The study of communication and information system technology specifically for crisis and disaster management has now become a solid research area in its own right. In our increasingly connected world the potential of new technologies to support not only emergency managers, but also the victims and members of the general public, is huge. Designing technologies and systems for everyday use is hard; designing for emergency situations is even harder when we consider the complexities of such a dynamic environment. In this minitrack we discover the important issues and “hot” topics that exist in this research area. 12 papers were accepted, presented over three sessions.

The first session brings together papers concerning social media and information needs. In “Help. The Reality of Social Media Use in Crisis Response: Lessons from a Realistic Crisis Exercise”, Kenny Meesters, Lars van Beek, and Bartel Van de Walle adopt a hands-on approach in simulating social media use in an on-site disaster exercise. The collected data was analysed to uncover the use, impact, challenges and opportunities from both the perspective of responders and the affected community. An empirical approach is also used in Fredrik Bergstrand and Dick Stemmark’s work on “Leveraging Bystander Reports in Emergency Response Work: Framing Emergency Managers Social Media Use”. Using frame analysis they expose the opportunities of using bystander reports to make sense of emergency situations. Although photographic evidence from bystanders provides crucial information, the work also discusses the difficulties in actually using these reports. Continuing in the theme of citizen-provided information the paper titled “An Overview of Public Concerns during the Recovery Period after a Major Earthquake: Nepal Twitter Analysis” by Jaziar Radianti, Starr Roxanne Hiltz, Leire Labaka closely examines tweets from a week after the Nepal earthquake. The authors uncover an important finding that relief organizations need to understand the local culture of their beneficiaries lest a negative sentiment be aroused and that, in general, a social-cultural understanding of the distressed area is needed by relief organizations. In “Experiences in emergency response at the Great East Japan Earthquake and Tsunami”, Yuko Murayama, Jun Sasaki, Dai Nishioka try to identify what sort of information processing was required at the Great East Japan Earthquake. Their findings could provide insights for many other countries regarding natural disaster response.

The next three papers concern modeling and simulation. In “Insights from a Simulation Model of Disaster Response: Generalization and Action Points” Jose J. Gonzalez, Leire Labaka, Starr Roxanne Hiltz, Murray Turoff apply insights from feedback analysis of a simulation model of the management of a landslide disaster that occurred in Norway to other types of disasters. The paper discusses levers, such as policies and training, to decrease the impact of vicious reinforcing feedback loops triggered by the disaster disruption so as to foster learning and sensemaking and, ultimately, improve the management of the disaster. The second simulation paper titled “Modelling Air Pollution Crises Using Multi-agent Simulation” by Sabri Ghazi, Julie Dugdale, Tarek Khadir consider the increasing problem of air pollution and what would happen if industries decided to cooperate to reduce submissions. By applying a neural network, multi-agent system and a game theory approach they are able to uncover the conditions under which this could happen. Frederick Benaben, Matthieu Lauras, Sebastien Truptil, and Nicolas Salatge present “A Metamodel for Knowledge Management in Crisis Management”. This is a well developed and rich metamodel that could underpin new tools to support collaboration between crisis and emergency management actors. To keep our minds firmly focused on what end users want and need, the paper titled “New Vistas for Firefighter Information Systems? Towards a Systematic Evaluation of Emerging Technologies from a Task-Technology Fit Perspective” by Sebastian Schlauderer, Sven Overhage, and Julian Weidinger gives a voice to end-users by reporting on how practitioners see emerging technologies.

The penultimate group of papers concerns communication and collaboration needs in crisis management. Here Adrian Shatte, Jason Holdsworth, Ickjai Lee in their paper “Web-based collaborative
“Document writing for emergency management” describe a useful and innovative solution for improving communication during emergency management through collaborative authorship of reports and documents. In “Understanding communications in medical emergency situations” Lyuba Mancheva and Julie Dugdale investigate the importance of situation awareness in the case of communications between members of a medical team performing cardio-pulmonary resuscitation. The final two papers concern mapping and crisis management. In “Potential of Collaborative Mapping for Disaster Relief: A Case Study of OpenStreetMap in the Nepal Earthquake 2015”, Thiago Henrique Poiani, Roberto dos Santos Rocha, Lívia Castro Degrossi, and João Porto de Albuquerque tackle an important issue for the disaster management community and explains the contribution of Open Street Map from a scientific perspective. Rounding off the group of excellent papers, Milad Mirbabaie, Stefan Stieglitz, and Stephan Volkeri in “Volunteered Geographic Information and its Implications for Disaster Management”, provide a systematic review of the literature and raise issues on data quality and trustworthiness and how to measure them.