Editorial

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This issue contains four articles coming from various countries, namely the UK, Canada, the USA and Greece. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the editorial board members and external reviewers. We take this opportunity to thank them for their great support and cooperation. This issue includes papers on technologies to monitor normal and emergency conditions in complex systems, training systems, and human and environmental (maritime) risk assessment systems together with emergency response and human factors involved in safe operation, communication of risk, and related legal aspects. They all propose a tool/methodology to assist operators perform their duties.

In the paper 'The challenge of quantifying and modelling risk elements within collaborative infrastructures', the authors discuss the rapid integration and dependence on information and communication technologies (ICT) within various industries, and demonstrate that while ICT has evolved quickly, solutions that attempt to identify issues and model large complex networks have failed to evolve at the same pace. In their paper, they summarise the challenges and vulnerabilities that impact collaboration, and review significant risk elements that impede systems-of-systems (SoS), including existing solutions and methods that attempt to quantify risk outlining their current and future work.

The paper 'A multicriteria risk measure in a military context: application to the Commander's Advisory System for Airspace Protection case' describes a multicriteria approach in an attempt to integrate an operational procedure of risk assessment into the Canadian Forces' planning process. This approach is based on the identification of indicators and risk-related influence factors. The resulting procedure was applied to a real case, namely that of the Commander's Advisory System for Airspace Protection (CASAP) decision support system.

The aim of the paper 'Linking causal factors and the human element in maritime accidents using K-means clustering' is to investigate how a series of different factors are coexisting in shipping accidents. The authors do so by systematically reviewing reports from shipping accidents that are publicly available from the official European Maritime Safety Agency (EMSA) website. Their results indicated that human factors often coexist with parameters related to the condition of the ship and other external factors, offering better insight into the understanding of underlying factors so that measures can be taken to prevent future events.

The objective of the paper 'Bayesian network to predict environmental risk of a possible ship accident' is to increase maritime safety in the Aegean Sea so as to minimise environmental and other impacts. The authors have created a probabilistic model to predict the frequency and induced risk of possible ship accidents in the Aegean Sea

taking into account two types of accident scenario, the collision and the grounding. By using the Bayesian networks methodology, the model takes into account the static information of the vessel, namely the vessel type, size, age and flag. The training of the network was performed using the data of the historical accident database of the Marine Rescue Coordination Centre in Greece. The applicability of the method has been demonstrated on two sample cases.