

Critical Infrastructure Preparedness and
Resilience Research Network



Master Class 2 on Modelling, Simulation and Analysis of Critical Infrastructures (CI)



ENEA (Italian National Agency for New
Technologies, Energy and Sustainable
Economic Development)
Headquarters

Rome, November 11–13, 2015

www.ciprnet.eu

The Master Class is jointly organised by:
University Campus Bio-Medico of Rome and
ENEA



Programme

11 November

9:30 – 10:00	Taking seats	
10:00 – 10:10	V. Rosato (ENEA)	Welcome
10:10 – 10:50	E. Rome (Fraunhofer)	Introduction to CIPRNet
10:50 – 11:30	M. Theocharidou (JRC)	From critical infrastructure (CI) protection to critical infrastructure resilience
11:30 – 12:10	E. Luijff (TNO)	Simulation of (CI): relevant applications
12:10 – 12:30	Coffee break	
12:30 – 13:10	M. Eid (CEA)	Principal modelling techniques: applications and limitations
13:10 – 13:50	R. Setola (UCBM)	Modelling and investigating dependencies of CI
13:50 – 15:00	Lunch	
15:00 – 15:40	J. Marti (UBC)	Phenomenological approaches to simulate system of systems
15:40 – 16:20	J. Voogd (TNO)	Introduction to federated simulation
16:20 – 16:40	Coffee break	
16:40 – 17:20	J. Voogd (TNO)	Verification and validation techniques
17:20 – 18:00	R. Kozik (UTP)	Cyber threats to CI

12 November (morning)

9:30 – 10:00	Taking seats	
10:10 – 10:40	E. Rome (Fraunhofer)	Modelling, simulation and analysis techniques for CIP
10:40 – 11:20	M. C. de Maggio (UCBM)	Introduction to Decision Support Systems
11:00 – 12:00	M. Pollino (ENEA)	Geographical information systems for visualisation and analysis
12:00 – 12:20	Coffee break	
12:20 – 12:40	A. Tofani (ENEA)	Platforms for Large & Complex Scenarios
12:40 – 13:00	V. Rosato (ENEA)	An overview on CIPRNet DSS design
13:50 – 15:00	Lunch	
14:00 – 14:40	A. Zijderveld (Deltares)	Events prediction and environmental sensing

Programme

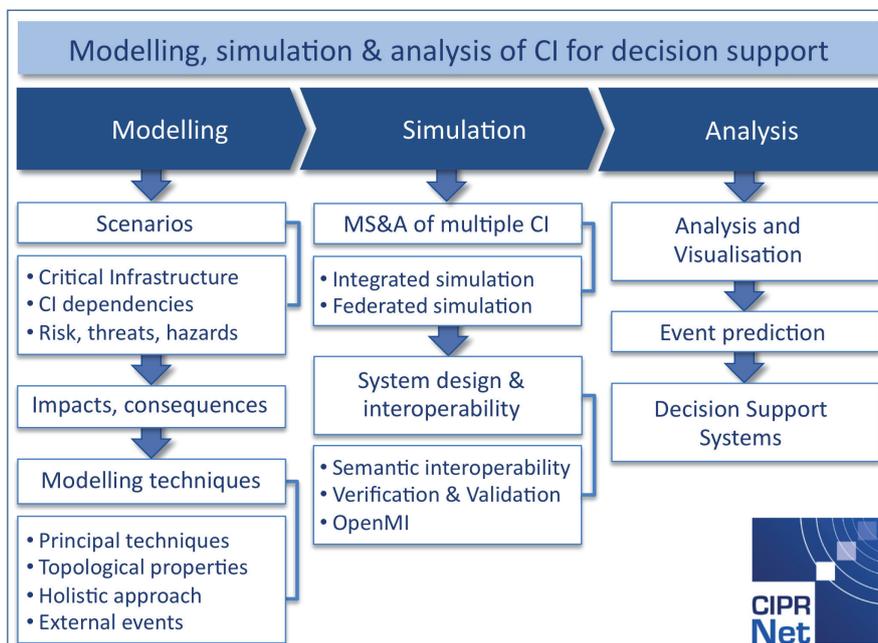
12 November (afternoon)

14:40 – 15:20	M. Pollino (ENEA)	Risk analysis tools for events and damages simulations
15:20 – 15:40	Coffee break	
15:40 – 16:20	A. di Pietro (ENEA)	An Electric-SCADA based model to implement reconfiguration procedures in Electric Distribution grids
16:20 – 16:40	A. Tofani (ENEA)	Application of system of systems model for long term impacts analysis in large scenarios
16:40 – 17:00	V. Rosato (ENEA)	Consequence Analysis and applications for supporting operator's decisions

13 November (morning)

9:00	Bus shuttle to UCBM from ENEA Headquarters	
10:00 – 10:30	Taking seats	
10:30 – 12:00	ENEA	DSS: Hands-on exercises
12:00 – 12:20	Coffee break	
12:20 – 14:00	ENEA	DSS: Hands-on exercises
14:00 – 15:00	Lunch	

Conceptual map of topics in modelling, simulation and analysis of CI

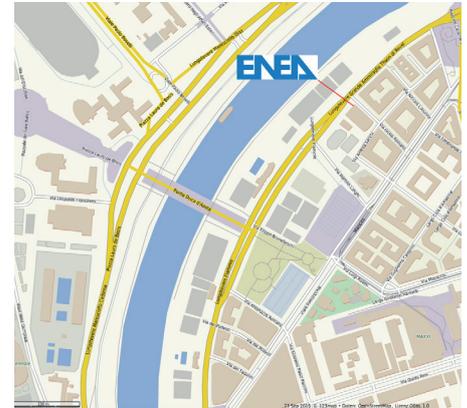


Venue

The Master Class will be held at the ENEA Headquarters in Rome (Italy), via Giulio Romano, 41 (first two days) and UCBM (third day).

How to get to ENEA

- > From Fiumicino Rome Airport
 - > Direct Leonardo Express Train connection to Roma Termini Station; then follow the directions from Roma Termini Railway station, or
 - > "Metropolitano" FM1 train to Roma Ostiense railway station, then subway train, Line B (blue) to Roma Termini; then follow the directions from Roma Termini Railway station
- > From Roma Termini Railway Station
 - > Subway train, Line A (red) – and stop at Flaminio. In Piazzale Flaminio (Flaminio Square), get the tram no. 2 to the tram terminal in Piazza Mancini.
- > **On the third day, a shuttle bus will bring all the participants from the ENEA Headquarters to the UCBM University Campus, and vice-versa.**



Registration

The **participation** to the CIPRNet Master Class is free but limited to a maximum of 40 participants on a "first come, first served" basis. **Details** about the event and an **online registration form** can be found at <http://www.ciprnet.eu/endusertraining.html>. **Registration deadline is October 30, 2015.**

In case you need accommodation, you need to **book a hotel room yourself.**

Contact

For enquiries regarding the content of the course, the registration process, and the logistics, please contact:

Maria Carla de Maggio m.demaggio@unicampus.it



The aim

The aim of the Training Session on "Modelling, Simulation and Analysis of Critical Infrastructures" is to perform training and demonstrating activities to the Critical Infrastructures Protection community, in order to strengthen links between different research institutions and to create common views. This is the second of three yearly editions aimed at introducing a common view regarding basic tools of Modelling, Simulation and Analysis of Critical Infrastructures.

The Training School on Modelling, Simulation and Analysis of Critical Infrastructures is a series of training events organized within the European Project CIPRNet – Critical Infrastructure Preparedness and Resilience Research Network. Its second edition will be delivered following a "module" approach. In each day an optional module will be delivered:

- > **Module 1 (11th November 2015):** notions and theories regarding Critical Infrastructure modelling, simulation and analysis will be described in details. This module is particularly indicated for researchers and any professional needing a general approach to the topic;
- > **Module 2 (12th November 2015):** Decision Support System and consequence analysis, description of the DSS tool developed by ENEA within the CIPRNet project. This module is particularly indicated for any type of audience, including CI operators;
- > **Module 3 (13th November 2015, morning):** Hands-on exercises on DSS. This module is particularly indicated for technicians and researchers needing to practice with DSS.

Top experts from various backgrounds will be presenting lectures involving multiple frameworks.

This training event is mainly addressed to CIP Researchers and experts from different research communities (European and non-European), Public/governmental authorities in charge of Critical Infrastructure Protection or Civil Protection matters and Stakeholders from Critical Infrastructures' operators.