ISCRAM2012

Integrative and Analytical Approaches to Crisis Response and Emergency Management Information Systems

9th International Conference on Information Systems for Crisis Response and Management

Morris J Wosk Centre for Dialogue
Simon Fraser University

www.iscram.org/iscram2012

TRACK: Decision Support Methods for Complex Crises

Introduction of the track

One of the major challenges that we face in the preparation for, the assessment and mitigation of a crisis is to handle the inherent complexity and uncertainty: the situation at hand may be influenced by a plethora of interdependent factors, it may develop in many possible ways, and measures that are applied may have diverse consequences. *Uncertainties* are often difficult to assess: although we know that various 'paths of development' and associated outcomes are possible, it is difficult to quantify the associated likelihoods. Nevertheless, when faced with making a decision, somehow multiplicity of possible outcomes needs to be taken into account. Moreover, the problem's *complexity* is increased as decisions (to be) made (at different hierarchical levels or at different times) are interdependent.

In these situations, clearly the need for transparent and well-structured decision support arises. In complex situations, particularly when information from various sources has to be collected and managed, ICT systems have proven helpful. This track explores how tools (e.g., expert systems, databases, visualisations) and methods involving human experts (crowd sourcing, Delphi, MCDA) can be combined to enable better informed decision-making under uncertainty.
More precisely, this special session addresses the following questions.
- In what way can ICT systems support decision-makers in situations of fundamental uncertainty?
- How to "be prepared for the unexpected" using flexible, easily adaptable and adequate methods?
- How to arrive at an informative answer to the decision-makers' questions?
- How to elicit, combine, and quantify uncertainties?
- How to communicate and visualize these uncertainties and their consequences?
- How to revise an answer when new information becomes available?
- How to handle interdependent decisions?

In short, the proposed track investigates how to provide support to decision-makers in complex situations, taking into account the present uncertainties in an adequate manner.

Track topics

- *Robust decision-making*
- *Scenario-based situation assessment and decision support*
- *Quantifying uncertainties and combining different methods of likelihood assessments*
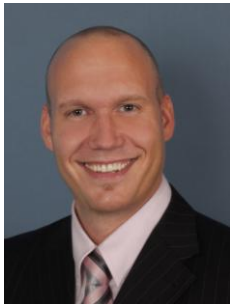
- *Representing and communicating uncertainties and their impact on the results*
- *Description of systems, or applications that incorporate and handle uncertainty*
- *Experiences with working with uncertainty and lessons learned*
- *Methods and techniques for handling uncertainty at different crisis stages, or across crisis stages*
- *Iterative decision-making under uncertainty*
- *Sequential and interdependent decision-making under uncertainty*
- *Information fusion and knowledge integration in uncertain environments*
- *Modelling or planning under uncertainty*
- *Handling new information (re. more / less uncertainty), propagating changes and representing changes*
- *Re-using (uncertain) information from different crisis stages, or across crisis stages*
- *Optimization under soft constraints*
- *Concepts of Reversibility, flexibility and ease of adaptation*

Track Chairs

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Type of submissions

ISCRAM2012 is soliciting three types of submission:

1. Full research papers, which will be double blind peer reviewed. It is intended that these will report completed work which can be assessed to the highest academic standards. Such papers should be no more than 10 pages with figures & tables (~5000 words)

2. Work in progress and discussion paper which will be subjected to a light peer review to ensure clarity. Such papers should be no more than 5 pages with figures & tables (~2500 words)

3. Practitioner reports and discussions which raise issues, examples and case studies of importance in responding to and managing crises. Such paper will be subject to a light peer review to ensure clarity and should be no more than 5 pages with figures & tables (~2500 words)

Note that the designation of the paper and its reviewing will be indicated in the conference proceedings. Also we are not trying to create some concept of first and second quality papers. Rather we are aware that some report finished work which can be assessed in the sense of full peer review and contribution to research, while others offer ideas and thoughts which will stimulate discussion at ISCRAM conferences. The latter are vital if we are to make the conference valuable for shaping our subject. Full papers, work-in-progress papers and poster abstracts will be published in the proceedings.

> **Note that the ISCRAM paper template is available at**
> **www.iscram.org/iscram2012 under the "submissions" tab.**
> **All submissions must conform to ISCRAM formatting guidelines.**

Submission process and deadlines

Authors must submit papers and posters electronically at https://www.conftool.com/iscram2012/. All papers must use the ISCRAM MS Word template for papers. Deadlines for each submission format are listed below:

> **Submission Deadline Schedule for Papers, Posters, and Doctoral Colloquium:**
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> *Full paper submissions* -- November 15th, 2011
> *Work-in-progress paper, practitioner papers, posters* -- January 15th, 2012
> *Doctoral student colloquium papers* -- February 15th, 2012
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> Submission site: https://www.conftool.com/iscram2012/

About ISCRAM:

The ISCRAM Community is a worldwide community of researchers, scholars, teachers, students, practitioners and policy makers interested or actively involved in the subject of Information Systems for Crisis Response and Management. At its annual international conference alternating between the US and Europe, the ISCRAM Community gathers to present and discuss the latest research and developments in this growing area during an interactive and stimulating 3 day program. The ISCRAM Community also organizes an International Summer School for PhD students and ISCRAM-CHINA, an annual conference for ISCRAM research in China. Full information on ISCRAM can be found at www.iscram.org.