ISCRAM2005 CONFERENCE PAPERS

MONDAY, APRIL 18 2005

Keynote speaker**: Jack Harrald** (George Washington University, USA) 1

Keynote speaker: **Dan Power** (Iowa University, USA). 3

SESSION 1: INFORMATION SYSTEMS DESIGN
Chair: Paul Burghardt (DECIS, the Netherlands)

Asynchronous Negotiation and Collaboration of Software Requirements for an Emergency Response Information System: an Empirical Investigation 5
C. Campbell, F. Deek and B. Van de Walle

Design Considerations for Information Systems to Support Critical Infrastructure Management 13
M.M. Chakrabarty and D. Mendonca

Incident Command System: a Developing National Standard of Incident Management in the U.S. 19
S.E. Hannestad

Scaling-up support for Emergency Response Organizations 29
A.H.J. Ooms and R.M. Neef

SESSION 2: KNOWLEDGE MANAGEMENT
Chair: Gerd Van den Eede (VLEKHO Brussels, Belgium)

Shared Use of Information Technology in Emergency Response Work: Results from a Field Experiment 35
J. Landgren

Learning and Renewal Following Threat and Crisis: The Experience of a Computer Services Firm in Response to Y2K and 9/11 43
K. Toelken, M.W. Seeger and A. Batteau

Operational Risk in Incident Management: a Cross-Fertilisation between ISCRAM and IT Governance 53
G. Van Den Eede and B. Van de Walle

SESSION 3: COMPLEXITY and INTEROPERABILITY
Chairs: Julie Dugdale (France) and Erik Jan Dyve (Norway)

Airport Security Complexity: Problems with the Information System Components 61
E. Coskun and J. Hoey

Emergency Decision Making and Metacomplexity 67
S. Streufert

Inter-organizational Issues in ICT, GIS and GSD – Mapping Swedish Emergency Management at the Local and Regional Level 75
J. Trnka, M. Le Duc and A. Sivertun

Enabling Cross-organization Interoperability through Dynamic Directory Integration 83
J.S. Park, Jr. and D. Waxman

SESSION 4: RESEARCH METHODS
Chair: David Mendonca (NJIT, USA)

Integrating Sensemaking and Response Using Planning Operator Induction 89
T. Grant

Formal Modelling and Comparing of Disaster Plans 97
M. Hoogendoorn, C.M. Jonker, V. Popova, A. Sharpanskykh and L. Xu

Patterns of Group Information Seeking in a Simulated Emergency Response Environment 109
Q. Gu and D. Mendonca

Organizational Factors of Robustness 117
I. Boissières and E. Marsden

TUESDAY, APRIL 19 2005

Keynote speaker**: Liz Carver (BAE Systems, UK)** 123

POSTER SESSION
Chair: Benny Carle and Frank Hardeman (SCK-CEN, Belgium)

A Model Describing a Response to a Terrorism Incident 125
G. Eifried

The Application of Quickest Flow Problem in Urban Evacuation Planning 129
P. Lin and S.M. Lo

The Role of IT in Crisis Management Exercising, Training and Planning in Belgian and Dutch Companies: a survey 131
P. Mostert, B. Van de Walle, K. Milis and J. Vandijck

A Prototype Multi-Modal Decision Support Architecture 135
C. Murphy, C. Aquilina and D. Phair

Dynamic Optimisation of the Use of Space Technology for Rapid Disaster Response and Management 139
H. A. Saleh

Design of Enterprise Crisis Predicting System Based on Cluster and Outlier Data Mining 143
S. Yan

Crisis Management Using Mobile Ad-Hoc Wireless Networks 147
B. Tatomir and L. Rothkrantz

An Event-based Task Framework for Disaster Planning and Decision Support 151
A. ter Mors, J. Valk and C. Witteveen

SESSION 5: DECISION SUPPORT SYSTEMS
Chair: Murray Turoff (NJIT, USA)

Critique and Visualization as Decision Support for Mass-Casualty Emergency Management 155
O. Leifler and J. Jenvald

Adaptive Risk-Readiness Decision Support for Infrastructure Protection 161
M. Taylor and R.J. Graves

Decision Support System Emergency Planning, Creating Evacuation Strategies in the Event of Flooding 171
C.J. Windhouwer, G.A. Klunder and F.M. Sanders

Experimental Evaluation of a Critical Thinking Tool to Support Decision Making in Crisis Situations 181
J.M. Schraagen, A. Eikelboom, K. van Dongen and G. te Brake

SESSION 6: TRAINING AND GAMING SYSTEMS
Chair: Usha Satish (SUNY, USA)

Training to Defend: a Multifaceted Approach to All Hazards Preparedness and Planning for Terrorism 191
J.B. McCabe, U. Satish and W. Grant

A PC-Based Virtual Environment for Training Team Decision-making in High-Risk Situations 195
M. van Berlo, R. van Rijk and E. Buiël

A Trainable Information Distribution System to Support Crisis Management 203
M. van Someren, N. Netten, V. Evers, H. Cramer, R. de Hoog and G. Bruinsma

Crisis Planning via Scenario Development Gaming 207
M. Turoff, M. Chumer, X. Yao, J. Konopka and B. Van de Walle

SESSION 7: GEOGRAPHIC INFORMATION SYSTEMS
Chair: Nicolas Lewyckyj (VITO, Belgium)

PARADIS: GIS Tools for Humanitarian Demining 213
S. Delhay, M. Idrissa and V. Lacroix

Satellite Remote Sensing Data for an Alpine Related Disaster Management GIS 221
K. Granica, T. Nagler, M. Eisl, M. Schardt and H. Rott

PEGASUS, a UAV Project for Disaster Management 233
M. Claessens, N. Lewyckyj, J. Biesemans and J. Everaerts

Land-cover Change Effects on Flow Regime of Mara River 237
S.M. Mutie, B. Mati, H. Gadain and P. Home

SESSION 8: NUCLEAR EMERGENCY MANAGEMENT
Chair: Carlos Rojas-Palma (SCK-CEN, Belgium)

Nuclear Emergency Management in Europe: a Review of Approaches to Decision Making 247
E. Carter and S. French

Emergency Management in Europe: Contribution of EURATOM Research 261
N. Kelly

Demands to and Experience with the Decision Support System RODOS for Off-site Emergency Management in the Decision Making Process in Germany 269
W. Raskob, V. Bertsch, J. Geldermann, S. Baig and F. Gering

WEDNESDAY, APRIL 20 2005

Symposium on Early Warning Systems

Keynote speaker: **Paul Currion** (UN) 279

SESSION 9: EARLY WARNING AND RESPONSE: SPECIAL SESSION
Chair: Einar Bjorgo (UN)

Disaster Recovery in Sri Lanka: Tilburg University Student case projects (*Short Communication*) 281
B. Carlé, G. Van Den Eede, A.-F. Rutkowski and B. Van de Walle

Open Advanced System for Improved Crisis Management 283
M. Couturier and E. Wilkinson

Informal Early Warning Systems, the Utility Y2K Experience 287
M. Jennex

Humanitarian Knowledge Management 291
D.J. King

Earthquake Loss Estimates Applied in Real Time and to Megacity Risk Assessment 297
M. Wyss

Land Use/ Land Cover Change by Tsunami 2004 in Thailand: a Case Study at Phi Phi Island, Krabi Province and Ban Num Kem Village, Pang Gna Province 301
(*Short Communication*)
Suthep Chutiratanaphun, Rungsaridh Boonsin, Parida Kuneepong and Julalux Suttirod

Providing an Early Warning System to Prevent transportation Crises and Its Impacts 305
(*Short Communication*)
F. Arzaneh

Keynote speaker: Jan Mees (VLIZ, Belgium) 307

SESSION 10: EMERGENCY ANNOUNCEMENT AND WARNING SYSTEMS
Chair: M. Jennex (San Diego Univ., USA)

A Simple Taxonomy for Mobile Emergency Announcement Systems 309
R. Addams-Moring, M. Kekkonen and S. Zhao

Intelligent SMS as an Effective Public Warning System: the Inspiring Results of a Dutch Pilot Project 317
M.W.B. Eysink Smeets and S. Sillem

Cell@llert, for Government-to-Citizen Mass Communications in Emergencies; "it's about time" 323
M. Wood

Recent Developments in Emergency Telecommunications 327
H. Zimmermann