

# CRITIS Program

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## Sunday October 8-th

IMT - Chioistro San Francesco (San Francesco's Cloister)

17:00 – 20:00 Registration and **welcome cocktail**

## Monday October 9-th

"Chioistro San Francesco"

9:00 -10:00 Registration & **welcome coffee**

"Cappella Guinigi"

10:00 – Welcome by the Magnifico Rettore, **Prof Pietro Pietrini** (IMT Director)

10:10 Welcome by the Organizers & Conference Information

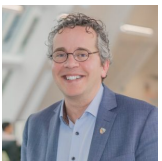
10:40 Institutional talks



Generale.B.A **Francesco Vestito** - Comando Interforze per le Operazioni Cibernetiche "The Inter-force Command Centre for Cyberber Operations: operative capabilities and prospectives"

## Session I “Modelling & Simulations”

11:30 Keynote: "Simulation as a Service for grid operators by SIM-CI"



Igor van Gemert  
- **SimCi** - Alliander Den Haag, The Netherlands.

12:10 Michael Rausch et al. - University of Illinois at Urbana-Champaign “Automatically Generating Security Models from System Models to Aid in the Evaluation of AMI Deployment Options”

12:30 Seungoh Choi - South Korea – “One step more : Automatic ICS Protocol Field Analysis”

SALA Sacrestia"

## TIM Private Session I

12:50 Lunch Break (2h)

"Cappella Guinigi"

## Session II "Cyber-Physical Systems & Industry 4.0"

14:50 Keynote: "Network robustness under massive failures: relevant metrics analysis and simulation."



Jose Luís Marzo

Univ. of Girona & Kansas State University

15:30 Juan E. Rubio et al. – Univ. of Malaga "Analysis of cybersecurity threats in Industry 4.0: the case of intrusion detection"

15:50 Mohamad Gharib et al. – Univ. of Florence "Dealing with Functional Safety Requirements for Automotive Systems: A Cyber-Physical-Social Approach"

16:10 Pol Van Aubel - Radboud University "Side-channel based intrusion detection for industrial control systems"

SALA Sacrestia"

## TIM Private Session II

16:30 Coffee Break (20')

## "Cappella Guinigi"

### Session III "Poster lightning talks"

**16:50 – 18:30** 5' are given to each poster presenter in submission order

- **1** Martin Ring, Reiner Kriesten and Frank Kargl "Automotive Security Testing Methodology"
- **9** Yacine Atif, Jianguo Ding, Birgitta Lindström, Manfred Jeusfeld, Sten F Andler, Yuning Jiang, Christoffer Brax and Per Gustavsson "Cyber-Threat Intelligence Architecture for Smart-Grid Critical Infrastructures Protection"
- **10** Gianpiero Costantino, Fabio Martinelli and Iliaria Matteucci "Reputation Systems to Mitigate DoS Attack in Vehicular Network"
- **13** Laurens Lemaire, Jan Vossaert, Bart De Decker and Vincent Naessens "Security Evaluation of Cyber-Physical Systems using Automatically Generated Attack Trees"
- **15** Matteo Langone, Roberto Setola and Javier Lopez "Cybersecurity of wearable devices: an experimental analysis and a vulnerability assessment method"
- **16** Herman Errico and Federica Mariniello "Offensive tool determination strategy. R.I.D.D.L.E. + (C)."
- **18** Andrew Fielder, Tingting Li and Chris Hankin "Quantitative Analysis on User-Centric Attack Models Against Cloud-based Industrial Control Systems"
- **23** Alberto Berretti and Simone Ciccarone "A Monte Carlo method for the spread of mobile malware"
- **31** Giovanni Sansavini, Antonio Scala and Niklas Polk "Laplacian Matrix Eigenvector Distributed Loads in DC Power Networks"
- **33** Pier Giorgio De Sanctis Lucentini, Walter Quattrociochi and Antonio Scala "Self-healing percolation"
- **34** Umberto Perna, Angelo Facchini and Antonio Scala "Allocation of Renewable Generation from an Energy Portfolio"
- **35** Saray Shai and Antonio Scala "Cascade of failures in dependency networks"
- **38** Alberto Tofani, Gianluca Rizzo and Gregorio D'Agostino "Obserbot: an Automatic Tool to create a Repository for Critical Infrastructures Contingencies"
- **45** Stefan Schauer, Christos Douligeris and Haralambos Mouratidis "MITIGATE: A Dynamic Maritime Supply Chain Cyber Risk Assessment Methodology"
- **47** Dominique Wassermann, Andrea Antenucci and Giovanni Sansavini "Managing gas and electric power network dependencies to secure energy supply: application to the UK system"
- **53** Ammara Gul and Stephen D. Wolthusen "Recovery of State Estimate under Single Topology Faults"
- **54** Stefano Sebastio, Antonio Scala and Gregorio D'Agostino "The Cloud's Impact on Interdependent Critical Information Infrastructures"
- **56** Paul Berthier, Corentin Bresteau and José M. Fernandez "On the Security of Aircraft Communication Networks"
- **57** Barbara Krumay and Sebastian Margiol "Factors Influencing Cybersecurity Adoption"
- **60** Roberto Setola, Stefano Panzieri and Gabriele Oliva "Representing Recovery Dynamics in Complex Scenarios with CISIA"

#### Poster Session with Light Dinner

19:00 – 21:00 Chostro San Francesco

# Tuesday October 10-th

"Cappella Guinigi"

## Session IV "Cyber Security"

9:00 Communications & Information

9:20 Keynote: Roberto Baldoni

"Thwarting Cyber Attacks: Scientific Alignment and the Italian Landscape"



Roberto Baldoni

- Università Roma I "Sapienza" - Research Center for Cyber Intelligence and Information Security (CIS) Italy .

10:00 Natalia Reka Ivanko et al. "Towards Blockchain-Based Collaborative Intrusion Detection Systems"

10:20 Stefano Panzieri et al. – Univ Rome III "Faulty or Malicious Anchor Detection Criteria for Distance-Based Localization"

10:40 **Coffee Break (30')**

SALA Sacrestia"

## Italian Parallel Session

11:10 **Tavola Rotonda:** "Prospettive per la Cyber Security in Italia"

"Cappella Guinigi"

## Session V "Electric System & Special Applications"

11:10 Zejun Yang and Jose Marti "Resilience of Electrical Distribution Systems with Critical Load Prioritization"

11:30 Alberto Tofani et al. – ENEA "Operational Resilience metrics for a complex electrical networks"

11:50 Steffen O. P. Blume and Giovanni Sansavini - ETZ "The influence of load characteristics on early warning signs in power systems"

12:10 Erich Rome et al. "Towards a Common Vocabulary for Crisis Management Scenarios"

12:30 Stefano Starita, Annunziata Esposito Amideo and Maria Paola Scaparra "Assessing Urban Rail Transit Systems Vulnerability: Metrics vs. Interdiction Models"

12:50 **Lunch Break (1h 40')**

"Cappella Guinigi"

## Session VI "Projects Cross Dissemination I"

- 14:30 ESReDA "European Safety, Reliability & Data Association"  
Presenter Luís Andrade Ferreira, University of Porto
- 14:45 EU-CIRCLE "A panEuropean framework for strengthening Critical Infrastructure resilience to climate change"  
Presenter Dr Athanasios Sfetsos, Thanasis Demokritos
- 15:00 HyRiM "Hybrid Risk Management for Utiliti Providers"  
Presenter Stefan Schauer - AIT Austrian Institute of Technology GmbH
- 15:15 MITIGATE "Protecting Maritime Supply Chain IT Infrastructure"  
Presenter TBD
- 15:30 RESOLUTE "Operationalization appLied to Urban Transport Environment"  
Presenter Emanuele Bellini Univ. Firenze
- 15:45 RESIN "Climate Resilient Cities and Infrastructures"  
Presenter Erich Rome Fraunhofer
- 16:00 ROMA "Resilience enhancement of a Metropolitan Area"  
Presenter Alberto Tofani ENEA

16:15 **Coffee Break** (15')

"Cappella Guinigi"

## Session VII "Projects Cross Dissemination II"

- 16:30 SEGRID "Secures the Smartgrid of Tomorrow"  
Presenter Frank Fransen TNO
- 16:45 IMPROVER "Improved risk evaluation and implementation of resilience concepts to Critical Infrastructure"  
Presenter TBD
- 17:00 ERNCIP "European Reference Network for Critical Infrastructure Protection"  
Presenter Marianthi Theocharidou, European Commission, Joint Research Centre
- 17:15 SecureWater "Improved SECure and RESilient cyber physical systems for scada in WATER systems enhanced by comprehensive analysis capabilities" - Luigi Martino, Scuola Superiore Sant. Anna. & HANSEL "Health AutomatioN SystEms Laboratory Health AutomatioN SystEms Laboratory" - Gabriele Oliva, NITEL & University Campus Bio-Medico of Rome
- 17:30 ATENA "Advanced tool to assess and mitigate the criticality of ICT components and their dependencies over Critical Infrastructures"  
Presenter Stefano Panzieri, Dip di Ingegneria, Università degli Studi ROMA TRE
- 17:45 ZONeSEC "Towards an EU framework for the security of Widezones"  
Presenter Dimitris Petrantonakis, EXODUS S.A
- 18:00 SMZ "Smart Mature Resilience for more resilient cities in Europe"  
Presenter Raquel Gimenez, TECNUN, University of Navarra

19:00 **Concert:** "LE DONNE DI PUCCINI" by "Puccini e la sua Lucca"

20:30 **Social Dinner** (reserve your tickets at the Registration Desk)

# Wednesday October 11-th

## "Cappella Guinigi"

9:00 Keynote: José Javier Larrañeta

"Infrastructure interdependence in industrial and technological wide areas"



Javier Larrañeta

- PESI Spanish Technology Platform on Industrial Safety & Security -  
Parque Tecnológico de Araba, C/ Leonardo da Vinci 11, 01510-Miñano  
(Araba) Oficina en Madrid (TECNALIA): C/ Velázquez 64-66, 2ª, 28001-  
MADRID

## Session VIII “Young Critis Award”

9:40 Anna Bozza et al. – Univ Federico II –“Role of urban interactions and damage in seismic resilience of historical centers”

10:00 James Wright et al. - Royal Holloway Information Security Group “De-Synchronisation Attack Modelling in Real-Time Protocols Using Queue Networks: Attacking the ISO/IEC 61850 Substation Automation Protocol”

10:20 Carlo Giudicianni et al. – Univ. degli Studi della Campania “Luigi Vanvitelli” “DMA optimal layout for protection of water distribution networks from malicious attack”

10:40 **Coffee Break (30’)**

## "Cappella Guinigi"

## Session IX “Transports & Human Activities”

11:10 Georgia Lykou, George Iakovakis, George Chronis and Dimitris Gritzalis “Analysis and Classification of Adaptation Tools for Transport Sector Adaptation Planning”

11:30 Laura Petersen et al. “Public tolerance levels of transportation resilience: a focus on the Oresund region within the IMPROVER Project”

11:50 Antonio De Nicola et al. “A Gamified Approach to Participatory Modelling of Water Systems Risks”

12:10 Chih-Yuan Lin et al. - Linköping Universitet - “Timing-based Anomaly Detection in SCADA Networks

12:30 Vincenzo Fioriti et al. – ENEA “Motion magnification for urban buildings”

12:50 Aljoscha Lautenbach, Magnus Almgren and Tomas Olovsson “What the Stack? On Memory Exploitation and Protection in Resource Constrained Automotive Systems”

13:10 **Lunch Break (2h 10’)**

"Cappella Guinigi"

## **Session X “Awards – Discussion - Closing Remarks”**

15:00 Young Critis Award

15:20 Best Poster Award

15:40 Critis Future Round table (Members of the Critis Board)

16:10 CRITIS2018 Presentation

16:20 Proceedings information - Thanksgiving and Closing Remarks

## Thursday October 12-th

"Cappella Guinigi"

### Complex Water Infrastructures Workshop

Program: TBD & extended

Opening Introduction: Lorenzo Bardelli - Italian regulation authority for electricity, gas and water systems

Keynote Speakers:

- Armando Di Nardo, Universita' degli studi della Campania "Luigi Vanvitelli"
- Natan Zuta, IOSIGHT, Israel
- Alfonso Damiano, University of Cagliari
- Giuseppe Sardu, Acque S.p.A (TBC)
- Alessandro Mazzei - Tuscan water regulation authority (TBC)
- Emanuele Perugini, Trenta science Communications

## Friday October 13-th

"Cappella Guinigi"

### Complex Energy Infrastructures Workshop

9:15-9:30 Angelo Facchini - Welcome and introduction

9:30-10:00 Riccardo Basosi, University of Siena

10:00-10:30 Alessandro Rubino, OFGEM, UK

10:30-11:00 Refreshment Break

11:30-12:00 Umberto Perna, Society of Petroleum Engineers

12:00-12:30 Renata Mele, Enel Foundation (TBC)

12:30-13:00 Alfonso Damiano, University of Cagliari

12:30-12:45 Antonio Scala - Closing remarks