainstreaming disaster risk reduction and climate change adaptation in development planning, these cases highlight that seemingly small weaknesses in the different parts of the system can align, add up and lead to casualties and damages that are beyond repair. Addressing concerns in local administration and development will be crucial if we are to mitigate risks from cascading hazards like those from debris flows. |
| Beyond Adaptation: | Mrudhula Koshy | Norwegian University | Recent decades have witnessed an increase in compounded uncertainties due to a |

| <p>Lessons from the Global South on addressing compounded uncertainty through Contextualised Contingency Planning</p> | | <p>of Science and Technology</p> | <p>combination of climate crisis, environmental degradation, health emergencies, and geopolitical changes. Such crisis situations have resulted in a growing interest in adaptation in urban planning. However, literature from contexts in the Global North tends to emphasise adaptation led by well-resourced institutions, and literature from contexts in the Global South focus on community-based adaptive interventions, with limited efforts on bridging and contextualising these approaches. This article addresses some of the limitations of adaptation perspectives in planning, decision-making, and governance by bridging contribution from the Global North and Global South to move beyond adaptation towards a contextualised contingency planning approach (CCP approach).</p> <p>This article draws on a case of uncertainty in a developmental context, that of the unprecedented floods in 2018 and 2019 in Wayanad, a peri-urban, hill district in Kerala, India, to put forward six adaptation principles for planning, decision-making, and governance namely localized, relational, fast, flexible, frugal, and incremental that could be useful to deal with uncertainties. It argues for the CCP as a proactive approach that enables the articulation of inherent urban vulnerabilities under short- and long-term compounded uncertainty in developmental contexts. Furthermore, the article provides recommendations to move beyond adaptation towards a planning approach that bridges existing community and institutional strengths for improving responses to uncertainty.</p> |
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| <p>Localizing disaster risk reduction strategies: humanitarian assistance, all-hazards approach, and Inclusivity in DRR (1) Chair: Sebastien Boret</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| <p>Addressing the root causes of social vulnerability and localizing disaster risk reduction in Aotearoa New Zealand: Perspectives from Critical Disaster Studies (CDS)</p> | <p>Shinya Uekusa</p> | <p>Department of Sociology and Anthropology, University of Canterbury</p> | <p>Resilience has been overemphasized in popular and scholarly discourse, while social vulnerability has been comparatively overlooked. In the aftermath of Cyclone Gabrielle which devastated parts of the North Island of New Zealand in February 2023, media reports emphasized the resilience of Hawke’s Bay and Tairāwhiti residents in coping with and responding to the tropical cyclone. But what about social vulnerability? How had the conditions of vulnerability been socially produced in these affected local areas prior to this disaster? Scholars in disaster research emphasize that</p> |

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| | | | <p>building resilience does not necessarily reduce social vulnerability to disasters (including unfolding climate change, the COVID-19 global pandemic, and the recent flood events worldwide). Therefore, we need to shift the focus from resilience and adaptation towards vulnerability and its root causes.</p> <p>Drawing on the perspectives of Critical Disaster Studies (CDS), this research aims to develop a deeper understanding of how certain social groups such as Indigenous peoples, migrants, refugees and other socially marginalized communities are systemically predisposed to greater hazard risks including infectious disease. Such understanding can reshape hazard risk management approaches and DRR strategies in Aotearoa New Zealand, where the emphasis currently lies more on promoting resilience rather than reducing social vulnerability. This shift necessitates moving beyond traditional hazard management and considering social justice within the local context. While resilience itself is not negative, people should not be forced to be resilient to ongoing marginalisation and stigmatisation. Focusing solely on individual resilience obscures the systemic disadvantage that exist. In Aotearoa New Zealand, disaster scholars need to, particularly, reckon with the structural violence of colonisation. The unique hazard profile of Aotearoa New Zealand requires an exploration of how current resilience and risk paradigms oversimplify the complex issue of vulnerability. The interplay of vulnerability drivers such as colonisation, globalisation, ethnic discrimination, migration, and neoliberalism, along with the widening of social inequality, adds complexity and contextuality to social vulnerability specific to Aotearoa New Zealand.</p> <p>This research aims to provide a comprehensive analysis of the specific social vulnerability to the disaster triggered by Cyclone Gabrielle and argue for the critical application of the concept of social vulnerability as a means of creating a better, safer, inclusive and more sustainable future in Aotearoa New Zealand and beyond. Ultimately, we raise the critical question: How might countries like Aotearoa New Zealand balance their interest in community resilience with a concern for the multiple and intersecting inequalities that generate and maintain greater, localized vulnerability to disasters?</p> |
| | Abigail Ewen | University College London | Initiatives enacted by NGOs are enshrined in documents such as The Sendai Framework for Disaster Risk Reduction 2015-2030 and the Sphere standards. These |

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| | | | <p>documents clearly establish people with disabilities and their advocacy organisations as legitimate stakeholders and active contributors in the implementation and design of resilience building and policy (Kelman and Stough, 2015). Despite significant noise among the international community to better include people with disabilities there is still limited concrete evidence on the social and policy processes that shape inclusion or exclusion in disaster risk reduction (DRR), resilience building and climate change adaptation (CCA). The voices and experiences of those who identify a disabled from low- and middle-income countries are largely silenced from research and decision-making processes on risk and resilience work.</p> <p>This project asks through the case of Nepal, if urgent disaster response and resilience building has enabled or hindered struggles for inclusion in public life and collective action, through the acute experiences of people who identify as disabled. It tracks how those currently identifying as disabled experienced the 2015 Ghorka earthquake and the 2021 Melamchi Flood. It reveals the way that disability has been constructed in crisis work and the impact of this construction on the strategies employed for or by persons with disabilities to navigate risk at the local level. The research employed an analytical framework derived from Foucauldian concepts of identify, discourse and power in order explore the formation of disabled identities under the specific the context of crisis and add to the body of knowledge on the intersectional ways that social identity markers interact with one another under the context of crisis. Above all it gave voice to people with disabilities, their experiences and their expertise by consulting them directly.</p> <p>The 2015 Ghorka earthquake brought with it marked political change and demanded large-scale recovery and reconstruction of the Kathmandu valley. It also brought with a time of increased cooperation and collective thinking by a large range of stakeholders including international and national actors in a way that is atypical outside the realms of national crisis. In this moment frameworks for response and risk are institutionalised in Nepals policy and constitutional landscape and with it came discourses of disability and human rights and ‘inclusion’ that dictate international risk and rights discussions. This not only produced a new polity but provided an important opportunity for change in the discourse and policy that relates to people with disabilities. Despite this, there have been distinct challenges in the localisation and</p> |
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| | | | <p>implementation of these policies and the stories and experiences of people with disabilities depicted in the research are a far cry from the discursive changes that permeate the INGO and government discourses that dominate the national level. It demonstrates that disability is still an overwhelmingly overlooked component of ‘inclusion’ in disaster initiatives at the local level and reveals some of gaps and missed opportunities to facilitate disability inclusion that go beyond the realm of top-down policy approaches.</p> |
| <p>Living with the flood: River, forest and our ancestors look after us during a disaster: A case study Mising communities from Brahmaputra’s floodplains</p> | <p>Bikash Chetry</p> | <p>University of Cape Town</p> | <p>Flood and river bank erosions have always been part of everyday lives for the riverine communities in Assam as more than 39.6% out of the total area of Assam is ‘flood prone’ that’s four times more than the national mark of 10.2 % of flood affected area in the country. As per the report, 40%–50% of the Dhemaji and Majuli districts is severely impacted by flood hazards between 1998-2017 and the Brahmaputra has been part and parcel of the Assamese community. As the riparian community have been used to living with floods, even yearly flooding, forever. [...] They have learned to bear [episodic floods], not quite to cope with the extraordinary inundations, but to bend with them and rise again. As for the yearly floods, they have learned to manage them, welcome them, and build a lifestyle with respect for them. Around Majuli Island, the world’s largest riverine island, one of the largest communities that live on the island is called the Mising – a community constitutionally recognized Scheduled Tribe in India. The community relate to the river as a mother who is nurturing them, and the river emerges in different forms and connotations for the community as it becomes the creator and destroyer at the same time. For the peasantry in Majuli, floods are a great source of Polosh (alluvium) soil that is beneficial for paddy cultivation, pottery making, and fishing and it also helps replenish the island’s wetlands regularly as well. While on the other hand erodes the land, and leads to loss of traditional livelihood, migration etc.</p> <p>All these are brought together by this gendered personification of the river in Mising myths and folktales to ensure the survival of a contingent riverine life. A network of relatives that exists among the Mising community that is more than- human kin such as ancestral spirits, forest spirits, sun and moon god that personifies their origin, and gods of rain, spirits that are present in thunder, lightning (Mukling Teleng) or earth and water (Among Asi), air and fire, etc. (Esar and Emi) etc. The Mising emphasise that ancestral spiritual practises emerge as their defence against an apocalyptic</p> |



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| | | | <p>scenario that threatens their self-sufficiency as a community that has historically lived without dependence or less dependence on the state. However, the precarity caused by infrastructure regulations upstream, shifting capitalist economies, and erratic climate change impacts riverine flow and community dependency on nature and the river as a whole. Hence, this paper would unpack Mising people's connections to the river through songs, storytelling, and how the community uses their knowledge system and environmental ethics to cope with disasters. Through an ethnography of the Majuli island and Dhemaji district and discuss the lived experiences and the everydayness of disasters.</p> |
| | Phoebe Whittington | Portland State University | <p>The increasing recognition of localization in disaster risk reduction (DRR) underscores the necessity for community involvement and local leadership capacities in addressing varied hazards. This research advocates for the largely untapped potential of public libraries to facilitate localized, grassroots disaster risk reduction, with a particular emphasis on their role in serving diverse and often vulnerable segments of the population such as the elderly, children, the unemployed, the unhoused, racial minorities, and those with mental health conditions.</p> <p>Drawing from the experiences of Oregon libraries during the 2020 wildfires, the study examines the intricate ways libraries can augment local resilience and mitigate disaster risks. Using literary reviews, primary interviews, and qualitative analysis, the paper not only illuminates how libraries contribute to the creation of economic, social, and community capital—critical components of resilience—but also reveals how their inclusivity and social services can support vulnerable populations in disaster situations.</p> <p>Libraries, as communal gathering spaces offering localized and personalized resources, may naturally foster localization in DRR. However, their reach is constrained by factors such as state policies or societal attitudes towards certain identities, particularly in areas that may be hostile to LGBTQ+ communities or discussions of racism in the U.S. Understanding these limitations is crucial in developing strategies to expand the library's reach to all segments of the population, as well as identifying how the political landscape impacts DRR initiatives.</p> <p>Additionally, libraries often grapple with fragmented resources and a lack of external disaster expertise, limiting their potential as local resilience hubs. The research proposes the development of a tailored, library-centric disaster planning strategy that</p> |



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| | | | <p>integrates external disaster management expertise. This strategy would also take into account libraries' unique geographic and cultural contexts, as well as the budgetary constraints they may face, enabling them to address local challenges and needs more effectively.</p> <p>The paper contributes to the broader conversation on localization in DRR by showcasing public libraries as viable, local platforms for disaster management. It posits that supporting these grassroots processes can help in implementing DRR at the community level with an ability to scale such efforts nationally given that there are more than 9,000 public libraries in the U.S.</p> <p>The research encourages academia, policymakers, librarians, and disaster management practitioners to rethink how to better localize DRR strategies. It also calls for further research to better understand how libraries interact with marginalized populations in a DRR context, develop quantitative metrics, identify additional opportunities and obstacles, develop policy, and promote mainstream discussion outside of academia with local stakeholders.</p> |
| <p>Local partnership for DRR: difficult conversations on coloniality</p> | <p>Carla Vitantonio</p> | <p>European University Institute/ School of Transnational Governance</p> | <p>In the growing debate on coloniality within the aid sector (I use this as an umbrella term that includes development, humanitarian action and DRR), localization is often identified as one of the mechanisms that could contribute to a change in power relations among actors and, therefore, to a true decolonial turn.</p> <p>However, an increasing number of practitioners and researchers claim that, as for other concepts in the past, actors from the so-called global north are progressively appropriating this term and depriving it of its authentic transformative power (Vitantonio 2023, Batliwala 2007), so as to keep practices and relations unchanged under a veil of change in language.</p> <p>Localization in DRR has proven to be, in my 12 years of practice in the field, the real key for a true effective and decolonial DRR, and also the most effective way to practice inclusion in the sector. But what does this mean? How can we practice localization in DRR while taking into consideration the many constraints (some of them deriving by the nature itself of the grants that allow us to implement DRR actions)? How can we look at localization and keep attention to coloniality in power relations, knowledge and being (Quijano 2000 et al.)?</p> |

| | | | Using examples of DRR programs that I created and contributed to implement in Cuba, Myanmar, and North Korea (DPRK) in the past 10 years, I will talk about what I consider the key element for successful localization: a decolonial approach to partnership and to use of knowledge. |
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| Research as a means of capacity building: challenges and options (1) Chairs: Nina Baron and Matthias Kokorsch | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| | Annekha Chetia | Tata Institute of Social Sciences, Mumbai, India | <p>With the multi-dimensional and complex character of disasters in the present times, ways of understanding and managing such events have remained a challenge despite progress in technology and scientific predictions. The government’s challenge of reaching the last mile with early warnings about hazards remains. Even today, a large population comprising indigenous communities rely on traditional knowledge for disaster preparedness, early warning, response and recovery.</p> <p>This paper argues that along with the various modern scientific interventions, indigenous perspectives need to be examined and recognized as an indispensable way of expanding and diversifying knowledge and evidence in disaster risk reduction. Such knowledge when combined with scientific understanding, can contribute to making the best policy decisions in the face of a confluence of risks in the present global scenario. The paper argues for mapping and mobilizing indigenous knowledge for environment protection, resource management and disaster mitigation in the face of global threats.</p> <p>Many indigenous practices that evolved through centuries and are internalized within local cultures have been tested over time and can be observed as a part of the communities’ everyday life. Handed down through generations, they are often proven to effectively manage and reduce disasters. However, like any other epistemic inquiry, indigenist research must be scrutinized with a critical lens as it is dynamic and constantly evolving. The paper presents various debates and discussions around indigenist disaster research in the context of a local area study among three indigenous communities of the district of Dhemaji of the North-East Indian state of Assam. The region is subjected to annual floods with the district of Dhemaji constantly topping the</p> |

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| | | | <p>charts as the worst flood affected district for the last decades. The district is also the home to indigenous communities which have mastered the art of “living with floods”. The paper focuses on how research pertaining to indigenous knowledge in disaster contexts can play a significant role in official policy documents which aim to build capacity and resilience at local levels but fail to reach small and remote indigenous communities. Thus, the paper aims at discussing the ways in which these kinds of research can bring opportunities and prospects of empowering communities against disasters and also how there are challenges of conducting an effective indigenist research.</p> |
| <p>Equity in disaster risk research? Reflections from a co-productive research project on resilience and vulnerability in at-risk neighbourhoods in Brazil and Colombia</p> | <p>Massimo Cattino</p> | <p>University of Glasgow</p> | <p>This contribution will focus on reporting the experience of URBE Latam, a recent transdisciplinary research project on resilience and vulnerability with communities living in at-risk neighbourhoods in Rio de Janeiro and Medellín, which by design set out to address the unequal power balance which can often be observed in disaster risk research projects. The project was led by an intercultural and multi-disciplinary team, and adopted a dialogic co-production approach to citizen-generated data for disaster risk reduction, sustainable development and local climate adaptation with the communities of Morro do Preventorio in Niteroi, Rio de Janeiro, and El Pacifico in Medellín, both characterized by severe socio-environmental and climatic risks. URBE Latam had as main objectives an enhanced understanding of risks, vulnerabilities and local capabilities in the selected disaster-prone urban areas. The project was centred on the engagement of citizens in generating data to expand understandings of risks and vulnerabilities at the neighbourhood level. Furthermore, citizens engagement in disaster risk reduction was pursued alongside an analysis of socio-spatial inequalities in resilience and development indicators and policies at city and national level. This led to the recalibration of environmental risk mapping with citizen-generated data and maps, which then started to be integrated within a framework to facilitate dialogic transformations across the different levels and stakeholders involved, including local institutions and governmental agencies.</p> <p>Key results emerging at the end of the URBE Latam are several. First, communities need to be seen not as mere recipients but as partners in the knowledge production about risks in their territories, and the translation of community knowledge and needs into the more formalised ‘technical’ language is the first step in creating a fruitful and trustful dialogue between communities, academia, and local institutions. Secondly, it</p> |

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| | | | <p>emerged the need of moving from the use of citizen-generated data for early warning and response to citizen-generated data for risk reduction and resilience. Indeed, the co-created maps with the various risk-related layers provide a rich and granular picture of the neighbourhoods' social and physical vulnerabilities, that showed a great potential for involving lower-governance level stakeholders and communities at earlier stages of the disaster risk cycle, beyond early warning and response. Furthermore, it is worth underlining the importance of the co-construction of data with the community, making the results representative of those who inhabit the place, and of the enhancement of local mapping capacities, a real long-standing legacy of the research project.</p> <p>Lastly, strengths and reflections on intercultural transdisciplinary research projects will be presented. In fact, as the dialogical approach to co-production of data and maps has been proven to be crucial in ensuring its transformative impacts and in the creation of a shared meaning between all the stakeholders involved, it is also worth mentioning how several challenges needed to be overcome, in particular the translation between different languages and disciplines, as well as the alignment between contrasting needs and temporalities of communities, researchers and governmental agencies, without underestimating how the project itself needed to be 'resilient' to the COVID-19 pandemic, that has impacted the planned activities for the project and required innovative approaches by the research team and the communities involved.</p> |
| <p>Years matter: The role of collective memory and place attachment in remote areas facing natural disasters</p> | <p>Matthias Kokorsch</p> | <p>University Centre of the Westfjords</p> | <p>Remembrance, commemoration, and specific dates play an important role in many societies and cultures. They can be about positively connotated events with societal impact, such as reunifications or the gaining of independence, but also disastrous or other devastating events on national or international scale. In the CliCNord (Climate Change Resilience in Small Communities in the Nordic Countries) project we identified such dates in some of the case study localities. One example are the two avalanches in the Westfjords of Iceland in 1995, which were a watershed moment for the national disaster risk management. In disaster risk areas, there are various ways such incidents are addressed. While for some communities they are an active part of the local history and the living memory, other communities tend to neglect such events. Applying a classification system, building on the ideas of Assmann (2008), we identify active and passive forms of remembering and forgetting in our case study areas. Remembering can manifest through museums, archives and monuments, while forgetting can happen through neglect, disregard or censorship. We investigate the</p> |

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| | | | possible positive and negative outcomes of the collective and cultural memory and how they relate to place attachment as well as capacity building. An example for positive outcomes is an even closer-knit community, exhibiting place protective behaviour, that learns from past events and is better prepared for the future disasters. A negative example at the local scale is wilful blindness and the neglect of any risk. But also, the society outside an affected settlement is important in the creation and manifestation of the collective and cultural memory: stigmatization and ascription can be negative side effects. Small and remote communities might be recognized by the society at large for only for one point in time - a year and a disaster - and thus sidelining the positive attributes of such communities. |
| Indigenous and local knowledge on adaptive responses to climate hazards in remote areas – a comparative case study in Nordic contexts | Rico Kongsager | University College Copenhagen | Adaptive responses to climate hazards (including preparations, responses, and recovery) in remote areas depend on people’s knowledge and ability to act on that knowledge, and ecological and socio-economic conditions beyond their immediate control. In remote areas, people are more likely necessary to act without the support of government or civil society organizations, especially if those areas are characterized by high exposure to climate hazards such as storms, floods, and avalanches. In this paper, we present a comparative case study on how the presence of indigenous and local knowledge (ILK) affects people’s adaptive responses to climate hazards (including preparations, responses, and recovery) in remote areas in the Nordic countries characterized by strong place attachment and high exposure to climate hazards. We find that ILK on adaptive responses to climate hazards exist in these communities and that these are connected to locally based cultural and livelihood practices, and to the maintenance of people-place relations in those communities. We also find that ILK is maintained and transferred between people and through generations in culturally, and at times locally, specific ways and that this transference requires that people-place relations are maintained. We also find that communities face challenges as regards adapting their ILK to new conditions due to fewer people maintaining relations to place associated with natural resource-dependent livelihoods and cultural practices, and due to compound effects of socio-economic and ecological dynamics, including but not limited to climate change. |
| Recognition and integration of citizens’ climate adaptation practices by local | Sara Heidenreich | Norwegian University of Science and Technology | In the light of climate change and increasing frequency of climate change-related hazards, such as landslides, climate adaptation work is increasingly on the agenda of municipalities across Norway. The resources for climate adaptation and for hazard prevention, preparedness and response are, however, unevenly distributed. Remote |

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| <p>authorities: Landslide prevention in rural Mid-Norway</p> | | | <p>municipalities with small populations meet large challenges since they must cover large areas with comparably little resources. At the same time, these municipalities have valuable resources in their citizens who often have knowledge, resources, networks, and skills that have been developed through long-term people-place relations and can be useful for climate adaptation and landslide prevention work.</p> <p>This paper investigates how knowledge, skills and resources of citizens can be better integrated into the municipalities' climate adaptation work in order to build capacity in these small remote communities. It is based on a series of storytelling workshops with different local stakeholders and interviews with citizens. Taking into account both citizen and authority perspectives, the paper identify challenges and opportunities for authority-citizen collaboration in climate adaptation. It will address aspects such as information, communication and dialogue as well as better use of material resources in local communities. Further, it argues that local knowledge and existing adaptation practices deserve more recognition and acknowledgement both locally and also by regional and national authorities and that more effort is needed to keep these local knowledge and practices alive.</p> |
| <p>Contemporary organisational resilience research through the 'temporary adaptive capacity' concept</p> | <p>Jacob Taarup</p> | <p>University College Copenhagen</p> | <p>This paper proposes a new approach to crisis governance based on a staged approach that focuses on the capacity of socio-technical systems to achieve predetermined end goals. Due to the scope of climate change-related disasters, we witness cascading events, which strain traditional emergency response capacity. The proposition made in this paper is that a crisis governance system can be applied, which considers that these types of events will entail different approaches to command and control, communication, organising and use of resources dependent on the specific context and how the disaster evolves. An effective crisis governance system focuses on predetermined end goals that can be adjusted depending on the capacity of the socio-technical system to assert control. Based on examples from climate change-related disasters, it is possible to structure crisis governance into four distinct domains functional, resilience, adaptive capacity and self-organising. The functional domain proposes a system in which the decision-maker can direct individual executing agents to solve specific tasks, for example, when dispatching an ambulance to an accident. The resilience domain utilises a system where central control is still possible by a central decision-maker, but there will be some coordination between executing agents at the event site, for example, in accidents involving multiple emergency response actors. The adaptive capacity domain entails that the centrally placed</p> |

| | | | <p>decision-makers can no longer assert control, and it is the role of individual executing agents to coordinate their resources internally. For example, when emergency response is conducted in remote areas where communication is lacking, resources are scares and organising happens outside the formal emergency response structures. Finally, crisis governance is within the self-organising domain, where individual executing agents make decisions in isolation or coordination with other agents in close physical proximity. For example, large-scale events, such as flooding, storms, or extreme weather, can make it impossible to coordinate resources, organise or communicate over longer distances. Each domain carries different levels of control depending on the degree to which the socio-technical system can utilise command and control, communication systems, organisational structures and centralisation of resources. The paper discusses how a system of crisis governance can support the development of more robust systems that will endure even when an event surpasses the capacity of formal emergency structures. Using case examples from the Arctic, each domain is discussed and illustrated by examples of how crisis governance is applied in a context which displays all four domains.</p> |
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| <p>A cultural turn in disaster studies? Exploring epistemological, socio-historical and scalar perspectives (2) Chairs: Isabelle Desportes, Verena Flörchinger</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Resettlement Challenges in Post-Disaster Nepal: Exploring Socio-Historical Perspectives | Barsha Shrestha | Pulchowk Campus, Institute of Engineering, Tribhuvan University, Nepal | <p>The resettlement policy in post-disaster Nepal is historically shaped by competing interests among different stakeholders, including decision-makers. In the aftermath of disasters, significant policy changes are made, often limitedly addressing the diverse needs of socio-economically affected populations. Following the devastating 2015 Gorkha earthquake, which resulted in the relocation of 4,720 families from over 299 settlements, Nepal witnessed a notable shift in its existing development-led relocation policy.</p> <p>Despite this policy shift, the majority of planned resettlement sites remain either abandoned or minimally occupied by affected households, indicating limited policy outcomes. This study aims to explore the reasons and dynamics behind the success and failure of resettlement programs, particularly focusing on the socio-historical perspectives that influence these challenges. Two resettlement sites in Nepal are examined: one catering to a socio-economically better-off community and the other targeting the poor and underprivileged Thami community, situated in one of the</p> |

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| | | | <p>worst-affected districts by the Gorkha Earthquake. Employing a mixed-method case study approach, the research utilizes residential satisfaction surveys, key informant interviews, focus group discussions with institutional stakeholders, long interviews with affected households, and direct observation of the case areas.</p> <p>The findings reveal that the Jilu Integrated Settlement, associated with a historically higher socio-economic status community, has experienced successful outcomes. The residential satisfaction of the community is a key indicator of this success. Factors contributing to the positive policy outcomes in Jilu Integrated Settlement include the political empowerment of the community, providing them access to federal, provincial, and local government bodies, thus enabling them to influence institutional decision-making processes and secure necessary resources. Conversely, the Panipokhari Integrated Settlement, developed for the underprivileged community, has faced challenges and exhibited unsatisfactory outcomes. These challenges stem from socio-cultural integration issues with the host community, as well as limited access to new livelihood opportunities and resources, resulting in dissatisfaction with the resettlement program.</p> <p>The study concludes that socio-cultural and political empowerment play important roles in achieving successful resettlement policy outcomes, particularly when addressing the needs of historically marginalized and underprivileged communities. Therefore, the development of well-thought-out and prepared resettlement policies should consider socio-cultural dynamics well in advance of disasters. These findings offer valuable insights into the socio-historical perspectives that underpin the resettlement challenges in post-disaster Nepal, providing essential knowledge for policymakers and stakeholders involved in designing effective and inclusive resettlement strategies.</p> |
| | <p>Christelle Juin Ancha, Karl Daniel Begnotea, Jacquelyn De Asis, Harianne Gasmen, Jesusa Paquibot, Melody Teodoro</p> | <p>University of the Philippines & DOST-PHIVOLCS</p> | <p>Critical reflection requires us to recollect and contemplate our work. It also allows us to discern our intersecting social identities and how these influence our decision-making processes and practices. In the context of disaster studies, highlighting critical reflection as a significant component of knowledge production has yet to be recognized. In this article, we present our reflections based on our personal experiences as social science researchers and practitioners engaging in community-based early warning systems and disaster risk reduction and management in the Philippines. As researchers and practitioners, we have encountered a multitude of challenges and insightful reflections throughout the implementation of the Dynaslope Project, a research program that develops early warning systems for deep-seated and</p> |

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| | | | <p>catastrophic landslides. In the process of critical reflection, we identify three key themes that we argue have the potential to question power imbalances, institutionalized habits, and traditional research practices that may prevent the establishment of transformative engagements in community-based early warning systems. The first is agency as a shared consensus. In integrating transformative community-based early warning systems, we realized that when researchers and the "researched" share the same standpoint, a collective agency emerges, which encourages the "researched" to elevate their knowledge building through organizing, mobilizing, and lobbying policies. Agency was also attributed to the community's volunteering as co-researchers in landslide monitoring. Community members freely and willingly participate in early warning system activities, and in that sense, they exemplify agency. The second is accompaniment as power. In comparison to traditional research, wherein the social realities of the "researched" are removed from knowledge production, our critical reflection revealed that accompaniment eliminates oppressive power imbalances between the researcher and the "researched". Accompaniment expands structures that enable the researcher to participate in non-hierarchical knowledge building. The third is institutionalization as sustainability. In the Philippines, the lack of sufficient resources to support research prompts researchers to leave their projects within short periods of time. We realized that institutionalizing research may sustain knowledge building better.</p> <p>Critical reflection has helped develop our practice of integrating transformative community engagement into scientific endeavors. It is a beneficial process for protecting researchers from the constraints of traditional research. We developed a critical consciousness about our practice and theory that can help us become better practitioners. Using a co-created critical reflection process, we explore, learn from, and develop our praxis on community engagements. We dive into the setting, consolidation, analytical, and change stages of the critical reflection process using creative qualitative research tools such as photovoice, journaling, and group reflection dialogues. During group dialogues, we established a group culture suitable for learning and reflection, examined the fundamental assumptions about the significant events and critical incidents from community engagement practice experience, and articulated change awareness.</p> <p>While it needs further refinements and modifications to make the process suitable for the use and intentions of other researchers, the critical reflection process can be further developed by adopting iterations on the process, tools, and group culture towards critical and creative disaster risk studies and methods that are transformative</p> |
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| Cascading disasters: From vulnerability to resilience (3) Chairs: Clare Egger, Francesca Giardini | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| TBC | James Kendra, Maggie Leon-Corwin, Adam Andresen, Rachel Davidson | University of Delaware | Infrastructure failures are a part of cascade disasters. Losses of electricity, water, gas, and other services complicate immediate response and survival and, in prolonged cases, longer-term recovery possibilities. Infrastructure failures require affected denizens to adapt through technological or social innovations to make up for the loss in service. However, these adaptations are little understood, though there is growing interest in how people meet their needs, and how these adaptations can shift over time and vary between places. This paper will present ongoing research into adaptations to infrastructure failures. Using both surveys and qualitative research, we have found that the ability to adapt depends on available resources, environmental knowledge, and social capital. We have also found certain paradoxes, such as that the ability to mobilize social capital can depend on available resources. Given the likelihood of an increasing prevalence of such failures, owing to climate change and system aging, the capacities of an affected population to implement adaptations has implications for human survival and wellbeing during cascade disasters. These implications include, for example, local resilience, which is bolstered to the extent that affected denizens can meet their needs during a period of outage. At the same time, a deeper understanding of how people meet their needs, either through their individual or household efforts, in concert with others, or through substitute services provided by government sources or infrastructure providers themselves, is important for emergency management officials to know how to support or augment those efforts. |
| Impact of the COVID-19 pandemic on the mental healthcare sector in the Netherlands | Mark Bosmans | Netherlands Institute for Health Services Research (Nivel) | The COVID-19 pandemic has reconfirmed that systems and institutions are very much interconnected, leading to a high susceptibility of societies to cascading effects of disasters and crises. This interconnectedness is especially true for the healthcare sector. The spread of the virus led to a rising need for acute medical care in hospitals. This resulted in lower accessibility of healthcare. Governments issued widespread countermeasures that affected every aspect of society, from social contacts to the entire healthcare system. Research suggests that the mental health of some groups were hit hard by the pandemic and especially the countermeasures (e.g. Smaji et al., 2021). |

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| | | | <p>This may have led to a surge in demand for mental healthcare.</p> <p>The Dutch healthcare system is based on full gatekeeping: contact with a general practitioner is necessary to get a referral to specialized care. The Dutch healthcare system was already vulnerable before the pandemic with rising healthcare use and increasing personnel shortages. This is especially true for specialized mental healthcare with long waiting lists; even for severe acute cases.</p> <p>In order prepare for a new pandemic or similarly disruptive disaster, it is important to understand the impact of the pandemic on an already overburdened healthcare system. Understanding which groups are at risk of developing mental health problems offers options for interventions to prevent the need for specialized mental healthcare, such as targeted prevention or tailored treatment programs.</p> <p>Methods: This study is part of a research program conducted by Network GOR (a research group consisting of different organizations), which monitors the effect of the COVID-19 pandemic on population health in the Netherlands. In this study, we combined 2 data sources. The first consists of electronic patient records from GP practices participating in the Nivel primary care database. This database holds records of 400 practices with 1.7 million registered patients (roughly 9% of the Dutch population), and is representative of the Dutch population. The second are files from Statistics Netherlands, containing individual-level background information such as household income. Analyses focused on comparing pre-pandemic (2018-2019) use of non-specialized and specialized mental healthcare to later pandemic levels (2020-2021).</p> <p>Results: Results show that in the second year of the pandemic (2021) there was an alarming increase (+43%) in referrals to specialized mental healthcare compared to pre-covid (+15% in use of non-specialized mental healthcare), putting even more pressure on an already overburdened sector. Some vulnerable groups, especially those with a younger age and those with a low household income, were hit hardest during the pandemic.</p> <p>Conclusions: It is important to invest in surge capacity for mental healthcare in the</p> |
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| | | | <p>aftermath of large-scale disasters and crises, just as investments are made in the surge capacity of emergency rooms. Because specialized psychotherapists are scarce, this surge capacity could be created by offering accessible psychosocial interventions to those most vulnerable for developing mental disorders, thereby preventing some of the need for specialized care. These interventions can be offered by less specialized care providers. Results of this study help with finding the right target groups for such interventions.</p> |
| <p>Risk management of multi-hazard events: lessons learned from a global overview</p> | <p>Marleen de Ruiter</p> | <p>VU University Amsterdam - IVM</p> | <p>Multi-hazards and resulting impacts are challenging the status quo of risk management, underlying a need for consideration of hazard and risk driver interdependencies across the cycle of risk management. Despite an increased focus on multi-hazards within the policy and scientific community, risk management on the ground is still heavily siloed and focused on addressing risks of single hazards, which can lead to distorted risk management priorities and asynergies in risk management. One of the reasons underlying this issue is a general lack of a systematic overview of multi-hazard events and a comprehensive understanding of how (and if) the risk of these events was managed in the past.</p> <p>In this abstract, we present an initial analysis of a dataset of multi-hazard events at the global scale. The database is based on inputs gathered through an online survey (March to May 2023) where a call was launched for examples of case studies of multi-hazard events from anywhere around the globe that happened within the past 40 years. We have collected 161 case studies representing the following hazard interrelationship types: triggering, amplifying, compound, consecutive, independent, and multiple relationship types (i.e., including a combination of different interrelationships). In terms of regional coverage, the majority of case studies are from Europe (n=53), Asia (n=39), Central and South America (n=21), North America (n=16), Australia and Oceania (n=12), and Artic (n=2), with 18 case studies not indicating a region.</p> <p>For further analysis of case studies, we developed a case study template providing a detailed analysis of the event, its direct and indirect impacts, associated timeline, a description of the local context before and after the event, and resulting changes in exposure, vulnerability, and disaster risk management measures implemented. Based on these detailed case study descriptions, the work will identify best practices for the management of multi-hazards to inform policy and practice on the ground.</p> |

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| <p>Using the DRM cycle to frame MYRIAD-EU storylines: the Volcanic Eruption of La Palma (Poster presentation)</p> | <p>Sara García González</p> | <p>University of La Laguna (Spain)</p> | <p>Risk assessment and disaster risk reduction (DRR) in the context of multiple hazards present significant challenges. For example, geohazard related risks include both compound and cascading disaster-related aspects, mainly characterised by high uncertainty and complex multi-risk impacts across economic sectors. Past experiences with such geological hazards have drawn attention on the urgent need to engage with society in promoting long-term measures to reduce the impact and achieve a rapid recovery. In such contexts, storylines can be a useful tool to understand every major aspect and decision-making process of such multi-risk events. Moreover, they can also improve our understanding of the dynamic interactions between decisions and risks, providing future and counterfactual scenarios in complex decision settings.</p> <p>In this research, we use the Disaster Risk Management (DRM) cycle (Mitigation, Preparedness, Response, Recovery) to frame the storyline of the recent volcanic eruption in La Palma (Tajogaite, 19/9/2021). The DRM cycle describes a process by which governments, business and civil society plan for and reduce the impact of disasters, often at the same time that they react and recover once the disaster has occurred. To fully understand the planning and decision-making processes leading up to the volcanic eruption, we provide a full description of the pre-conditions and early warning system in the Canary Islands prior to the volcanic eruption. Our analysis of multi-hazards expands back to the oceanic volcanic eruption of El Hierro in 2011, and includes not only the intense seismic swarms in 2018, but also an analysis of the decisions that followed the intense rainfall, heatwaves and fires weeks before the Tajogaite volcanic eruption. Finally, In the context of the recovery phase, we emphasise the complex governance that blocks the shaping of public policies and plans to mitigate the impact on people, property, infrastructure, and particularly, on the tourism sector recovery.</p> <p>The objective of this study is to improve DRM by understanding the relationship between volcanic and meteorological hazards, exposure, vulnerability, and their dynamic behaviour over time in the context of volcanically active ocean islands, characterised with strong natural resource dependency and a lack of economic diversification.</p> |
| <p>Fighting the "Hydra": A conceptual shift from</p> | <p>Tjorven Harmsen,Ina</p> | <p>CSS University of Freiburg, Germany</p> | <p>Cascading, overlapping and transgressing effects characterize crises of today which has become apparent in cases like Covid-19, climate impacts such as recent floods and</p> |

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| <p>cascading disasters to cascading decision-making and its benefits for understanding resilience</p> | <p>Hennen</p> | | <p>droughts, or the consequences of the Russian invasion into the Ukraine. While crisis management literature has already reflected on the fact that crises are inherently social processes, there still seems to be an overall trend in locating the driver of the cascading dynamics externally: An outside event, such as a spreading virus, urges decision-makers to act. However, this understanding falls short when looking more closely at the cascading processes. On the basis of qualitative expert interviews with (mainly municipal) crisis managers in Germany during the pandemic, we seek to illustrate how initial decisions induce a changed decision-context that affects further decision-making. We use a combination of crisis management and Dynamic Decision Making literature in order to tackle the “other side” of cascading disasters: cascading decision-making. Thus, by adding the socio-internal side to the external driving force, we contribute to an integrative conceptualization of crisis which holds implications for understanding and promoting resilience.</p> |
| <p>Empty Pantries: The Death of Survival Myths Among Typhoon Haiyan Survivors in Resettlement Sites during COVID-19</p> | <p>Yvonne Su</p> | <p>York University</p> | <p>The Philippines has been called the worst affected country in Southeast Asia by the pandemic. As a highly unequal society, COVID-19 has disproportionately negatively impacted poor communities in the Philippines. This paper will focus on a specific vulnerable group which has been understudied in the literature on the impacts of COVID-19 in the Philippines – the survivors of Typhoon Haiyan (locally known as Typhoon Yolanda) that have been relocated to resettlement sites outside the city. This paper looks at the role of traditional community and household coping mechanisms during crises such as bayanihan or collective cooperation, social capital, and remittances and their role in getting Typhoon Haiyan survivors in resettlement sites through the pandemic. This paper is based on 357 surveys conducted in June 2021 in four resettlement sites. This article argues that the myths of bayanihan, social capital, and remittances as lifelines for Filipinos in times of disaster do not apply to Haiyan survivors in resettlement sites during the pandemic. Our study found that Haiyan survivors have mainly relied on themselves or their bonding ties like close family members for support during the pandemic, the pandemic has not led to strengthened bonds between community members, and remittances are not a source of reliable income for households in resettlement sites during COVID-19."</p> |

PANEL SESSION 2 - 11:20-12:40 (ITC Building Langezijds)

Governing systemic disaster risk: perspectives from the south (2)

Chair: Annisa Triyanti

| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
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| <p>Co-designing risk-oriented policies for urban areas yet to come: Tomorrow's Cities bottom-up approach to policy development</p> | <p>Thaisa Comelli</p> | <p>Institute of Risk and Disaster Reduction, University College London</p> | <p>Cities in the geographical and political global South are experiencing unprecedented growth, which increases exposure to natural hazards and exacerbates socio-spatial vulnerabilities. As this pattern accelerates, it is necessary to plan not only for short-term risky urban futures, but particularly for long-term ones. In this session we will reflect on the research and knowledge exchanges with multiple partners that led to the implementation of Tomorrow's Cities risk-informed urban development planning approach in – so far - six peri-urban areas in Ecuador, Turkey, Palestine, Kenya and Nepal. Tomorrow's Cities (UKRI GCRF Urban Disaster Risk Hub) is impact oriented and aims to reduce future disaster risk for poor and marginalised populations in yet-to-be-developed areas (Galasso et al., 2021). It draws on interdisciplinary future methods, leading to a framework that operates in five stages: (1) harnessing different social groups' aspirations and visions for the future; (2) developing scenarios that express both qualitative future expectations and quantitative urban trends; (3) exposing community-produced scenarios to multi-hazard simulations; (4) learning about impacts and discussing risk; and (5) grounding learning into the governance system of cities for concrete impact (Cremen et al., 2023).</p> <p>Given the complexity of such framework, this presentation will discuss Tomorrow's Cities exclusively from the lenses of its policy development approach, which encompasses spatial and non-spatial actions that aim to tackle the impacts of future hazards. Two key highlights will capture the innovative take of Tomorrow's Cities on risk-oriented policy development:</p> <ul style="list-style-type: none"> • The bottom-up design of 'policy bundles' for the future, which draws on a critical stakeholder mapping that disaggregates the socio-urban landscape of the city from a power-laden perspective. In practice, this means that different local and indigenous groups (e.g., women, disabled, refugees, landowners, renters, ethnic minorities – depending on the challenges in each area) discuss their own expectations for the future, and test and develop policy options that could reduce future risk under certain hazard conditions. • The co-design of spatial policies (i.e., future land uses and infrastructure), which departs from creative methods from the arts and humanities. Tomorrow's Cities co-mapping/design approach evolves as a series of drawing exercises that capture individual life trajectories, collective aspirations, the translation of aspirations into urban assets, and the translation of urban assets into concrete spatial proposals. These are later incorporated into a GIS-based computational platform that |

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| | | | <p>allows participants to unpack policy-impact links, and to understand how their aspirations and normative views are materialised when designed against quantitative urban trends. They therefore confront desired with probable futures.</p> <p>We will discuss the above points during the harvesting session, whilst illuminating common governance challenges to reduce systemic risk during the reflection stages of the panel."</p> |
| | <p>Davide Cotti</p> | <p>United Nations University- Institute for Environment and Human Security</p> | <p>Characterising and assessing the interaction of complex risks is vital to enhance understanding of disaster risks, inform risk management and to ‘build back better’ in recovery, which are priorities 1 and 4 of the Sendai Framework for Disaster Risk Reduction. As sectors and systems are increasingly interconnected, the space in which impacts cascade is expanding. This became apparent throughout the COVID-19 pandemic (UNDRR & UNU-EHS, 2022), but can also be seen in the compounding and cross-border effects of climate change and connected extreme events, or from global ripple effects of armed conflicts. Single-hazard and single-risk approaches are becoming increasingly insufficient for managing disaster risks and informing recovery efforts due to cross-system interactions. There is therefore a need to develop approaches that can account for how multiple hazards interact with multiple vulnerabilities of interdependent sectors and systems, which requires a systemic perspective. To this aim, we developed “Impact Webs” (Sparkes et al., 2023), a tool to map the interconnections between risks, their underlying hazards, drivers, root causes and responses to risks and impacts across different systems. The tool draws on the impact chains approach (i.e. conceptual models for climate risk assessment; Hagenlocher et al., 2018; Zebisch et al., 2021), expanding its often linear and sectoral focus towards a system-oriented view. We present an application of the tool to two case studies in Malawi and South Africa to characterise cascading and systemic risks linked to COVID-19, concurring hazards and the responses to them (e.g. restriction measures). From this, we used Impact Webs to identify lessons for risk management and inform the co-creation of systemic recovery pathways. The participatory co-development of the Impact Webs was led by experts in Malawi and South Africa and involved desk research, stakeholder workshops and expert/community consultations. A regional workshop is planned for late 2023 to look at outscaling lessons from the two case study countries to the wider South African Development Community (SADC) region. Our research shows that Impact Webs conceptualise and visualise interconnected elements across sectors, systems, agents and borders. Because of the tools ability to simultaneously analyse the interactions of multiple hazards with multiple vulnerabilities and their root causes, it provides a representation of the complex nature of risks in the case studies. This is</p> |

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| | | | <p>promising to identify enablers and barriers for risk management and recovery pathways. Additionally, the tool not only accounts for negative impacts, but also how policy responses and societal reactions to policies can lead to additional positive outcomes, as well as unintended consequences, i.e. risks arising from responses. However, given the complexity of systems and system boundaries, it is not possible to characterise all interconnections using Impact Webs. Despite this challenge, we argue that Impact Webs are not only a promising new approach to characterise systemic risks, but also support looking at risk management and recovery from a systemic lens, thereby supporting comprehensive disaster risk management and systemic recovery from disaster events.</p> |
| | <p>Fafali Roy Ziga-Abortta</p> | <p>University of Freiburg</p> | <p>The design of policy interventions for Flood Disaster Risk Management (FDRM) have been predominantly configured around vulnerability assessments that focus on the bio-physical and built environment systems. Meanwhile, the unavoidable connection of these interventions and the institutional context within which they are deployed is rarely drawn. More so, considerations of the embeddedness of vulnerability in specific institutional contexts is conceptually and practically limited. Adopting Ghana as case study, we explain the distinct institutional context of vulnerability in a Sub-Sahara Africa (SSA). To do so, we draw on the concept of institutional vulnerability referring to ‘the combination of the weaknesses embedded in institutions (purpose or non-purpose built for disaster management) that reduce the capacity to resist/withstand/cope or recover from the impact of a hazardous event’. Specifically, we analyze the drivers of institutional vulnerability and how they foster or hamper FDRM revealing strong causal links of how the institutional context affect the implementation of FDRM policies. Our results show that in an SSA country like Ghana, the institutional context can be understood as a sensitive interplay of the entanglement of formal and informal institutional drivers, behavioral pitfalls and the normalized culture of impunity, and deficits in necessary resources and risk transfer mechanisms. We refer to these deeply embedded weaknesses that hamper more than they foster effective FDRM as spartan institutional vulnerabilities, where spartan does not denote the proverbial resilient soldier, rather a severely weak one that needs reinforcement. We additionally reflect on the need for tailored-to-context interventions in a more inclusive manner to consequently govern systemic disaster risks more effectively in the global south.</p> |

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| | Gusti Ayu Ketut Surtiari | BRIN | <p>A-typical tsunami in Central Sulawesi of Indonesia has raised significant attention among scholars and practitioners on the understanding of risk to tsunami. The knowledge on a typical tsunami is lacking to be translated into an action to prepare risk to disaster. The implication of the nature of risk is still away from the consideration in disaster risk reduction. The Global Assessment Report in 2019 highlights the importance to consider nature of risk in risk assessment and it is furthermore emphasized in Global Assessment Report in 2023 that stated the pandemic has shown the nature of risk. Multiple vulnerability is obviously experienced by the vulnerable groups to face the multi hazards. Indonesia as one of the most risky country to tsunami has invested effort to reduce risk to tsunami but several challenges persist. Departed from the concept of systemic and cascading risks framework published by UNU EHS and UNDRR in 2022, this study explore the possibility to propose risk governance considering systemic and cascading risk. It proposes the systemic approach to identify risks and prioritization for the program development and implementation.</p> |
| <p>Unravelling the Complexities: Governance Challenges in Climate-forced Mobility at Keta, Ghana</p> | Kwabena Frimpong Nyarko | Deltares | <p>Climate change is a major contemporary challenge that requires far-reaching actions from a multitude of actors from the international to the local scale and from multiple sectors. Although climatic hazards and accompanying disasters have traditionally driven human mobility, media and policy discussions in recent times indicate that climate change is increasingly driving forced mobility. It is nearly impossible for climate change to be the sole reason for a disaster to strike a population and in turn induce displacement. Climate change overlays pre-existing environmental, political, and social stressors to produce disasters such as forced mobility. This study investigated systemic disaster risk and its governance associated with climate change in Keta, Ghana, with a specific focus on climate-forced mobility. Keta is a coastal urban area facing the constant threat of multiple slow-onset and sudden-onset hazards, including coastal erosion and flooding, which both overlap and compound each other. The research adopted the Foresight Study (2011) framework to conceptualise the interplay of these hazards and their contribution to climate-induced displacement in Keta. This research forms part of Deltares' support for the Africa Climate Mobility Initiative (ACMI). The ACMI was initiated by the United Nations, the African Union Commission and the World Bank.</p> |

| | | | <p>Utilising primary and secondary data gathered through interviews, observation and other relevant sources, the study revealed that the erosion of Keta’s coast is not a recent occurrence. It was first documented in 1929 and is believed to have existed as early as the 1860s. However, the impacts of erosion on displacement have been enhanced in recent times due to climate change, the development of settlements closer to the sea, and human modification of Ghana’s shoreline and the Volta River basin. A key lesson from this case is while sea level rise is an inevitable consequence of climate change, the associated displacement is not an unavoidable outcome. While the hazards shaping the displacement in Keta are systemic, governance responses to address it has been piecemeal. We recommend far-reaching actions and coordination from the local, bilateral, regional and international levels to address the displacement in Keta.</p> <p>This research contributes to an improved understanding of the complex relationship between climate change, systemic disaster risk, and forced mobility. By highlighting the case of Keta, Ghana, it underscores the importance of adopting holistic and proactive approaches to disaster risk reduction and climate change adaptation. Policymakers, practitioners, and stakeholders must recognize the interconnected nature of hazards and prioritize addressing the underlying drivers of climate-forced mobility to foster resilient and sustainable communities.</p> |
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| <p>Localizing disaster risk reduction strategies: humanitarian assistance, all-hazards approach, and Inclusivity in DRR (2) Chair: Sebastien Boret</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| Localizing Disaster and Humanitarian Response in Western contexts – the Disaster in the Ahr Valley in Germany 2021 | Cordula Dittmer | Disaster Research Unit (DRU) | In the recent decade, decolonization and localization has been discussed widely in humanitarian aid not only in light of the World Humanitarian Summit 2016 and the Grand Bargain but also in research (Glennie and Rabinowitz 2013, Cunningham 2017; Good et al. 2015; Kahn and Cunningham 2013). In general, it is agreed upon that DRR and addressing disasters and humanitarian emergencies are and should involve or even be in the responsibility of the local communities supported by the international humanitarian community. |

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| | | | <p>In practice, the coordinating role of local actors supported by international organizations and not the international community itself is very much debated and not always welcomed because the local actors need the capabilities to provide the necessary coordination, personnel, and resources – and also has to be on the same “political agenda” (Dittmer and Lorenz 2021). An important cause discussed as source of failure of localization processes is the standardized operational culture in humanitarian aid in which the inclusion of the context—i.e., the local socioeconomic, political, and cultural structures—is often ignored, even though this is repeatedly claimed in current debates on localization and decolonization (Dany 2014; Hindmann and Fechter 2011; Schuller 2016).</p> <p>In our presentation we suggest to not only debate localization in the context of Global South and humanitarian aid but to transfer it to the Global North, where DRR measures should also be implemented with the involvement of local communities according the SFDRR. In a case study of the management of the flood events in 2021 in the heavily affected Ahr valley in Germany the interaction of external disaster management units with elaborated operational capabilities and local communities came up: In disaster affected villages, some of which were cut off from the outside world for a few days, local crisis management structures based on local communities were established to manage the situation and were quite successful in doing so. When the first external disaster response forces reached the villages, they were not prepared for such well-functioning structures with the result of “frictional encounters” (Björkdahl et al. 2016: 4).</p> <p>In our presentation we conceptualize this situation with the concept of frictions, that are defined as unplanned development at the operational level that run counter to the actual programmatic ideas, plans, and approaches of non-local disaster management organization. Frictions can always occur when different concepts, practices, or actors on different levels interact. The result of this encounter is unpredictable: “Frictions thus tends to change facts on the ground as it creates new and messy dynamics, agencies, and structures as well as unexpected coalitions” (Björkdahl and Höglund 2013: 295). In one village of the Ahr valley the external disaster response forces subordinated to the local staff structures with can be conceptualized as an in-situ “localization”. In conclusion, we argue that such localization experiences need to be reflected in disaster preparedness and disaster (risk) management as well as on community levels not only in the Global South but also in the Global North to meet the requirements of the SFDRR.</p> |
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| | Swati Sharma | | <p>India is vulnerable to a variety of catastrophic events and an extensive Disaster Risk Reduction (DRR) apparatus has been developed at the national, state, and district levels. As a national policy on disaster management, the DM Act 2005 is complemented by various policies and plans. Currently, India's Disaster Management is focused on reducing disaster risk following the adoption of the Sendai Framework of Disaster Risk Reduction (SFDRR) 2015-2030. Additionally, the Indian Government is working towards achieving the Sustainable Development Goals (SDG) 2015- 2030. It is imperative to note that both the SFDRR global targets and SDG global targets share common indicators. Consequently, this study examined how India's national and state Disaster Risk Reduction policies address the sustainable livelihood needs of tribal women. This case study is based on Keonjhar, a multi-hazardous district with a substantial tribal population and a higher female sex ratio than the national and state averages.</p> <p>Currently, the majority of literature focuses on DRR aspects and sustainable livelihoods separately. Therefore, this study contributes to the literature concerning the convergence of SFDRR and the SDGs from a feminist perspective, focusing on tribal women's sustainable livelihoods. To ensure triangulation, data was collected in two ways. The primary data was collected through semi-structured interviews, and secondary data was gathered by reviewing documents. SFDRR provides the theoretical framework for this study, and the results and discussion chapters have been organized chronologically according to four SFDRR priorities.</p> <p>The study highlights that these tribal women dominate the socioeconomic profile in Keonjhar, thus making it crucial to understand whether the DRR policies reduce their vulnerability to disasters and enable them to achieve sustainable livelihoods. Due to their intersectionality, these tribal women face multiple livelihood issues. Various factors affecting their vulnerabilities include extreme weather conditions, financial illiteracy, gender-defined roles, high dependency on nature, lopsided implementation of policies, and lack of ownership rights. The study indicates that both the government and the community face a variety of issues when implementing the policies on the ground. Moreover, it even gives various recommendations to improve the current status of policymaking and policy implementation.</p> <p>In summary, this study argues that both the SFDRR and SDGs can be achieved by applying a holistic disaster governance framework and applying a feminist perspective to address the root causes of vulnerability, thereby reducing disaster risks to tribal women's livelihoods.</p> |
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| <p>All-hazards Approach: from a conventional risk management framework to a comprehensive risk management framework</p> | <p>Takako Izumi</p> | <p>IRIDeS in Tohoku University</p> | <p>The experience of Coronavirus disease (COVID-19) changed our understanding of “hazards” and “disasters.” It was common to focus on natural hazards or disasters in disaster risk management. However, as stated in the Sendai Framework for Disaster Risk Reduction (SFDRR), it is essential to develop and apply methodologies and models to assess disaster risks, vulnerabilities, and exposure to all hazards. The Report of the Secretary-General on Implementation of the Sendai Framework for DRR 2015-2030 emphasized incorporating the full scope of hazards in risk assessment and planning, including environmental, biological, and technological hazards and risks. The current challenge is that a clear model or framework to incorporate all hazards into a single risk management framework is hardly seen. How can it be possible to manage different types of hazard risks – natural, human-induced, technological, biological etc.? A comprehensive approach – an all-hazards approach – was introduced for many years; however, there is a debate about whether such a transformation is necessary or not. In addition, there is no standard definition of an all-hazards approach. This presentation will first introduce the definition of the all-hazards approach; that does not mean we need to deal with and plan for all-hazards, then try to propose a risk management framework based on the all-hazards approach. We plan to implement this approach in local communities in several countries, such as Japan, Indonesia, and Australia to understand the effectiveness of the approach in practice.</p> |
| <p>Disaster preparedness with and for people with disabilities: A preliminary study among communities with physical and cognitive special needs in Aceh, Indonesia.</p> | <p>Sebastien Boret</p> | <p>International Research Institute of Disaster Science, Tohoku University</p> | <p>This research addresses methodologically, theoretically, and practically how to build inclusive and localized disaster preparedness by working collaboratively with people with disabilities, their caregivers, and their representative organizations. Older adults, children, people with disabilities, and other ‘minorities’ represent the most vulnerable groups during disasters. Their needs must be identified and included in disaster prevention, response and recovery. The key to an inclusive approach for the vulnerable group is that this preparation should design ‘with’ them and not only ‘for’ them. Furthermore, disability is a social and cultural construction of impairment and thus needs also to be localized in both our method and theoretical consideration. To address these issues, local and overseas researchers from Japan conducted a preliminary field visit to identify the needs of people with special needs in preparation, response, and recovery from disasters in Aceh, Indonesia, ravaged by the 2004 Indian Ocean Tsunami. If the region became a source of inspiration and knowledge for innovations in disaster studies, policies, and practices on various topics, from infrastructure to disaster education, the question of disability seemed left unaddressed. Filling this gap,</p> |

| | | | <p>this research examines the issue of disaster preparedness and social inclusion among people with disabilities. Its collaborators are people with special needs, their carers (e.g., parents, spouses, relatives, children, etc.), representatives (e.g., NGOs, neighbouring associations) and governmental institutions. This presentation will examine the result of preliminary fieldwork carried out during the summer of 2023. The information collected consists of first conversations with all the collaborators and more informal discussions with the general population. We will discuss how this first step helps us design a large project on the same topics ethically and inclusively. In the long term, this approach will help draw first-hand data and knowledge, improving the development of ‘Inclusive Disaster Risk Management’ and building sustainable, equal, and resilient communities.</p> |
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| <p>Research as a means of capacity building: challenges and options (2) Chair: Nina Baron, Matthias Kokorsch</p> | | | |
| Presentation Titles (if available) | Speakers | Institutions | Abstracts (if available) |
| <p>Research as a means of capacity building: Linking public health monitoring to dialogue-based decision-making.</p> | <p>Joris Haagen</p> | <p>ARQ Centre of Expertise for the Impact of Disasters and Crises</p> | <p>Research-driven dialogue sessions significantly contribute to building disaster-resilient societies by facilitating knowledge sharing, disaster preparedness, and community engagement. These dialogue sessions serve as a focal point for stakeholders to come together, interpret research findings, exchange practical knowledge and developments, share personal and community experiences, formulate policy recommendations and effective solutions, and share promising practices. Dialogue participants include researchers, experts, community members, healthcare professionals, policy makers, and representatives of interest groups.</p> <p>Dialogue sessions invite independent stakeholders to become part of a network that benefits from the diversity of experiences and expertise. Together, they can translate the interpreted research findings into policy advice, practical actions, and solutions. In addition to supporting public health decision-making, this dialectic process aims to nurture a sense of ownership among stakeholders from policy, practice, and science. Furthermore, these dialogue sessions provide valuable opportunities for stakeholders to offer feedback to researchers. It ensures that future data collection efforts remain relevant by addressing potential blind spots identified by the stakeholders and aligning with their needs and priorities.</p> |

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| | | | <p>The present panel contribution describes the design and results of ongoing online dialogue sessions in the Netherlands founded on the abovementioned principles. These sessions have been ongoing for several years and will continue in the coming years. They are part of a nationally coordinated research program initiated to monitor the immediate and long-term public health impact of the COVID-19 pandemic. The current panel contribution will also include critical reflections, as well as a discussion of several challenges and solutions, such as ensuring youth engagement and disseminating knowledge within stakeholder networks.</p> <p>Overall, this methodological approach provides an example for research and capacity building on disaster resilience in small and remote communities – both rural and urban - and explores challenges and solutions that may arise.</p> |
| <p>Rural (disaster) volunteerism during the Swedish wildfires of 2018 and 2021</p> | <p>Kerstin Eriksson</p> | <p>RISE Research Institutes of Sweden</p> | <p>In the summer of 2018, both rescue services and volunteers fought against the extensive wildfires that spread over the northern parts of Sweden. The challenges were many and one of the most obvious was the lack of resources, both material and human.</p> <p>This lack of resources, together with the long distances that characterize the rural northern parts of Sweden, have been highlighted in subsequent evaluations as one of the main reasons for the widespread fires. In the summer of 2021, a wildfire occurred in Finsjö in the south-east of Sweden. This was the first major wildfire in Sweden since the fires of 2018. Also during this fire, resources were lacking and assistance from the local community was needed. The lack of resources in itself can be understood as a consequence of several years of dismantling and centralization of the Swedish fire and rescue service. However, the response from the local communities during the fires was enormous. Local volunteers, spontaneous as well as organized, assisted in firefighting; in providing food and services; in offering shelter for evacuated, and many other things. In disaster research, volunteer activities have often been described as something that “fills the void” when official resources are scarce.</p> <p>This seems to be particularly true in rural contexts. This paper applies a critical perspective on rural disaster volunteerism by framing it as an expression of spatial vulnerability and peripheralization: as something that is performed as a compensatory act in rural areas affected by social dismantling. In other words, both place and politics are central in understanding rural voluntary activity. Inspired by the theoretical</p> |

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| | | | <p>concept geographies of voluntarism, we argue that people make sense of volunteer initiatives in relation to both the place where these activities take place and in relation to the power relations associated with this place. The purpose of the paper is to explore how rural disaster volunteerism intersects with structural conditions of rurality. Understanding this is important for capacity building and in the discussion of how to develop disaster-resilient societies.</p> |
| Capacity building for popular involvement in emergency response | Laurits Rauer Nielsen | Københavns Professionshøjskole | <p>This presentation regards the development of capacity to involve citizens as spontaneous volunteers in emergency response in Denmark. Capacity building is an ongoing process drawing on existing resources in the organisation undergoing the development (Jensen & Krogstrup, 2017, p. 59 p). In this understanding, the project presented is a step on the way in a participatory turn (Strandh, 2019). Emergency response is not a single organisation in Denmark but rather a family of organisations working together in response, which makes this case of capacity building atypical. Police and emergency management organisations are “close relatives” in the family as lead actors in emergency response. Some are more “distant cousins” as emergency management in a wider perspective is done according to a principle of sectoral authority, in principle involving alle public sectors, private and civil society actors. However, the capacity has to be build for the “family” to be able to perform together, rather than for the enhancement of a particular branch of the family. In this context, a capacity building project, understood as the enhancement of the emergency management systems ability to engage citizens as spontaneous volunteers in emergency response (Jensen & Krogstrup, 2017, p. 58 p) has been undertaken as a joint venture by the Danish Red Cross and the University College Copenhagen in the period 2020-2023.</p> <p>The need for capacity building, and the driver of the Danish Red Cross as an actor taking the initiative in this field is based on:</p> <ul style="list-style-type: none"> - The framework for emergency response with spontaneous volunteers in Denmark is not very well-described. - Experience of spontaneous volunteer involvement in emergency response in Denmark is scarce, and there is no systematic capacity building based on the experience so far. - Danish Red Cross is aiming at rebuilding its capacity to contribute to emergency response. |

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| | | | <p>Research contributions in the project is a remedy for the lack of systematic capacity development and systematic collection of experience from relevant Danish cases. The research contributions aim is to establish a firm foundation for the initiatives. and contribute to the development of a best-practice approach for the Danish context, as this must necessarily be developed for each country specifically (Paciarotti & Cesaroni, 2020). The research contributes to proposals on how to integrate spontaneous volunteers, where (that is in which branch of the family) they should be integrated, and who should be the practitioners of involvement.</p> |
| <p>Roles and responsibilities in local government policy narratives on climate change adaption: A Danish case study.</p> | <p>Mikkel Nedergaard</p> | <p>University College Copenhagen</p> | <p>The need to adapt to climate change is increasingly felt across Europe as drier summers and wetter winters continue to expose local communities to climate related hazards.</p> <p>Citizens are often said to play increasingly important role in national and local government policies and practices on climate change adaption. This participatory turn in the governance of risks is evident in how flood risks are managed in Europe (Challies et al., 2016; Kuhlicke et al., 2020).</p> <p>However, despite the good governance intentions there are challenges in finding effective ways to engage citizens as stakeholders in flood risk management, in order words moving from the intensions expressed in policies to everyday planning practices (Thaler et al., 2019a).</p> <p>Studies have pointed to that this is due to a combination of factors such as resource constraints of local governments and differences in objectives of stakeholder groups (Begg, 2018; Thaler et al., 2019b), however resent studies have also pointed to a possible disconnect between the macro-level arguments (i.e., climate change and collective and individual responsibilities) and the micro-level arguments (i.e., roles and responsibilities in flood risk management locally) in how the need for adaptive actions are communicated by local authorities (Snel et al., 2020).</p> <p>We explore this presumed disconnect through a narrative policy framework analysis (Jones & McBeth, 2010; Shanahan et al., 2018) of local authorities climate change adaptation policies and planning practices in two flood prone municipalities in</p> |

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| | | | <p>Denmark. We study what values or beliefs that underpin the arguments for narratives of citizen engagement and how this is transferred or not into policy and planning practices. Denmark might here form a special case as there is a strong tradition for stakeholder engagement as well as emphasis on private responsibilities in the legislation governing flood risk management (Baron, 2020).</p> |
| <p>Adaptation mechanisms and actions to climate disasters among Internally Displaced Persons (IDPs) living in camp settings: A Ugandan case study</p> | <p>Patience Oputan</p> | <p>Deltares NL</p> | <p>There are about 82.4 million forcibly displaced people globally, and among those, 55 million are internally displaced people (IDPs) who live in the temporary or permanent settlement camps as a result of climate disasters. However, there is limited evidence on the interventions that have been done for internally displaced people on adaptation and settling into their new camp dwellings given that most times, they are not the most suitable and are prone to climate hazards. This study assessed the adaptation mechanisms on the health and access to Wash services of internally displaced people in Uganda. These were strategies that were adapted by both the internally displaced persons and the implementing partners within the camps.</p> <p>Methods This was a descriptive cross-sectional study, where 15 key informant interviews, 14 focus group discussions and 15 in-depth interviews were conducted in 3 IDP settings in Uganda. The Issues that we explored were themed from the individual and community approach of what has been done and what can be done in the interventions of the IDPs health and wellbeing and their access to Wash services. Data was analysed qualitatively using the Nvivo software into thematic adaptations that were behavioural and sectoral.</p> <p>Findings IDPs had promising interventions done to adapting into the camps. Access to health management structures and advocating for non-government organisations was prioritised. Individual/household interventions were integrated with the communal adaptation to achieve a desired goal. IDPs utilised the use of the safe water chain strategy, setting up camp leadership committees, getting involved in income generating activities, protection services, health promotion and education, healthcare management, and selecting representatives who could advocate for their health and well-being to request support and exercise their rights, setting up early warning systems, psychological rehabilitations, disease surveillance, and sustainable water</p> |



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| | | | resource management. Conclusion Despite resource shortages, the IDPs adapted by setting up techniques for managing their affairs using available resources, finding innovative ways to cater for themselves, advocating for their needs, and supporting each other. These observations showed how displaced populations can be active actors in their change and development if basic and essential management support is provided. Engaging IDPs in camp management could reduce long-term dependency on humanitarian aid. |
| Contemporary organisational resilience research through the 'temporary adaptive capacity' concept | Jacob Taarup | | |
| Children as agents of change in the face of the climate crisis Chair: Funda Atun | | | |
| Speakers | Panel Abstract | | |
| Children | | | |

Extra and Side Events

Several side-events are occurring before, during, and after the NEEDS Conference. We encourage you to [visit the conference website to learn more](#). Note that many of these events **require registration**, so please be sure to register for all events that interest you.

| Pre-Conference | | | |
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| <i>Event Name</i> | <i>Description</i> | <i>Location / Time</i> | <i>Registration / Links</i> |



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| <p>Opening Langezijds: ITC's New Home on Campus</p> | <p>Join the official celebration of the ITC's new home to mark a milestone in the University's journey towards a more sustainable future. Join the UT community with coffee and tea, hear from staff and students about how the faculty and university work on the energy transition, sustainable agriculture, food security and geohealth, and welcome outgoing minister Liesje Schreinemacher.</p> | <p><i>When:</i> Wednesday 25 October, 13:15 - 16:00</p> <p><i>Where:</i> University of Twente, Langezijds building</p> | <p>To register, visit: https://www.itc.nl/about-itc/Forms/Registration_form_Official_Opening_ITC/</p> |
| <p>Humanitar Cafe (Organized by the Red Cross and KUNO)</p> | <p>A discussion addressing the goals and bottlenecks that NGO's want to bring to the COP. During this event, Klaarte Docters van Leeuwen (Red Cross), under Chatham House Rule will facilitate a discussion between participants and speakers Fleur Monasso (Manager Capacity, Strengthening and Partnerships as the Red Cross Climate Center), Rosa van Driel (Policy Advisor Climate Justice at CARE), and John Ede (Present Ohaha Family Foundation (Nigeria), dealing with climate induced disasters). Drinks, bites, and networking will follow.</p> | <p><i>When:</i> Thursday 26 October</p> | <p>Email kuno@kuno-platform.nl to learn more and register.</p> |
| <p>Pandemic and Disaster Preparedness Center (PDPC)</p> | <p>This annual conference and poster presentation focuses on themes of</p> | <p><i>When:</i> Monday 30 October</p> | <p>For more information and registration,</p> |



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| Congress 2023 | water/climate related disasters and preparedness, impact on society and/or societal resilience, and crossovers between water/climate related disasters and pandemics. | <i>Where:</i> Utrecht, NL | visit: https://www.aanmelder.nl/pdpc/wiki/921610/programme |
| During the Conference | | | |
| <i>Event Name</i> | <i>Description</i> | <i>Location / Time</i> | <i>Registration / Links</i> |
| Poster Session & Drinks | Enjoy a drink, socialize with other conference attendees, and tour posters submitted by NEEDS Conference attendees to learn about more interesting research topics and findings not otherwise covered in the panel sessions. | <i>When:</i> Wednesday, November 1, 17:00 - 18:00 <i>Where:</i> ITC Building Langezijds (First floor, Cluster 3) | For more information, visit: https://www.utwente.nl/en/needsconference/posterpresentation/ |
| Women's Cafe (Tentative) | A coffee table discussion on 'Women in STEM,' where women scientists attending the NEEDS conference can meet and discuss their role towards 'One Health' and 'Early Warning System for All.' | <i>When:</i> Friday, November 3, 9:00 - 10:00 <i>Where:</i> TBD | |
| Excursion 1: Urban Climate Change Adaptation Cycle Shop | We all know how climate change is impacting our urban environment. It is time to start implementing climate change adaptation and mitigation measures! Cycle with us through the city of Enschede to understand green urban infrastructure | <i>When:</i> Friday, November 3, 10:00 - 14:00 <i>Where:</i> ITC Building Langezijds (Hallenweg 8) | To register, visit: https://www.utwente.nl/en/needsconference/excursions/ |

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| | <p>measures that help to enhance biodiversity, deal with urban heat islands, water shortage and flood risks. Koen Wagelaar, expert in green urban infrastructure from the municipality of Enschede, will guide us and explain the details of the implemented measures and explain why they are critical for the city. Future challenges in Enschede and the Netherlands will be the topic of discussion. The tour will also pass by a district that was destroyed by a huge explosion of a fireworks factory in the city in the year 2000. The area has been completely rebuilt and the reconstruction process and design can be an inspiration for other disaster contexts. At the end of the cycleshop we will have an open discussion where we reflect on the measures you have seen. Do you see possible alternatives for the city of Enschede and do you see opportunities for your own hometown? We start at the University (ITC, Faculty of Geo-information and Earth-Observation) where you will be provided with a bicycle. For this “cycleshop” you need to be able to cycle. During the workshop</p> | | |
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| | <p>you will be provided with a lunch and bicycle.</p> <p>Note: There are only 20 spots available for this event, so register soon!</p> | | |
| <p><i>Excursion 2: Rotterdam Urban Resilience</i></p> | <p>Rotterdam is known throughout the world as a city embodying resilience to hardships and unexpected circumstances. What is the story behind Rotterdam’s transition from the industrial heart of the Netherlands immersed under sea levels to a sustainable, inclusive and multicultural metropolis? Join us for a walking tour to experience Rotterdam’s resilient journey with scholars and practitioners. The tour will expose you to diverse sites of technical, societal and cultural resilience and end with a traditional Dutch borrel.</p> <p>Note: There are only 25 spots available for this event, for register soon! Also please note that participants are expected to cover their travel costs to Rotterdam.</p> | <p><i>When:</i> Friday, 3 November, 14:00 - 18:30</p> <p><i>Where:</i> Meet at Rotterdam Centraal</p> | <p>To register, visit: https://www.utwente.nl/en/needsconferen ce/excursions-2/</p> |
| <p><i>Excursion 3: Disastrous Information: Embedding “Do</i></p> | <p>This event examines the question of what the use of geospatial intelligence (i.e., satellite and</p> | <p><i>When:</i> Friday, November 3, 10:30 - 15:30</p> | <p>To register, visit: https://www.utwente.nl/en/needsconferen ce/excursions-3/</p> |

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| <p><i>No Harm” Principles into Innovative Geointelligence Workflows for Effective Humanitarian Action</i></p> | <p>drone imagery combined with AI does to the core principles of the “Do No Harm” humanitarian imperative. It will begin with project presentations on topics such as group privacy in disaster response and regulatory measures to uphold the core principles of humanitarian action, followed by lunch, and concluding with an interactive session on identifying potential harms when using drone technologies for disaster response.</p> <p>Note: This event is free to attend, but registration is required.</p> | <p><i>Where:</i> ITC Building Langezijds (Hallenweg 8)</p> | |
| <p>Warming Up Festival</p> | <p>The Warming Up Festival presents an extensive program about climate justice. During the Warming Up Festival you can visit various locations across Amsterdam for art routes, concerts, talks, films and workshops on climate issues.</p> | <p><i>When:</i> Monday 30 October - Sunday 5 November</p> <p><i>Where:</i> Various locations in Amsterdam, NL</p> | <p>For more information and tickets, visit: www.wearewarmingup.nl/festival</p> |
| <p>Post-Conference</p> | | | |
| <p><i>Event Name</i></p> | <p><i>Description</i></p> | <p><i>Location / Time</i></p> | <p><i>Registration / Links</i></p> |
| <p>First Climate Colloquium with Debra Roberts</p> | <p>A talk by prof. Debra Roberts, title: “Everything you need to</p> | <p><i>When:</i> Wednesday 8 November, 14:00 - 16:00</p> | <p>To register, visit: https://www.utwente.nl/en/sustainability/</p> |

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| | <p>know about climate change - latest findings from the IPCC,” highlighting the key findings contained in the IPCC Synthesis Report for the Sixth Assessment Cycle. She will outline what is required to achieve Climate Resilient Development and a more equitable and sustainable world. She will also critically examine the large gaps between ambition and implementation: what we are doing, and what we should be doing? And what might this mean for our future? The talk will be concluded with a Q&A.</p> | <p><i>Where:</i> ITC Building Langezijds (main entrance hall)</p> | <p>climate-centre/attachments-forms/climate-colloquium-1/</p> |
| <p>Risk & Resilience Festival</p> | <p>This seventh edition of the Risk & Resilience Festival is presented as an interactive setting where you and other participants work on one of the major social challenges of the Netherlands.</p> | <p><i>When:</i> Thursday 9 November</p> <p><i>Where:</i> University of Twente</p> | <p>For more information and registration, visit: https://www.utwente.nl/en/risk-and-resilience-festival/rr-festival/</p> |

This event is hosted and sponsored by the University of Twente Centre for Disaster Resilience



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have made this event possible. Thank you!**