Editorial

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Biographical notes: Roberto Setola has been the Head of the Complex System & Security Lab of University of Rome CAMPUS BioMedico and the Director of the Master in Homeland Security since 2004. Before, he served at the Italian Prime Minister's Office as Coordinator of the working group on Critical Information Infrastructure Protection (CIIP). He is Secretary General of the Italian Association of Critical Infrastructures' Expert (AIIC) and member of several societies involved in CIP. His research interests include modelling and control of complex systems and CIP/CIIP. He has been the Coordinator of EU-financed project 'SecuFood'. He is the Author of three books on modelling and simulation, Editor of two books on CIIP, Guest Editor of three special issues related to security topics and Author of more than 100 peer reviewed papers.

Stefan Geretshuber is a Senior Consultant and Scientist at IABG mbH, Germany in the field of Information Security and Critical Infrastructure Protection (CIP). Since receiving his Master in Systems Engineering, he was involved in notable research projects mainly in the field of CIP. At last he accounted the EU FP6 research project 'IRRIIS' dealing with 'Integrated risk reduction of information based infrastructure systems' at IABG. His research interests include the design and development of distributed simulation systems for interdependent critical infrastructures and security related interoperability and system architecture aspects of SCADA and other distributed process control systems.

This special issue follows the footsteps of CRITIS'08 (3rd International Workshop on Critical Information Infrastructures Security) which was held 2008 in the suggestive location of Villa Mondragone near Rome (Italy). In the same rooms where Pope Gregorius XIII issued the Gregorian Calendar that has given time a new flow in 1582, more than 150 security experts worked together for a better protection of critical infrastructures. They gave a new impetus to the new discipline called critical infrastructure protection (CIP).

During the meeting the participant were faced with complex problems of CIP lasting from aspects of interdependencies models to problems of cyber-vulnerability and from

methods for crisis management to the development of self-protecting systems. The most interesting aspect of the meeting has been on the one hand the research for the right questions (meaning properly characterising the field of research) and on the other hand the attempt to give the first concrete answers for the real needs (meaning shaping methodological and operative approaches able to operate correctly and effectively). In this context, the special issue aims to be a roadmap of the main research fields that today build the center of CIP and also an illustration of some of the solutions that are currently being under development.

The work of Luiijf et al. introduces an empirical approach to the identification of interdependencies at the European level. The work of Flammini et al. instead proposes an approach based on the use of more formalisms for the models of interdependent infrastructures. The need of finding more paradigms for modeling in order to consider all the different and numerous aspects of the interdependence problem lays at the basis of the work of Setola, that focuses on the question: 'How interdependent are two or more infrastructures?'. Setola's work proposes a metric scheme to quantify this important and hard to quantifiable concept.

Casalicchio et al. discuss the problem how to simulate complex scenarios considering the interdependencies of multiple heterogeneous infrastructures. Marchei et al. instead deal with managing the complexity of these infrastructures with reference to the problems related to the generation and distribution of electric power.