Resilience, understood as “the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions” (UNISDR, 2009), has become the target of numerous ambitious national and international projects.

To accomplish resilience two huge challenges must be addressed: (i) characterizing vulnerabilities and resilience to disasters within existing systems, and (ii) setting priorities for mitigation efforts to improve resilience.

These two tasks must address multiple sources of disasters, multiple pathways for system failure, multiple and cascading interdependencies among a wide array of infrastructure systems, collaborative patterns, transition from disruption to self-organization, and many potential alternative measures to reduce failure risk within and across systems, in the context of ill-defined and multilayered governance structures. Very little knowledge exists as to how to master these challenges, which belong to a largely unexplored area – “the management of disorganization”.

In the Resilience Against Crises and Disasters minitrack we attempt to discover the important issues and “hot” topics that exist in this research area.

Three papers were accepted, each for them addressing important and urgent issues for disaster resilience. In “Measuring Usability in Decision Tools Supporting Collaborations for Environmental Disaster Response”, Holly Ferguson, Sandra Gesing and Jarek Nabrzyski target the fact that tools for decision support in disasters often do not support overall efficient collaborations. This usability gap demands urgent attention and solutions. The first step in this direction is to measure and compare the usability of tools with respect to collaborations across responder teams, including NGOs and digital volunteers. The paper by Ferguson et al. will, no doubt, increase the awareness of usability issues among tool developers.

In “oDMN: An Integrated Model to Connect Decision-Making Needs to Emerging Data Sources in Disaster Management”, Flávio E. A. Horita, Daniel Link, João Porto de Albuquerque and Bernd Hellingrath address another urgent and relevant issue for resilience – actionable information (intelligence) is crucial for disaster resilience, but it remains difficult to collect data of high relevance for information needs and to integrate relevant information into decision-making. Horita et al. present the Observation-aware Decision Model and Notation (oDMN), which connects tasks, decisions, information and data sources. oDMN allows to formally derive information needs from decisions and tasks and determine suitable data sources to better target data collection. It also allows determining the impact of new information on decisions and tasks.

In “How do organizational processes recover following a disaster? – A capital resiliency model for disaster preparedness”, Mihoko Sakurai, Richard T. Watson and Jiro Kokuryo present a model for disaster resilience based on capital resilience with five dimensions – organizational, economic, human, social and symbolic. The model applies the notion of an organization as a capital conversion and capital creation system. Using this capital resilience model they analyze how various municipal governments recreated organizational processes after their destruction in the Great East Japan Earthquake disaster in 2011. A key issue is that when a given capital is destroyed together with its creative organizational processes, communities will attempt to regain resilience by compensating with other dimensions of capital. The paper by Sakurai et al., which has been nominated as best paper to the Electronic Government track, extends the notion of resilience and has the potential to invigorate the way resilience is understood and operationalized.