ISCRAM2013
Conference Proceedings
Book of Papers

10th International Conference on Information Systems for Crisis Response and Management

Editors:

T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

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ISCRAM Association

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ISCRAM2013 Conference Proceedings – Editorial

Dear Sir/Madam,

It was an honour and a great pleasure for Fraunhofer IOSB and the Karlsruhe Institute of Technology (KIT) to support the ISCRAM community in holding the International Conference on Information Systems for Crisis Response and Management in the Technology Region Karlsruhe from 12 to 15 May 2013, and, in particular, in celebrating its 10th anniversary.

We cordially thank all members of the ISCRAM board, the program and scientific committee as well as the organization team including the student volunteers for their immense effort and time spent to make this conference a success.

Innovations in crisis response and management, by its very nature, require an interdisciplinary and holistic approach, crossing and overcoming the boundary between the scientific and the practitioners' community.

The present proceedings reflect the practical needs against the variety of scientific methods and architectural approaches, also encompassing the chances and challenges offered by the rapid evolution of the Internet towards the integration of Things (Sensor Web), Services and People (social media).

We wish you a pleasant and inspiring lecture and look forward to future joint projects, co-operations and discussions with you on holistic crisis management!

Sincerely,

Jürgen Beyerer and Thomas Usländer, Fraunhofer IOSB

ISCRAM2013 Conference Chair and Co-Chair

Karlsruhe, May 2013

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

3

Conference Welcome on behalf of the ISCRAM Board

Dear ISCRAM2013 Participant,

It is my pleasure to welcome you on behalf of the ISCRAM Association Board to this 10th edition of our ISCRAM conference in Baden-Baden.

At the time I am writing this, less than a month to go before the start of the Conference, at last the many pieces of the complex puzzle that a Conference program is are falling into place. The program has been published, registrations have reached the magic number of 200 since a few days now, and final details are being arranged for the social event and the conference dinner. Now is the proverbial 'silence before the storm' – that almost unreal time when the organizers take a last deep breath before all of us start arriving in the days before the Conference kicks-off on Sunday with the PhD Colloquium and the famously traditional "Belgian Beer" evening.

Needless to say, this is the end point of a long and intense journey. A journey that officially started at the conference dinner in May last year, in Vancouver, when conference chair Professor Beyerer informed us of the venue of the conference, and provided us with a glimpse of what we could expect. Since that day in May, the conference chairs, the program chair and her co-chairs, the track chairs, the PhD Colloquium chair, the workshop chairs, the ISCRAM Events Committee chair, the ISCRAM Academic Publications and Standards Committee chair and numerous others have worked relentlessly to build the program, step by step, month by month. A lot of work has gone unnoticed by most of you who are now reading this Welcome Address, but more than once their efforts were crucial and – as is often the case in an academic community – at a late evening or weekend day when any sane person would rather be enjoying a pleasant evening or a day out. As the Board of the ISCRAM Association, we are extremely grateful for the efforts by so many to bring to us the program that we are about to experience in Baden-Baden. Without your efforts and your enthusiasm, ISCRAM would simply not be where it is today. Thank you.

And so here we are now, ready to join and experience the 10th edition of the ISCRAM Conference. Little could we have known when the very first ISCRAM Workshop was organized in Brussels in 2004, that 10 years later this conference would have visited so many places around the world, alternating between Europe (Brussels, Delft, Gothenburg, Lisbon) and Northern America (Newark, Washington DC, Seattle, Vancouver), annual conferences in China (Harbin and Beijing), summer schools in the Netherlands (Tilburg), and an upcoming first ISCRAM-X event in Vietnam.

The resulting body of knowledge is equally impressive: many hundreds of papers (I should try to count the exact number!) have been published in the various conference proceedings, all of which are totally open and freely accessible to everyone through our iscram.org website. Our review process is rigorous and at the same time relevant, as our reviewers usually take care in their review task to provide authors with useful feedback. I therefore thank all reviewers, and their numbers are in the hundreds, who have done this work voluntarily and diligently to make this ISCRAM conference meet the highest academic standards.

The initial ISCRAM Community has been transformed into an ISCRAM Association in 2009, with a Board that is partially renewed every year at the General Assembly during the Conference. Also this year, some of you have decided to run as a candidate for the Board. I wish you all good luck with the election and I am confident that those who will be elected will continue to shape ISCRAM and work for an even better ISCRAM future.

In conclusion, I am extremely happy to see that ten years after that very first ISCRAM Workshop in Brussels, this global community is more alive and kicking than ever. On behalf of the entire Board, I thank you all for your amazing support throughout those ten years and I wish you another wonderful ISCRAM Conference. Enjoy your time in Baden-Baden!

Kind regards,

Bartel Van de Walle

ISCRAM President

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

4

10th Anniversary of ISCRAM Conferences

At ISCRAM2013, we celebrate the 10th Anniversary of the ISCRAM series of conferences, which started in 2004 in Belgium. ISCRAM stands for "Information Systems for Crisis Response and Management", not limited to any specific type of natural or man-made disaster. When ISCRAM started, it was much influenced by but not limited to nuclear emergencies, and most research was dedicated to the question how IT and in particular decision support systems might help in the management of crises. At that time, there was no organization behind ISCRAM, but a small number of enthusiasts who had a vision and were determined to turn this vision into reality. Some of them are still members of the ISCRAM Board, others have left the ISCRAM family as their professional life turned into other directions.

Looking at the key words that of the Conference Programme in 2005, it may seem as if there has not been much development. One finds "decision support", "complexity and interoperability", "human factors", "training and gaming" and many more, which are in the lists of Tracks for ISCRAM2013. This reflects the continuous effort dedicated to these topics, which are important for crisis response and management. The 2013 Programme also contains many more tracks that emerged over time such as "Social Media", or that are introduced in 2013 for the first time, such as "Humanitarian Relief Logistics", "Visual Analytics for Crisis Management", and "Critical Infrastructures". This clearly demonstrates that our community has been developing and to find answers to new challenges. The development can be also seen in the number of participants. About 100 participants joined ISCRAM2004, but today, we welcome more than 200 participants. The number of papers submitted increased also dramatically resulting in 4 parallel sessions compared to a maximum of two at ISCRAM2005. What has not changed is the overall schedule of the conference with its start on Sunday and ending Wednesday afternoon. However, the Sunday has become more and more challenging with doctoral courses, tutorials and workshops.

In parallel to the conferences, Summer Schools have been set up, and so far five have been completed successfully. Each Summer School focuses on a particular topic providing intense training with hands-on sessions and lectures for some twenty participants over more than a week. Four conferences were also held in China establishing a new branch of ISCRAM activities.

To deal with the growing interest, the ISCRAM Association was formally founded in 2009 as a non-profit organization under Belgian law. It allowed raising member fees and most importantly provided an organizational structure for the many volunteers that have run ISCRAM. The management of the conferences and workshops has become more professional, and the number of committees almost exploded.

One could write much more about ISCRAM and its evolution but I want to refer to the ISCRAM home page (www.iscram.org) and the ISCRAM Newsletters for further reading.

So all is great with ISCRAM now 10 years after its birthday? Definitely ISCRAM is now an established conference with high academic standards and very attractive for research and.... This "and...." is the weak point in the so impressive CV as it stands for "practitioners". From the beginning on, ISCRAM was aiming to attract both researchers and practitioners. Sometimes, this could be achieved but in most cases academia dominated the conference. Several ingenious plans have been developed how to balance the conference and attract more practitioners. The most recent one are the Practitioners' Track and the Panel "Bridging the gap" at ISCRAM2013. From my very personal point of view, the ISCRAM community has to make a decision quickly if the future is directed towards a "purely" academic conference with some remaining hard-core practitioners or if the "Practitioners' Track" becomes more prominent with appropriate support in funding and logistics. It is not a decision of the Board, it is a decision of the Community, and I am curious which direction ISCRAM will select. In any time it will be an interesting one.

Wolfgang Raskob (Local Organizer)

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

5

A Note on the Reviewing Process

The work presented at this year's conference spans multiple disciplines, incorporating a range of methodological approaches and domains of application. To account for this diversity, we invited three types of submissions were for ISCRAM2013:

    1. **Full Research Papers** that present completed research

    2. **Short Papers** in two categories

        Research-in-Progress Papers that report on work in early stages and open up discussions;

        Practitioners' Papers that report on the needs, requirements and state-of-the-art in practice,:

    3. **Posters** that provide short synopses of ongoing work

Review criteria and maximum length of submission differed depending on the type of submission. All submissions were subject to a double-blind reviewing process, as well as to an editorial review by the Track Chair and the Programme Committee.

For Full Research Papers, the reviewers were asked to apply the highest academic standards and rate papers according to the criteria:

- *Contribution:* the paper makes a significant contribution to literature;
- *Originality*: the material presented is new and advances the research in the field;
- *Validity*: the methods and approaches applied are valid, the conclusions are supported by the analysis;
- *Relevance*: the material is relevant and appropriate to the conference;
- *Clarity:* the paper is well written and easy to follow.

The five criteria above contributed 50 % to the overall score. The remaining 50 % of the score was given to the reviewer's holistic judgment on the paper: should it be accepted?

The purpose of Short Papers is to stimulate timely discussion and offer the opportunity for feedback from the conference participants to shape future research, and provide a valuable presentation to the Conference. To acknowledge the different characteristics, we used a less restrictive set of criteria for Short Papers focusing on *Relevance*, *Significance* and *Clarity*.

The Track Chairs played a key role in the review process. They invited reviewers and managed the whole process to ensure that the standards of the ISCRAM Conference series are met. In their meta-reviews, the Track Chairs compared and evaluated the reviews submitted and provided a recommendation to the Programme Committee along with advice to the authors for how to revise their paper. The Program Chair made the final decision varying from acceptance, revision or rejection, in close collaboration with the Track Chairs. To avoid conflicts of interest, the Scientific Committee reviewed papers of Track Chairs separately.

We would like to thank the reviewers, Track Chairs and Scientific Committee members for the effort and dedication to the ISCRAM Conference.

Acceptance rates

The Programme Committee made the following decisions for Papers submitted initially as…

Full Research Papers	Short Papers
43 papers accepted	70 papers accepted
33 papers suggested as Short Papers	23 papers suggested as posters
6 papers suggested as posters	9 papers rejected
8 papers rejected directly	
Acceptance rate of Full Reseach Papers: 48 %	Acceptance rate of Short Papers: 69 %

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T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

6

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Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

7

ISCRAM2013 Scientific Committee

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Proceedings of the 10ᵗʰ International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

8

Elena Tsiporkova
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Julie Dugdale
University of Grenoble, France

Zeno Franco
Medical College of Wisconsin, USA

Simon French
University of Warwick, UK

Tim Grant
Netherlands Defence Academy, The Netherlands

Keynote Speakers

Ortwin Renn

Ortwin Renn serves as full professor and Chair of Environmental Sociology and Technology Assessment at Stuttgart University (Germany). He directs the Stuttgart Research Center for Risk and Innovation (ZIRUS) and the non-profit company DIALOGIK, a research institute for the investigation of communication and participation processes in environmental policy making. Renn also serves as Adjunct Professor for "Integrated Risk Analysis" at Stavanger University (Norway) and as Affiliate Professor at Beijing Normal University.

Hirokazu Tatano

Hirokazu Tatano is an expert in disaster risk management and economic loss assessment. He is a full professor at Disaster Prevention Research Institute (DPRI) and graduate school of Informatics, Kyoto University (Japan). He is currently serving as a vice-president of the international society for integrated disaster risk management (IDRiM Society).

Kimberly Roberson

Kimberly Roberson has more than 15 years working with the High Commissioner for Refugees (UNHCR) in the management of information to provide timely and efficient assistance to populations of concern within the organization. She has an advanced degree from Clark University in International Development and Geographic Information Systems. She has applied this knowledge in a variety of refugee, humanitarian and development situations with extensive work around the globe.

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

9

ISCRAM2013 Tracks Chairs

COORDINATION AND COLLABORATION

Command & Control Studies
Peter Berggren, Björn J.E. Johansson

Crisis Response Coordination
Willem Treurniet, Bartel Van De Walle

Inter-Organizational Exercises and Operations
Dennis Andersson, Magdalena Granåsen

Serious Games for Crisis Management
Theo van Ruijven, Heide Lukosch, Paloma Diaz

CRITICAL INFRASTRUCTURES

Drinking Water Security Management
Thomas Bernard, Olivier Piller

Healthcare Crisis Information Systems
Zeno Franco, Iqbal Ahamed

DECISION SUPPORT

Decision Support Methods and Tools for Holistic Emergency Management
Tina Comes, Valentin Bertsch, Marcus Vogt, Niek Wijngaards

Efficient Planning and Decision Support for Robust Critical Infrastructure Systems
Valentin Bertsch, Tina Comes, Niek Wijngaards, Jutta Geldermann

EMERGENCY MANAGEMENT INFORMATION SYSTEMS

Architecture of Emergency Management Information Systems
Joachim Wächter, Thomas Usländer

Open Standards and Interoperability in Early Warning and Crisis Management Systems
Martin Hammitzsch, Sophia Liu, Elysa Jones, Sara-Jayne Farmer

ELSI: Ethical, Legal and Social Issues of IT Supported Emergency Response
Monika Büscher, Lisa Wood, Rachel Finn, Zeno Franco

Geographic Information Science & Technology for Crisis Response and Management
Brian Tomaszewski, Massimo Messella, Francisco Nobre

Human Experiences in the Design and Evaluation of Services and Systems for Crisis Response and Management
Jens Pottebaum, Ahmed Seffah , Therese Friberg, Karsten Nebe

HUMANITARIAN CHALLENGES

Humanitarian Challenges
Jennifer Chan, Gisli Olafsson, Bartel Van de Walle

INNOVATIONS IN RESEARCH

Innovations in Research Methods
Mark S. Pfaff, Bas Lijnse,

Rapid integrated understanding of disasters: holistic disaster assessments in near-real time
Tina Kunz-Plapp, Friedemann Wenzel, Michael Kunz, Wolfgang Raskob

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

10

INTELLIGENT SYSTEMS

Intelligent Systems
Gerhard Wickler, Julie Dugdale, Serge Stinckwich, Felix Wex

Analytical Modelling and Simulation
Christopher W. Zobel, Mauro Falasca, Gary Fetter

PLANNING AND FORESIGHT

Planning, Foresight and/or Risk Analysis
Murray Turoff, Victor A. Bañuls

Handling frequent emergencies and large-scale crises using new resources and actors
Sofie Pilemalm, Niklas Hallberrg

Planning and Preparing for Emergencies
Thomas Rose, Stephen C. Fortier

SOCIAL MEDIA

Social Media and Collaborative Systems
Starr Roxanne Hiltz, Volkmar Pipek, Linda Plotnick, Kate Starbird

Community Engagement in Crisis Informatics Research
Christine Adler, Zeno Franco, Paul Bledzycki, Tracey O'Sullivan, Syed Ahmed

Visual Analytics for Crisis Management
Vitaveska Lanfranchi, Suvodeep Mazumdar, Andrea Varga

PRACTITIONERS' TRACK

Practitioners' Track
Luc E.T. Rombout, Paul Burghardt

OPEN TRACK

Open Track
Jose J. Gonzales, Ole- Christopher Granmo

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11

Tutorials and Workshops

REVIEWING YOUR OWN PAPER (AND THOSE OF OTHERS)
Chairperson: Tim Grant, founder, Retired but Active Researcher (R-BAR), and Chair of ISCRAM Publications, and Academic Standards Committee.

Almost everyone attending ISCRAM2013 will have submitted a paper, poster or demonstration that has undergone a reviewing process. Whether you are an author, a reviewer, or a track chair, this tutorial is aimed at giving you the knowledge needed to become a better reviewer, both of your own papers and those of others. In 1.5 hours, the tutorial will cover the history, process, products, scientific knowledge on, and known limitations of reviewing, with the help of sample papers, review forms, and reviews. Using the knowledge gained, you should be able to produce better submissions in future to scientific conferences (including ISCRAM), journals and books.

VISUAL ANALYTICS WITH SOCIAL MEDIA FOR CRISIS MANAGEMENT
Tutors:
Dr. Vitaveska Lanfranchi, Suvodeep Mazumdar, Andrea Varga
OAK Group, Department of Computer Science, University of Sheffield, UK
Corresponding Chairperson: Dr. Vitaveska Lanfranchi

A free hands-on tutorial on social media visual analytics for crisis management. The purpose of this tutorial is to look at the main social media platforms and how it is possible to access and manipulate them to visually support analytics tasks. The tutorial is aimed at students, academics and practitioners from the ISCRAM community that want to understand how visual analytics can support crisis management. There is a limit of 20 participants as the tutorial will be hands-on with the tutors actively supporting participants during the tasks. Attendees should bring a laptop computer with them. No prior experience of visual analytics or social media API is needed although familiarity with coding practices will be a plus.

"GDACS MOBILE" – MOBILE APPLICATIONS AND SOCIAL MEDIA IN CRISIS MANAGEMENT
Event Chairpersons:
Prof. Dr.-Ing. Bernd Hellingrath, University of Muenster
Tom de Groeve, PhD, Joint Research Centre of the European Commission
Corresponding Chairpersons:
Adam Widera, University of Muenster
Daniel Link, University of Muenster

In this workshop we will discuss the state of the art and future trends of rapid assessment tools within a hands-on interdisciplinary workshop including a simulation exercise during the ISCRAM conference. It aims at stimulating and intensifying the discussion on current solutions and developments in the area of post-disaster situation awareness by using different mobile technologies (i.e. geo-location tools), data analysis approaches (i.e. standardized assessment procedures) and social media (i.e. tweet analysis).

Panels

ELSI: Ethical, Legal and Social Issues of IT Supported Emergency Response
Monika Büscher, Hayley Watson

Connecting Reality and Research in Humanitarian Response
Moderator: Erik Kastlander

Practitioners' needs - Closing the gap to scientific results
Moderator: Heiko Werner
Panelists: Thorsten Fischer , Peter Kusterer, Jakob Rhyner, Johannes Richert , Gerhard Wickler
Organizers: Tina Weber, Heiko Werner

Proceedings of the 10ᵗʰ International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

12

List of ISCRAM2013 Academic Papers

THEME 01 - COORDINATION AND COLLABORATION

01.01. Command & Control Studies

Full Research Papers

ID: 133

Leading Cats: How to Effectively Command Collectives

Calderon, Ana C.; Hinds, Joanne; Johnson, Peter
University of Bath, UK

ID: 174

Smartphones as an Alerting, Command and Control System for the Preparedness Groups and Civilians: Results of Preliminary Tests with the Finnish Police

Kuula, Jaana (1); Kauppinen, Olli (1); Auvinen, Vili (1); Kettunen, Pauli (1); Viitanen, Santtu (1); Korhonen, Tuomo (2)
1: University of Jyväskylä, Finland; 2: Central Finland Police Department, Finland

ID: 186

Social Media in Command & Control: A proof-of-principle experiment

Grant, Timothy John (1); Jongejan, Peter (2); Geugies, Fred (3)
1: Retired But Active Researchers (R-BAR), The Netherlands; 2: Netherlands Defence Academy, The Netherlands; 3: Ministry of Defence, The Netherlands

Research-in-Progress Papers

ID: 141

Evaluating the real usability of a C2 system – short and controlled vs long and real

Lanfranchi, Vitaveska; Mazumdar, Suvodeep

Department of Computer Science, University of Sheffield, UK

01.02.Crisis Response Coordination

Research-in-Progress Papers

ID: 182

GDACSmobile: Providing More Ground Truth to the Global Disaster Alert and Coordination System

Link, Daniel (1); Hellingrath, Bernd (1); de Groeve, Tom (2)
1: University of Münster, Germany; 2: Joint Research Centre of the European Commission, Italy

ID: 188

Towards an IT Based Platform for Disaster Risks Management in Algeria

Benssam, Ali; Nouali, Nadia; Nouali, Omar

High School of Computer Science, Algiers, Algeria

ID: 212

Towards the Integration of Place-related Information in Disaster Response Processes

Sackman, Stefan; Hofmann, Marlen; Betke, Hans Julius
Martin Luther University Halle-Wittenberg, Germany

ID: 289

Information infrastructure for crisis response coordination: a study of local emergency management in Norwegian municipalities

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

13

Meum, Torbjørg Træland (1); Munkvold, Bjørn Erik (2)
1: University of Agder, Norway; 2: University of Agder, Norway

ID: 292

Impact of the distribution and enrichment of information on the coordination of a human-made fast-burning crisis

Brugghemans, Bert (1); Milis, Koen (2); Van De Walle, Bartel (3)
1: Antwerp Fire Service, Belgium; 2: Campus Vesta; 3: Tilburg University

01.02. Inter-Organizational Exercises and Operations

Full Research Papers

ID: 187

Inter-organizational Collaboration Structures during Emergency Response: A Case Study
Eide, Aslak Wegner; Haugstveit, Ida Maria; Halvorsrud, Ragnhild
SINTEF, Norway

Research-in-Progress Papers

ID: 139

Training exercises for crisis management training in intra-organizational settings

Asproth, Viveca; Borglund, Erik A.M; Öberg, Lena-Maria
Mid Sweden University, Sweden

ID: 140

Training, Testing and Experimentation: A classification of command post exercises

Heumüller, Erich; Richter, Sebastian; Lechner, Ulrike
Universität der Bundeswehr München, Germany

ID: 220

A typology to facilitate multi-agency coordination

Curnin, Steven William; Owen, Christine
University of Tasmania, Australia

ID: 273

Simulating Information Sharing in Crisis Response Coalitions as a Minority Game

Van der Wal, Ariën J. (1); Grant, Tim (2)
1: Netherlands Defence Academy, The Netherlands; 2: RBAR, The Netherlands

01.03. Serious Games for Crisis Management

Full Research Papers

ID: 136

Communication Interface for Virtual Training of Crisis Management

Rudinsky, Jan; Hvannberg, Ebba Thora
University of Iceland, Iceland

Research-in-Progress Papers

ID: 154

Towards a knowledge-intensive serious game for training emergency medical services

El mawas, Nour; Cahier, Jean-Pierre
ICD/Tech-CICO Lab, University of Technolgy of Troyes (UTT) France

ID: 227

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

14

Virtual Reality Training Environment for Tactical Emergency Operations

Ardila, Laura; Perez-Llopis, Israel; Palau, Carlos E.; Esteve, Manuel
Universitat Politecnica de Valencia, Spain

ID: 276

Disaster in my backyard: a serious game introduction to disaster information management

Meesters, Kenny; Van de Walle, Bartel
Tilburg University, The Netherlands

ID: 286

Exploring Shared Situational Awareness using Serious Gaming for Supply Chain Disruptions

Kurapati, Shalini (1); Kolfschoten, Gwendolyn (1); Verbraeck, Alexander (1); Corsi, Thomas (2); Brazier, Frances (1)
1: TU Delft, The Netherlands; 2: University of Maryland, USA

THEME 02 - CRITICAL INFRASTRUCTURES

02.01 Drinking Water Security Management

Full Research Papers

ID: 162

A SaaS-Based Early Warning Information Fusion System for Critical Infrastructure Safety

Foping, Franclin; Dokas, Ioannis
Cork Constraint Computation Centre, Ireland

Research-in-Progress Papers

ID: 219

Monitoring data identification for a water distribution system based on data self-recognition approach

Che, Han; Liu, Shuming
School of Environment, 403,Tsinghua, China

ID: 293

SMaRT-OnlineWDN: Online Security Management and Reliability Toolkit for Water Distribution Networks

Bernard, Thomas (1); Deuerlein, Jochen (2); Korth, Andreas (3); Sedehizade, Fereshte (4); Pillier, Olivier (5); Gilbert, Denis (5); Maurel, Marie (6); Sandraz, Anne-Claire (7); Werey, Caty (8); Weber, Jean-Marc (9)
1: Fraunhofer IOSB, Germany; 2: 3S Consult, Germany; 3: TZW, Dresden; 4: BWB, Berlin; 5: IRSTEA, France; 6: Veolia Environment, France; 7: Veolia Eau d'Ile de France, France; 8: ENGEES, FRance; 9: Service de l'eau de la Communauté Urbaine de Strasbourg, France

02.02 Healthcare Crisis Information Systems

Full Research Papers

ID: 185

Top Health Trends: An information visualization tool for awareness of local health trends

Moon, Sung Pil (1); Liu, Yikun (1); Entezari, Steven O. (1); Pirzadeh, Afarin (1); Pappas, Andrew (2); Pfaff, Mark S. (1)
1: Indiana University - Indianapolis, Indiana, USA; 2: MESH Coalition - Indianapolis, Indiana, USA

ID: 208

A mHealth System for Patient Handover in Emergency Medical Services

Schooley, Benjamin
University of South Carolina, USA

Proceedings of the 10ᵗʰ International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

15

THEME 03 – DECISION SUPPORT

03.01 Decision Support Methods and Tools for Holistic Emergency Management

Full Research Papers

ID: 132

[Sympathetic Decisions: Incorporating Impacts on Others into Emergency Response Decision Spaces](#)

Drury, Jill L. (1); Klein, Gary L. (1); Mathieu, Jennifer (1); Liu, Yikun (2); Pfaff, Mark S. (2)
1: The MITRE Corporation, USA; 2: Indiana University - Indianapolis, USA

ID: 153

[Understanding Humanitarian Supply Chains – Developing an Integrated Process Analysis Toolkit](#)

Widera, Adam; Dietrich, Hanns-Alexander; Hellingrath, Bernd; Becker, Jörg
University of Münster, Germany

ID: 160

[Supporting multi-level situation awareness in crisis management](#)

Stiso, Michael E; Eide, Aslak W; Halvorsrud, Ragnhild; Nilsson, Erik G; Skjetne, Jan H
SINTEF ICT, Norway

ID: 173

[Building robust supply networks for effective and efficient disaster response](#)

Comes, Tina; Schätter, Frank; Schultmann, Frank
Karlsruhe Institute of Technology (KIT), Germany

ID: 178

[Emergent Social Coverage Maps in Urban Electronic Warfare](#)

Jändel, Magnus; Lindquist, Sinna; Luotsinen, Linus
Swedish Defence Research Agency, Sweden

ID: 193

[An Integrated Multi-Criteria Approach on Vulnerability Analysis in the Context of Load Reduction](#)

Münzberg, Thomas; Müller, Tim; Möhrle, Stella; Comes, Tina; Schultmann, Frank
Karlsruhe Institute of Technology (KIT), Germany

Research-in-Progress Papers

ID: 112

[Crisis clever, a system of handling experience of crisis management for providing help to decision maker](#)

Sediri, Mohamed (1); Matta, Nada (1); Loriette, Sophie (1); Hugerot, Alain (2)
1: Université de Technologie de Troyes; 2: Aube Emergency department

ID: 127

[A CBRN Detection Framework Using Fuzzy Logic](#)

Nagy, Ahmed (1); Mkrtchyan, Lusine (2); Van der Meer, Klaas (2)
1: Carnegie Melon University, USA; 2: Belgian Nuclear Research Center, Belgium

ID: 130

[Understanding How Emergency Managers Evaluate Crowdsourced Data: A Trust Game-Based Approach](#)

Tapia, Andrea; Moore, Kathleen; Griffin, Christoper
Penn State University, USA

ID: 230

[Decision support for the location planning in disaster areas using multi-criteria methods](#)

Degener, Philip; Gösling, Henning; Geldermann, Jutta

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

16

Georg-August-University of Goettingen, Germany

ID: 231

[Modeling of countermeasures for large-scale disasters using High-level Petri Nets](#)

Moehrle, Stella
Karlsruher Institut für Technologie (KIT), Germany

ID: 246

[A Decision Support System for effective use of probability forecasts](#)

De Kleermaeker, Simone (1,2); Verkade, Jan (1,3,4)

1: Deltares, The Netherlands; 2: Ministry of Infrastructure and the Environment, Storm Surge Forecasting Service, The Netherlands; 3: Ministry of Infrastructure and the Environment, River Forecasting Service, The Netherlands; 4: Delft University of Technology, The Netherlands

ID: 255

[The early phase of a radiation accident: revisiting thinking on evacuation and exclusion zones](#)

French, Simon (1); Argyris, Nikolaos (1); Nuttall, William (2); Moriarty, John (3); Thomas, Philip (4)
1: University of Warwick, UK; 2: Open University, UK; 3: University of Manchester, UK; 4: City University, UK

03.02 Efficient Planning and Decision Support for Robust Critical Infrastructure Systems

Research-in-Progress Papers

ID: 221
[A collaborative approach to support decision-making in disaster management based on Volunteer Geographic Information (VGI) and Spatial Decision Support Systems (SDSS)](#)

Horita, Flávio; Albuquerque, João Porto
University of São Paulo, Brazil

ID: 240

[Designing dynamic stress tests for improved critical infrastructure resilience](#)

Comes, Tina (1); Bertsch, Valentin (2); French, Simon (3)
1: University of Agder, Norway; 2: Karlsruhe Institute of Technology, Germany; 3: University of Warwick, UK

ID: 244

[Decision Support for Critical Infrastructure Disruptions: An Integrated Approach to Secure Food Supply](#)

Münzberg, Thomas (1); Berbner, Ulrich (2); Comes, Tina (1); Friedrich, Hanno (2); Groß, Wendelin (3); Pfohl, Hans-Christian (2); Schultmann, Frank (1)
1: Karlsruhe Institute of Technology, Germany; 2: Technische Universität Darmstadt, Germany; 3: 4flow AG, Germany

ID: 291

[A Decision-making Validation Model for Urban Traffic Evacuation](#)

Yuan, Shengcheng; Ma, Yefeng; Zhang, Hui; Liu, Yi
Institute of Public Safety Research, Tsinghua University, China

THEME 04 - EMERGENCY MANAGEMENT INFORMATION SYSTEMS

04.01 Architecture of Emergency Management Information Systems

Full Research Papers

ID: 115

[The Seven Main Challenges of an Early Warning System Architecture](#)

Moßgraber, Jürgen (1); Chaves, Fernando (1); Middleton, Stuart E. (2); Zlatev, Zlatko (2); Tao, Ran (3)
1: Fraunhofer IOSB, Germany; 2: University of Southampton IT Innovation Centre, UK; 3: Queen Mary University of London, UK

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

17

Research-in-Progress Papers

ID: 184

Framework Design for Operational Scenario-based Emergency Response System

Ma, Yefeng; Yuan, Shengcheng; Zhang, Hui; Liu, Yi
Institute of Public Safety Research, Tsinghua University, China

ID: 204

A Novel Architecture for Disaster Response Workflow Management Systems

Hofmann, Marlen; Betke, Hans; Sackmann, Stefan
Martin-Luther-Universität Halle Wittenberg, Germany

ID: 248

Towards a flexible network of sensors

Barthe-Delanoë, Anne-Marie (1); Bénaben, Frédérick (1); Truptil, Sébastien (1); Pingaud, Hervé (2)
1: Ecole des Mines d'Albi-Carmaux, France; 2: Université Jean-François Champollion, France

04.02 Open Standards and Interoperability in Early Warning and Crisis Management Systems

Full Research Papers

ID: 170

Ontologies for Crisis Management: A Review of State of the Art in Ontology Design and Usability

Liu, Shuangyan (1); Brewster, Christopher (1); Shaw, Duncan (2)
1: Aston University, UK; 2: University of Warwick, UK

Research-in-Progress Papers

ID: 198

Subdivision Codes

Law, Reed Gwillim (1); Hammitzsch, Martin (2)
1: Statoids, USA; 2: GFZ German Research Centre for Geosciences, Germany

ID: 210

Harmonization of Data Formats for Tsunami Simulation Products

Lendholt, Matthias; Hammitzsch, Martin; Löwe, Peter
GFZ German Research Centre for Geosciences, Germany

ID: 238

Solving Interoperability Issues in Cross Border Emergency Operations

Schütte, Frederik (1); Casado, Rubén (2); Rubiera, Emilio (3)
1: antwortING Ingenieurbüro PartG, Germany; 2: Treelogic, Spain; 3: Fundación CTIC, Spain

ID: 271

Sensor Web and Web Processing Standards for Crisis Management

Jirka, Simon; Nüst, Daniel; Benjamin, Proß
52°North Initiative for Geospatial Open Source Software GmbH, Germany

ID: 284

Location Information Interoperability of CAP and PIDF-LO for Early Warning Systems

Wolf, Karl
Vienna University of Technology, Austria

ID: 307

Evaluating the Integrability of the Quake-Catcher Network

Chung, Angela I.; Lawrence, Jesse F.; Christensen, Carl

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

18

Stanford University

04.03ELSI: Ethical, Legal and Social Issues of IT Supported Emergency Response

Full Research Papers

ID: 167

Accelerating emergency response through IT? Technological effects on the management of mass casualty incidents in Germany

Ellebrecht, Nils; Feldmeier, Konrad; Kaufmann, Stefan
University of Freiburg, Germany

ID: 196

Privacy, Security, Liberty: Informing the Design of EMIS

Buscher, Monika; Wood, Lisa; Perng, Sung-Yueh
Lancaster University, UK

Research-in-Progress Papers

ID: 116

Do-it-yourself justice: considerations of social media use in a crisis situation: the case of the 2011 Vancouver riots

Rizza, Caroline (1); Guimarães Pereira, Ângela (2); Chiaramello, Michel (3); Curvelo, Paula (4)
1: European Commission - Joint Research Centre, Italy, TELECOM ParisTech, France; 2: European Commission - Joint Research Centre, Italy; 3: European Commission - Joint Research Centre, Italy; 4: European Commission - Joint Research Centre, Italy

ID: 241

Privacy and ethical implications of the use of social media during a volcanic eruption: some initial thoughts.

Watson, Hayley (1); Finn, Rachel (2)
1: Trilateral Research and Consulting, UK; 2: Trilateral Research and Consulting, UK

ID: 251

Ethical Challenges of participatory sensing for crisis information management

Tarquini, Massimiliano; Morgano, Maurizio
S3Log, Italy

ID: 269

A new Manhattan Project? Ethics and Interoperability in Emergency Response Systems of Systems

Büscher, Monika (1); Bylund, Markus (2); Sanches, Pedro (2); Ramirez, Leonardo (3); Wood, Lisa (1)
1: Lancaster University, UK; 2: Swedish Institute of Computer Science / Royal Institute of Technology; 3: Fraunhofer FIT, Germany

04.04 Geographic Information Science & Technology for Crisis Response and Management

Full Research Papers

ID: 118

Locating Emergency Responders using Mobile Wireless Sensor Networks

Benkhelifa, Imane (1,2); Moussaoui, Samira (2); Nouali, Nadia (1)
1: CERIST Research Center, Algeria; 2: USTHB University, Algeria

ID: 137

Supporting situation awareness on the move - the role of technology for spatial orientation in the field

Johansson, Björn Johan Erik; Hellgren, Charlotte; Oskarsson, Per-Anders; Svensson, Jonathan
FOI, Sweden

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

19

Research-in-Progress Papers

ID: 157

Search and Surveillance in Emergency situations – A GIS based approach to construct near-optimal visibility graphs

Morin, Michael (1); Abi-Zeid, Irène (1); Nguyen, Thanh Tung (1); Lamontagne, Luc (1); Maupin, Patrick (2)
1: Université Laval, Canada; 2: DRDC-Valcartier

ID: 165

Using Wireless Sensor Networks in the Sensor Web for Flood Monitoring in Brazil: Lessons Learned

Degrossi, Lívia Castro; Amaral, Guilherme Gentil do; Vasconcelos, Eduardo Santos Medeiros de; Albuquerque, João Porto de; Ueyama, Jó
University of São Paulo, Brazil

ID: 205

Geospatial Site Suitability Modeling for US Department of Defense Humanitarian Assistance Projects

Clark, Timothy (1); Curran, Richard (2)
1: US Army Geospatial Center, USA; 2: US Army Engineer Research and Development Center

04.05 Human Experiences in the Design and Evaluation of Services and Systems for Crisis Response and Management

Full Research Papers

ID: 106

The Effect of Age on Technology Acceptance among Field Police Officers

Kurkinen, Erkki L
University of Jyvaskyla, Finland

ID: 128

Design of a Process Model for Unmanned Aerial Systems (UAS) in Emergencies

Thamm, Hans-Peter (1); Ludwig, Thomas (2); Reuter, Christian (2)
1: BT Geoconsulting and Mapping, Germany; 2: University of Siegen, Germany

ID: 155

An Interaction Approach to Enhance Situational Awareness and the Production of Anticipatory Actions in Emergency Operation Centers

Arias-Hernandez, Richard (1); Fisher, Brian (2)
1: Simon Fraser University, Canada; 2: Simon Fraser University, Canada

Research-in-Progress Papers

ID: 147

Scenarios + Touchpoints = a Tool for Analyzing Crisis Situations and Designing Management and Rescue Services

Touloum, Karim (1); Idoughi, Djilali (1); Seffah, Ahmed (2); Sabroux, Camille-Rosenthal (2)
1: Applied Mathematics Laboratory - University A. Mira of Bejaia, Algeria; 2: Laboratoire d'Analyse et Modélisation de Systèmes pour l'Aide à la DEcision - Université Paris-Dauphine

ID: 214

Applying ISO 9241-110 Dialogue Principles to Tablet Applications in Emergency Medical Services

Mentler, Tilo; Herczeg, Michael
University of Luebeck, Germany

ID: 258

Design of an Enhanced Interface for Composition of Alert Messages: Methodology and Results

Mulero Chaves, Javier; Parraga Niebla, Cristina

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

20

German Aerospace Center (DLR), Germany

ID: 281

[Using SYnRGY to Support Design and Validation Studies of Emergency Management Solutions](#)

Gagnon, Jean-François (1); Couderc, François (2); Rivest, Martin (2); Banbury, Simon (3); Tremblay, Sébastien (1)
1: Co-DOT laboratory, Université Laval, Canada; 2: Thales Research and Technology Canada; 3: C3 Human Factors Consulting

THEME 05 - HUMANITARIAN CHALLENGES

05.01 Humanitarian Challenges

Full Research Papers

ID: 134

[Meeting the Sphere Standards: a case analysis of earthquake response in China](#)

Bo, Tao (1,2,3); Van de Walle, Bartel (2)
1: Earthqauke Administration of Beijing Municipality, China; 2: Tilburg University, The Netherlands; 3: Institute of Engineering Mechanics, China Earthquake Administration, China

ID: 142

[Context Ontology for Humanitarian Assistance in Crisis Response](#)

Jihan, Satria Hutomo; Segev, Aviv
KAIST - Korea Advanced Institute of Science and Technology, Republic of Korea (South Korea)

ID: 181

[Designing an impact evaluation framework for the collaborative information supply chain in humanitarian crisis response](#)

Meesters, Kenny; van de Walle, Bartel
Tilburg University, The Netherlands

Research-in-Progress Papers

ID: 283

[Community-based Comprehensive Recovery: Closing collaboration gaps in urban disaster recovery](#)

Neef, Martijn; van Dongen, Kees; Rijken, Marijn
TNO, The Netherlands

THEME 06 - INNOVATIONS IN RESEARCH

06.01 Innovations in Research Methods

Research-in-Progress Papers

ID: 117

[ASC Model: a process model for the evaluation of simulated field exercise in the emergency domain.](#)

Duarte, Alayne da Costa (1); Borges, Marcos Roberto da Silva (1); Gomes, Jose Orlando (1); de Carvalho, Paulo Victor Rodrigues (2)
1: UFRJ, Brazil; 2: IEN, Brazil

ID: 145

[Comparing performance and situation awareness in USAR unit tasks in a virtual and real environment](#)

Horsch, Corine (1); Smets, Nanja (1,2); Neerincx, Mark (1,2); Cuijpers, Raymond (3)

1: TU Delft, The Netherlands; 2: TNO, The Netherlands; 3: Eindhoven University of Technology, The Netherlands

ID: 166
[Measuring Collaborative Sensemaking](#)

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

21

Duffy, Tom; Baber, Chris
University of Birmingham, UK

ID: 274

[Understanding crises: investigating organizational safety culture by combining agent modeling and organizational ethnography.](#)

Passenier, David Falco; Mols, Colin Vincent; Bím, Jan; Sharpanskykh, Alexei
VU University Amsterdam, The Netherlands

06.02 Rapid integrated understanding of disasters: holistic disaster assessments in near-real time

Full Research Papers

ID: 206

[Real-time Decision Making in Urgent Events: Modeling Options for Action](#)

Comfort, Louise K. (1); Wukich, Clayton (1); Colella, Brian (1); Voortman, Mark (1); Connelly, Scott (1); Drury, Jill (2); Klein, Gary L. (2)
1: University of Pittsburgh, USA; 2: The MITRE Corporation, USA

Research-in-Progress Papers

ID: 119

[Near Real-Time Forensic Disaster Analysis](#)

Wenzel, Friedemann (1); Zschau, Jochen (2); Kunz, Michael (1); Daniell, James (1); Khazai, Bijan (1); Tina, Kunz-Plapp (1)
1: Karlsruhe Institute of Technology (KIT), Germany; 2: GeoForschungsZentrum Potsdam, Germany

ID: 280

[Adding Secondary Hazard and Ground-truth Observations to PAGER's Loss Modeling](#)

Wald, David Jay
U.S. Geological Survey, USA

ID: 211

[Rapid Aerial Mapping with Multiple Heterogeneous Unmanned Vehicles](#)

Santamaria, Eduard; Segor, Florian; Tchouchenkov, Igor
Fraunhofer IOSB, Germany

THEME 07 - INTELLIGENT SYSTEMS

07.01 Intelligent Systems

Full Research Papers

ID: 143

[Context-Based Knowledge Fusion Patterns in Decision Support System for Emergency Response](#)

Smirnov, Alexander; Levashova, Tatiana; Shilov, Nikolay
St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences, Russian Federation

ID: 168

[Validating Procedural Knowledge in the Open Virtual Collaboration Environment](#)

Wickler, Gerhard
University of Edinburgh, UK

ID: 172

[Crisis Management Using Multiple Camera Surveillance Systems](#)

Rothkrantz, Leon

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

22

TU Delft, The Netherlands

ID: 144

Revealing unexpected effects of rescue robots' team-membership in a virtual environment

Horsch, Corine (1); Smets, Nanja (1,2); Neerincx, Mark (1,2); Cuijpers, Raymond (3)
1: TU Delft, The Netherlands; 2: TNO, The Netherlands; 3: Eindhoven University of Technology, The Netherlands

ID: 229

KIS - A Crisis Team Information System

Pahl, Svend-Anjes; Thiel-Clemen, Thomas
Hamburg University of Applied Sciences, Germany

07.02 Analytical Modelling and Simulation

ID: 151

Autonomous Accident Monitoring Using Cellular Network Data

Görnerup, Olof; Kreuger, Per; Gillblad, Daniel
Swedish Institute of Computer Science (SICS), Sweden

ID: 158

Decision making in humanitarian logistics – A multi-objective optimization model for relocating relief goods during disaster recovery operations

Rottkemper, Beate; Fischer, Kathrin
Hamburg University of Technology, Germany

ID: 163

A System Dynamics Model of the 2005 Hatlestad Slide Emergency Management

Gonzalez, Jose J.; Bøe, Geir; Johansen, John Einar
University of Agder, Norway

ID: 169

ICT Support and the Effectiveness of Decision Making in Disasters: A Preliminary System Dynamics Model

Hiltz, Starr Roxanne (1); Jose J. Cabeza, Gonzalez (2); Murray, Turoff (1)
1: NJIT, USA; 2: U. of Adger, Norway

ID: 216

Optimization Modeling and Decision Support for Wireless Infrastructure Deployment in Disaster Planning and Management

Bartolacci, Michael R. (1); Mihovska, Albena (2); Ozceylan, Dilek (3)
1: Penn State University - Berks, USA; 2: Aalborg University, Denmark; 3: Sakarya University, Turkey

ID: 218

Study on Source Inversion Technology for Nuclear Accidents Based on Gaussian Puff Model and EnKF

Zhang, Xiaole; Chen, Jianguo; Su, Guofeng; Yuan, Hongyong
Tsinghua University, China

ID: 268

Analytically comparing disaster recovery following the 2012 derecho

Zobel, Christopher William
Virginia Tech, USA

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

23

ID: 290

Scheduling Response Operations under Transport Network Disruptions

Wilson, Duncan T; Hawe, Glenn I; Coates, Graham; Crouch, Roger S
Durham University, UK

ID: 294

A systemic process model for humanitarian supply chain management

Santos Lima, Fabiana (1); Hellingrath, Bernd (2); Widera, Adam (2); Buss Goncalves, Mirian (1)
1: Universidade Federal de Santa Catarina, Brazil; 2: University of Muenster, Germany

THEME 08 - PLANNING AND FORESIGHT

08.01 Planning, Foresight and Risk Analysis

Full Research Papers

ID: 105

Case Study on Risk Analysis for Critical Systems with Reliability Block Diagrams

Weyns, Kim; Höst, Martin
Lund University, Sweden

ID: 126

A Cross Impact Scenario Model of Organizational Behavior in Emergencies

Turoff, Murray (1); Banuls, Victor (2); Plotnick, Linda (3); Hiltz, Roxanne (1)
1: New Jersey Institute of Technology, USA,; 2: UPO, Spain; 3: Jacksonville State, USA

ID: 191

Supporting Course of Actions Development in Emergency Preparedness through Cross-Impact Analysis

Lage, Bruno Barboza (1); Bañuls, Victor A. (2); Borges, Marcos R. S. (1)
1: Federal University of Rio de Janeiro, Brazil; 2: Pablo de Olavide University, Spain

Research-in-Progress Papers

ID: 123

Disaster Management: Identifying Problem Domains in Communication

Laakso, Kimmo
Ahma insinöörit Oy / University of Turku, Finland

ID: 225

Natural Disaster's Impact Dynamic Framework

Laugé, Ana; Hernantes, Josune; Sarriegi, Jose M.
Tecnun - University of Navarra, Spain

08.02 Handling frequent emergencies and large-scale crises using new resources and actors

Research-in-Progress Papers

ID: 250

Evaluation of enhanced collaboration between fire and rescue services and security officers

Weinholt, Åsa; Andersson Granberg, Tobias
Linköping university, Sweden

ID: 266

A Framework for "New Actors" in Emergency Response Systems

Yousefi Mojir, Kayvan; Pilemalm, Sofie
Linköping University, Sweden

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

24

08.03 Planning and Preparing for Emergencies

Full Research Papers

ID: 164

Optimal Spatial Partitioning for Resource Allocation in Emergency Management

Kolomvatsos, Kostas; Panagidi, Kyriaki; Hadjiefthymiades, Stathes
University of Athens, Greece

Research-in-Progress Papers

ID: 175

Applying software engineering testing techniques to evaluate emergency plans

Diirr, Bruna; Borges, Marcos
Universidade Federal do Rio de Janeiro (UFRJ), Brazil

ID: 304

Emerging Trends Toward Holistic Disaster Preparedness

Mays, Robin; Walton, Rebecca
University of Washington, USA

THEME 09 - SOCIAL MEDIA

09.01 Social Media and Collaborative Systems

Full Research Papers

ID: 121

Beyond the Trustworthy Tweet: A Deeper Understanding of Microblogged Data Use by Disaster Response and Humanitarian Relief Organizations

Tapia, Andrea; Moore, Kathleen; Johnson, Nicolas
Penn State University, USA

ID: 122

Combining Real and Virtual Volunteers through Social Media

Reuter, Christian; Heger, Oliver; Pipek, Volkmar
University of Siegen, Germany

ID: 129

Extracting Information Nuggets from Disaster-Related Messages in Social Media

Meier, Patrick Philippe (1); Castillo, Carlos (1); Imran, Muhammad (1); Elbassuoni, Shady Mamoon (1); Diaz, Fernando (2)
1: Qatar Computing Research Institute, Qatar; 2: Microsoft Research

ID: 177

The Use of Social Media by Local Government in Response to an Extreme Event: Del Norte County, CA and the 2011 Japan Tsunami

Tyshchuk, Yulia; Wallace, William
Rensselaer Polytechnic Institute, USA

ID: 192

Retrieving and Exchanging of Information in Inter-Organizational Crisis Management

Ley, Benedikt; Pipek, Volkmar; Siebigteroth, Tim; Wiedenhoefer, Torben
University of Siegen, Germany

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

25

Research-in-Progress Papers

ID: 114

Dealing with Information Overload When Using Social Media for Emergency Management: Emerging Solutions

Hiltz, Starr Roxanne (1); Plotnick, Linda P. (2)
1: NJIT; 2: Jacksonville State University

ID: 152

Resilience: Two case studies on governmental social media use for emergency communication

Beneito-Montagut, Roser (1); Anson, Susan (1); Shaw, Duncan (2); Brewster, Christopher (1)
1: Aston University, UK; 2: Warwick University, UK

ID: 159

Tweet4act: Using Incident-Specific Profiles for Classifying Crisis-Related Messages

Roy Chowdhury, Soudip (1); Imran, Muhammad (2); Asghar, Muhammad Rizwan (3); Amer-Yahia, Sihem (4); Castillo, Carlos (5)
1: University of Trento, Italy; 2: University of Trento, Italy; 3: University of Trento, Italy; 4: Centre national de la recherche scientifique, France; 5: Qatar Computing Research Institute Doha, Qatar

ID: 228

Social-media Text Mining and Network Analysis to support Decision Support for Natural Crisis Management

Zielinski, Andrea (1); Middleton, Stuart E. (2); Tokarchuk, Laurissa (3); Wang, Xinyue (3)
1: Fraunhofer Institute of Optronics, System Technologies and Image Exploitation - IOSB, Karlsruhe, Germany; 2: University of Southampton - IT Innovation Centre, Southampton, UK; 3: Queen Mary and Westfield College, University of London, UK

ID: 249

A Fine-Grained Sentiment Analysis Approach for Detecting Crisis Related Microblogs.

Schulz, Axel (1,2); Thanh, Tung Dang (1); Paulheim, Heiko (3); Schweizer, Immanuel (2)
1: SAP Research, Germany; 2: Telecooperation Lab, Technische Universität Darmstadt, Germany; 3: Knowledge Engineering Group, Technische Universität Darmstadt, Germany

ID: 261

Prepare, Manage, and Understand Crisis Situations using Social Media Analytics

Schaust, Sven; Kaisser, Michael; Walther, Maximilian
AGT Group (R&D) GmbH, Germany

ID: 272

Utilizing Community Volunteered Information to Enhance Disaster Situational Awareness

Merrick, David F.; Duffy, Tom
Florida State University Emergency Management and Homeland Security Program, USA

ID: 287

Delay Tolerant Disaster Communication with the One Laptop Per Child XO Laptop

Iland, Daniel Patrick; Voita, Don
University of California, Santa Barbara, USA

ID: 298

A step towards real-time detection and localization of disaster events based on tweets

Dittrich, André; Lucas, Christian
Karlsruhe Institute of Technology (KIT), Germany

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

26

09.03 Community Engagement in Crisis Informatics Research

Full Research Papers

ID:131

[Are Spontaneous Volunteers a Disruption, Resource or Partner? An Introduction for System Developers to Volunteer Roles in Crisis Management](#)

Rogstadius, Jakob (1); Teixeira, Claudio (1); Karapanos, Evangelos (1); Kostakos, Vassilis (2)
1: Madeira Interactive Technologies Institute; 2: University of Oulu

Research-in-Progress Papers

ID: 104

[Power Outage Communications: Survey of Needs, Infrastructures and Concepts](#)

Reuter, Christian
University of Siegen, Germany

ID: 236

[Innovation in Tailored Information Systems Design Through Upstream User Engagement: Passing the Baton in the EnRiCH Project](#)

O'Sullivan, Tracey Lynn; Corneil, Wayne; Kuziemsky, Craig Edward; Lane, Dan
University of Ottawa, Canada

ID: 295

[Advancing Community-Academic Partnerships as a Disaster Response Platform: Exploring Questions of Latency, Connectivity & Interoperability](#)

Franco, Zeno (1); Ahmed, Syed (1); Kuziemsky, Craig (2); Biedrzycki, Paul (3); Kissack, Anne (1)
1: Medical College of Wisconsin, USA; 2: University of Ottawa, Canada; 3: Department of Public Health, City of Milwaukee, USA

ID: 305

[Shaping societal impact: between Control and Cooperation](#)

Messemaker, Manne (1); Wolbers, Jeroen (1); Treurniet, Willem (2); Boersma, Kees (1)
1: VU University Amsterdam, The Netherlands; 2: TNO

ID: 306

[A Structured Equation Model of Collaborative Community Response](#)

Lane, Daniel Edward (1); O'Sullivan, Tracey (1); Kuziemsky, Craig (1); Berkes, Fikret (2); Charles, Anthony (3)
1: University of Ottawa, Canada; 2: University of Manitoba; 3: Saint Mary's University

09.04 Visual Analytics with Social Media for Crisis Management

Research-in-Progress Papers

ID: 183

[PhaseVis: What, When, Where, and Who in Visualizing the Four Phases of Emergency Management Through the Lens of Social Media](#)

Yang, Seungwon; Chung, Haeyong; Lin, Xiao; Lee, Sunshin; Chen, Liangzhe; Wood, Andrew; Kavanaugh, Andrea L.; Sheetz, Steven D.; Shoemaker, Donald J.; Fox, Edward A.
Virginia Tech, USA

ID: 263

[Understanding the Utility of Geospatial Information in Social Media](#)

Robinson, Anthony C.; Savelyev, Alexander; Pezanowski, Scott; MacEachren, Alan M.
The Pennsylvania State University, USA

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

27

THEME 10 - PRACTITIONERS' TRACK

10.01 Practitioners' Track

Practitioners' Papers

ID: 245

[Analysis of a First Responder Exercise: Requirements for Exercise-Support and Simulation](#)

Max, Matthias (1); Sautter, Johannes (2)
1: German Red Cross, Germany; 2: Fraunhofer IAO, Germany

ID: 254

[Interoperability during a Cross-Border Firefighting Operation at the Dutch-German Border](#)

Weber, Benedikt (1); Deckers, Thomas (2); Wilson, Frank (3)
1: antwortING Ingenieurbüro PartG, Germany; 2: Fire Department City of Bocholt, Germany; 3: Veiligheidsregio Kennemerland, Netherlands

ID: 257

[Social Media-Based Event Detection for Crisis Management in the Al Za'atari Refugee Camp](#)

Walther, Maximilian; Kaisser, Michael; Schaust, Sven
AGT Group (R&D) GmbH, Germany

ID: 300

[Quality Analysis After Action Report for the Crowdsourced Aerial Imagery Assessment Following Hurricane Sandy](#)

Munro, Robert; Erle, Schuyler; Schnoebelen, Tyler
Idibon, USA

THEME 11 - OPEN

11.01 Open Track

Full Research Papers

ID: 108

[Tackling Wicked Problems: Suicide in the US Military](#)

Diptee, Darryl Dion
Naval Postgraduate School, USA

ID: 156

[Developing an Incident Response Process Model for Chemical Facilities](#)

Fortier, Stephen C.
George Washington University, USA

ID: 197

[Computerized System to Enhance Situation Awareness: Key Challenges Associated with the Design, Evaluation, and Extension of a Prototype](#)

Javed, Yasir (1); Norris, Tony (2)
1: COMSATS Institute of Information Technology, Abbottabad, Pakistan; 2: Massey University Auckland, New Zealand, New Zealand

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

28

List of ISCRAM2013 Posters

ID: 135

Emergent Behaviour in Hurricane Katrina: Implications for Social Media Technologies in Large-Scale Disasters

Hinds, Joanne; Calderon, Ana; Johnson, Peter
University of Bath, UK

ID: 180

Toponym-based Geotagging and Disambiguation for Social Media on Earthquake and Weather Events

Kitamoto, Asanobu
National Institute of Informatics, Japan

ID: 213

A Configurable Collaborative Web-based Framework for Supporting Inter-Organizational Humanitarian Crisis Situation Assessment

Do, Hong Khanh; Doherty, Brian
European Commission - Joint Research Centre, Institute for the Protection and Security of the Citizen, Italy

ID: 222

Professional integration of spontaneous volunteers in crisis response

Engelbach, Wolf (1); Vollmer, Maike (2) 1: Fraunhofer IAO, Germany; 2: United Nations University, Germany

ID: 226

Classification of mathematical models for emergency logistics management

Goesling, Henning; Geldermann,
Jutta Georg August University Göttingen, Germany

ID: 232

Designing a Simulation Tool for Crisis Warning Impacts: A User-Centered Design Approach

Kluckner, Sigmund; Heintze, Katrin Ellice University of Stuttgart, Germany

ID: 235

SYnRGY: A Realistic Emergency Management Simulation Platform for Training.

Lebel, Bernard (1); Gagnon, Jean-François (1); Banbury, Simon (2); Rivest, Martin (3); Couderc, François (3); Comtois, Jean-Philippe (1); Tremblay, Sébastien (1)
1: Co-DOT, Université Laval, Canada; 2: C3HF Inc.; 3: Thales Research and Technology Canada

ID: 242

Semantic Reasoning for Intelligent Emergency Response Applications

Ongenae, Femke (1); Hristoskova, Anna (1); Tsiporkova, Elena (2); Tourwé, Tom (2); De Turck, Filip (1)

1: IBCN - iMinds - Ghent University, Belgium; 2: SIRRIS ID: 243

ID: 243

Emergencia: A Decision Support Tool for Coordinating Emergency Situations

González-Deleito, Nicolás (1); Tsiporkova, Elena (1); Dedecker, Jessie (2)
1: Sirris, Belgium; 2: AppLaunchLab, Belgium

ID: 247

Challenges and Opportunities in the use of Weibo by the Chinese Government for Earthquake Emergencies

Bo, Tao (1,2,3); Van de Walle, Bartel (2)

Proceedings of the 10ᵗʰ International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

29

1: Earthquake Administration of Beijing Municipality,China; 2: Tilburg University, The Netherlands, 3: Institute of Engineering Mechanics,China Earthquake Administration,China

ID: 252

Dynamic indoor localization and awareness using sensor- networks Rothkrantz, Leon TU Delft, The Netherlands

Rothkrantz, Leon
 TU Delft, Netherlands, The

ID: 253

The Potential of IT-Support for Training Exercises in the Field of Civil Protection

Marterer, Robin; Friberg, Therese; Koch, Rainer
University of Paderborn, Germany

ID:265

Visual Analysis of Social Media Data in Emergency Situations by Aggregating Annotated User Movements

Jäckle, Dominik (1); Bosch, Harald (2); Thom, Dennis (2); Krüger, Robert (2); Keim, Daniel A. (1); Ertl, Thomas (2)
1: University of Konstanz, Germany; 2: University of Stuttgart, Germany

ID: 285

When Facing a Nuclear Threat, What does the Public Expect from Social Media?

Simon, Tomer (1,2); Adini, Bruria (1,2); Aharonson-Daniel, Limor (1,2)
1: Emergency Medicine Department, Recanati School of Community Health Professions, Faculty of Health Sciences, Ben-Gurion University of the Negev, Israel; 2:

ID: 296

Cloud computing and large scale agent based rescue management simulation

Labba, Chahrazed (1); Chine, Karim (2); Bellamine Ben Saoud, Narjès (3)
1: Laboratoire RIADI / ENSI Univ. La Manouba; 2: Cloud Era Ltd; 3: Laboratoire RIADI / ENSI Univ. La Manouba and Institut Supérieur d'Informatique/ Univ. Tunis ElManar - Tunisia, Tunisia

Proceedings of the 10th International ISCRAM Conference – Baden-Baden, Germany, May 2013
T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

30

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T. Comes, F. Fiedrich, S. Fortier, J. Geldermann and T. Müller, eds.

31