# Editorial

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**Biographical notes:** Nadia Nouali-Taboudjemat is currently a Director of Research (Senior Scientist) at the Research Centre in Scientific and Technical Information (CERIST) at Algiers. She is the Head of the Theory and Engineering of Computer Systems Department and she leads the Pervasive Computing Group. She received her PhD degree in CS from USTHB University at Algiers in 2007, and before that, she received her Engineer and Magister degrees in CS from USTHB and CDTA Research Center respectively. Her research interests include wireless networks, pervasive/ubiquitous computing, distributed and mobile computing, big data and cloud computing. The ICT-based disaster management particularly interests her.

Aris M. Ouksel is currently a Full Professor at the University of Illinois at Chicago and Director of the Cooperative Information Systems and Organization Research and Services (CISORS) Lab. He received his MSc in 1981 and his PhD degrees in Computer Science from Northwestern University in 1985. His research interests and contributions include business intelligence, big data/analytics, and smart pricing; operations and supply-chain management; organisational learning and performance; semantic interoperability and dynamic systems and their application to forensics, to cybersecurity, and to virtual inter-organisational information systems; mobile computing and wireless sensor networks; and peer-to-peer data management.

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Advances in information and communication technologies (ICT) have increased their usefulness in many application domains and, in particular, their potential in supporting crisis response and disaster management. ICT ease continuously the interaction between individuals and organisations by overcoming spatial/temporal barriers, and thus enabling effective prevention, preparation, response and recovery.

Disaster management activities generate large volumes of information and data whose effective use requires relevancy, accuracy and just-in-time availability. This special issue presents only a sample of the current state of research in data management and analysis to support these requirements.

The article 'Thermal infrared geostationary satellite sensor data application for prediction and monitoring earthquake in Algeria' investigates remote sensing and proposes a method to depict earth anomalous increases in surface temperature prior to an earthquake. It discusses a case study on earthquake events in a region of Algeria using on-the-field data.

The next two articles 'Designing security policies for complex SCADA systems management and protection', and 'The use of RFID tags to support the post-disaster recovery of utility infrastructure' deal with protection issues of critical infrastructures to ensure recovery after major disastrous events. The first one focuses on cyber-security protection by integrating automatic security policy generation. As a proof of concept, the authors present the case of the frame of the ICT infrastructure for petroleum supply. The second one illustrates the use of ICT to geospatially map the facilities of smart and IT-enabled infrastructure in order to locate them quickly for disaster recovery.

The article 'Adaptive data collection approach based on sets similarity function for saving energy in periodic sensor networks' addresses issues of vital data collection during the various phases of disaster management. It proposes an approach to preserve energy in order to maintain the sensor network operations.

The article 'From spatial data warehouse and decision-making tool to SOLAP generalisation approach for efficient road risk analysis' proposes a decision tool to enhance prevention, and thus improve safety, through analysis of traffic accidents. A geographic information system is used as the core of the decision-making tool.

Despite the multitude of studies in disaster management, there remain a lot of research issues to investigate in order to improve responsiveness. The continuing advances in ICT provide us with opportunities to address new challenges and to review the old ones.