



ISCRAM 2023

University of Nebraska at Omaha's College
of Information Science & Technology
Omaha, Nebraska, USA

TRACK: Technologies for First Responders

20th International Conference on
INFORMATION SYSTEMS FOR CRISIS RESPONSE AND
MANAGEMENT

*Theme: "Building Humanitarian
Technologies for our Emerging Future +
Building Resilient Societies"*

Workshops and Doctoral Symposium May 28th, 2023
Conference May 28th-31th, 2023

Omaha, Nebraska - USA

The University of Nebraska at Omaha (UNO)

<https://iscram2023.net/>

INTRODUCTION TO THE TRACK

Today's First Responders (FR) are using technology of the past. During their primary mission of saving lives and preserving society's safety and security, FRs face a multitude of challenges. In both small-scale emergencies and large scale disasters, they often deal with life-threatening situations, hazardous environments, uncharted surroundings and limited awareness. Threats and hazards evolve rapidly, crossing municipalities, regions and nations with speed and ease. Armoring public safety services with all the tools that modern technology has to offer is critical. Such tools holistically enhance their protection and augment their operational capacities, assisting them in saving lives as well as ensuring their safe return from the disaster scene.

This track invites novel qualitative and quantitative research, studies as well as use cases presenting technologies for First Responders (fire brigades, emergency medical services, police agencies and civil protection organizations) and describing intelligent, integrated, interconnected and seamless tools & services that add layers of protection against the dangers of their working environment and augment their situational awareness. Contributions on novel tools and services for FRs: 1) for enabling protection of the first responders with respect to their health, safety and security; 2) for enhancing their operational capacities by offering them means to conduct various response tasks and missions boosted with autonomy, automation, precise positioning, optimal utilization of available resources, upgraded awareness and sense-making; and 3) for allowing shared response across first responders' teams and disciplines by augmenting their field of view, information sharing and communication among teams and with victims, are warmly encouraged. The common denominator of this track remains upgrading the capacities of FRs with novel ICT technologies to perform under complex, dynamic and stressful environments that facilitate efficient and collaborative response and ultimately effective decision making.

TRACK TOPICS

The Track's backbone will remain a discussion based upon traditional papers. The Track's chairs, though, shall nominate accepted papers, based on their nature, be them use cases, applications or services featuring the potentials for more interactive presentations and vivid discussions, to be presented in alternative means (e.g., videos, table-top simulated exercises, round table, etc.). The authors are warmly encouraged to state so either when submitting or by the time their papers are accepted. The expected audience should be a mixture of researchers, industry and business actors and first responders. The Track Topic include:

- Search and Rescue and victim detection technologies
- First responder wearables (sensors and applications)
- Pathogens and hazardous gases detection in indoor and outdoor spaces
- Autonomous vehicles (e.g. UAV, UGV, etc.), robotics and automated methods for mapping damaged areas (indoor/outdoor), health emergencies, increasing situational awareness, etc.
- Sensing and modelling of disaster areas
- Protective equipment and detection technologies for First Responders involved in Critical Infrastructure Protection against terrorist attacks using CBRN agents
- Collaborative emergency response systems tools, Incident Management Systems and Command and Control
- Resilient, deployable and reliable communication systems and tools for disaster response (multi-RF, edge computing, critical communications, PAN/LAN/WAN)
- Interoperability of tools, services, applications and Collaboration among FRs
- Heterogeneous sources of information, Data fusion, Expert reasoning and data exploitation and analytics
- Disaster risk reduction, risk management, ad-hoc and sensor networks
- Augmented reality applications and services
- Local positioning and Tracking systems and applications (indoors and outdoors)
- Mobile applications for FRs
- Community engagement in disaster preparedness and response and interaction with the first responders during the SAR operation
- Trial methodologies involving end users for validate and test innovative technology solutions
- Case studies and reflections from practice in daily emergencies, disasters and crises

TRACK CHAIR AND CO-CHAIR

	<p><i>Evangelos Sdongos*</i> ,Chair</p> <p>e.sdongos@astrial.de</p> <p>ASTRIAL GmbH</p>
	<p><i>Angelos Amditis**</i>, Co-Chair</p> <p>A.Amditis@iccs.gr</p> <p>Institute of Communication and Computer Systems</p>
	<p><i>Eleftherios Ouzounoglou**</i>, Co-Chair</p> <p>Eleftherios.ouzounoglou@iccs.gr</p> <p>Institute of Communication and Computer Systems</p>
	<p><i>Petros Daras**</i>, Co-Chair</p> <p>daras@iti.gr</p> <p>Information Technologies Institute</p>
	<p><i>Anastasios Dimou**</i>, Co-Chair</p> <p>dimou@iti.gr</p> <p>Information Technologies Institute</p>
	<p><i>George Boustras**</i>, Co-Chair</p> <p>G.Boustras@euc.ac.cy</p> <p>European University Cyprus</p>
	<p><i>Tiina Ristmäe**</i>, Co-Chair</p> <p>Tiina.Ristmaee@thw.de</p> <p>Bundesministerium des Innern - Federal Agency for Technical Relief</p>

*Corresponding Chair