

AEIT2023 International Annual Conference
5-7 October, 2023

TECHNICAL PRELIMINARY PROGRAMME

Thursday, 5 October

- 9:00** *Registration & Welcome Coffee*
- 10:00-10:15** *Sala del Chiostro*
Welcome Statements
- 10:15-10:45** *Sala del Chiostro*
Keynote Speech I
- 10:45-11:45** *Sala del Chiostro*
Round Table
Strategie per le sfide energetiche e provvedimenti per mitigare i cambiamenti climatici
- 11:45-13:30** *Sala del Chiostro*
Panel
REPowerEU e Transizione Energetica
- 13:30-14:30** *Lunch*
- 14:30-15:00** *Sala del Chiostro*
AEIT Student Grants and Awards, AEIT Young Member Group, AEIT for STEM

15:00-16:45 *Parallel Special and Technical Sessions*

Sala del Chiostro

TS01 Advances in Resilience of Distribution and Transmission Electrical Systems in the times of Climate Changes and Energy Transition (Special Session)

Chairs: Massimo Pompili - *Sapienza University of Rome*; Emanuele Ciapessoni - *Ricerca sul Sistema Energetico-RSE*; Luigi Calcara - *Sapienza University of Rome*

TS01_01 Preliminary Design of a Multilevel Converter Based De-Icing Application on the Italian Sub-Transmission Grid

Francesca Pizzimenti, Fabio Giulii Capponi (Sapienza University of Rome, Italy); Luca Buono, Gaia Leone, Francesco Palone, Lorenzo Papi, Roberto Spezie, Gabriele Tresso, Pierluigi Vacante (Terna, Italy)

TS01_02 Installation of ELISAm, Electric Line Ice Sag Accretion Monitor, Systems on a High Voltage Overhead Line

Elena Golinelli, Gian Mario Ogliari, Daniele Bartalesi (Ricerca sul Sistema Energetico-RSE, Italy); Gregorio Greco (Terna, Italy)

TS01_03 An innovative tree interference mapping with LiDar for overhead lines vulnerability assessment in the Italian power system

Emanuele Ciapessoni, Diego Cirio, Andrea Pitto, Giovanni Pirovano (Ricerca sul Sistema Energetico-RSE, Italy); Enrico Maria Carlini, Francesco Marzullo, Silverio Casulli, Federico Falorni, Greta Magnolia, Francesca Scavo (Terna, Italy), Giuseppe Berrettoni (Terna, Italy and University of Cassino, Italy)

TS01_04 An analytical model to quantify the technical benefits of interphase spacers to increase power system resilience against wet snow: the Italian case

Emanuele Ciapessoni, Diego Cirio, Andrea Pitto, Giovanni Pirovano (Ricerca sul Sistema Energetico-RSE, Italy); Enrico Maria Carlini, Francesco Marzullo, Silverio Casulli, Federico Falorni, Greta Magnolia, Francesca Scavo (Terna, Italy); Giuseppe Berrettoni (Terna, Italy and University of Cassino, Italy)

TS01_05 Comparative Analysis of Decentralized Edge-Cloud Architecture for Monitoring Smart Grids

Luca Zuanazzi, Elisa Albanese, Roberta Terruggia (Ricerca sul Sistema Energetico-RSE, Italy)

TS01_06 NEWMAN Project: IoT sensors for overhead MV line real-time monitoring

Giorgio Ghillardi (ENEL, Italy); Andrea Cielo (Gridspertise, Italy); Valerio Vallocchia (Enel Grids, Italy); Gianluca Di Felice, Alessandro Latini, Niccolò Corsi (e-Distribuzione, Italy); Massimo Pompili, Luigi Calcara (Sapienza University of Rome, Italy)

TS01_07 Towards a Systemic Asset Characterization of Electrical Systems for Multi-Risk Resilience

Maria Luisa Villani, Sonia Giovinazzi, Luisa Lavalle, Alberto Tofani (ENEA, Italy)

Sala degli Affreschi

TS02 Real-Time Simulation for Electric Power System Research (Special Session)

Chair: Sergio Bruno - Politecnico di Bari

TS02_01 Integrating Dynamic Thermal Rating Systems in a Real-Time Power System Digital Twin

Massamba Fall (Polytech Clermont, France); Fabrizio De Caro (University of Sannio, Italy); Domenico Villacci (University of Naples Federico II, Italy); Alfredo Vaccaro (University of Sannio, Italy)

TS02_02 Protection Coordination of MV/LV hybrid AC/DC Test Facility: Real-Time Simulations

Pietro Carmine, Diego Cavaliere, Riccardo Chiumeo, Chiara Gandolfi, Alessandro Veroni, Michele Zaroni (Ricerca sul Sistema Energetico-RSE, Italy)

TS02_03 The 10-Bus Model of the Italian Power System: A Tool for Multi-Site Co-Simulations

Mariano Ippolito, Rossano Musca, Eleonora Riva Sanseverino (University of Palermo, Italy)

TS02_04 Remote Power Hardware-in-the-Loop tests of a Control Architecture for Isolated Distribution Systems

Lucio Barbato, Gianpatrizio Bianco, Luigi Mascolo, Marco Menga, Francesco Renna, Gianluca Sapienza (Gridspertise, Italy), Chiara Micillo (e-distribuzione, Italy), Sergio Bruno, Cosimo Iurlaro, Massimo La Scala (Politecnico di Bari, Italy)

TS02_05 PHIL-based Impedance Measurement for Electromagnetic Stability Analysis of Gridfollowing Converters

Pavel Purgat, Johan Wurz, Srdjan Srdic (Egston Power Electronics, Austria)

TS02_06 Supporting a “glocal” energy transition, an initiative from ENSIEL: the ENET-RT Lab

Giorgio Benedetto, Ettore Bompard, Andrea Mazza (Politecnico di Torino, Italy), Domenico Villacci (University of Naples Federico II & EnSiEL, Italy)

15:00-16:45 Aula Didattica

Stato di avanzamento del progetto PNRR - RESTART

Chair: Giovanni Cancellieri - AEIT-AICT

16:45-17:00 *Coffee Break*

17:00-18:45 Parallel Special and Technical Sessions

Sala del Chiostro

TS03 Electric Mobility I (Special Session)

Chair: Alessandro Ruvio – Sapienza University of Rome

TS03_01 Centralised Control Strategy for an Urban Rail Network in the Presence of Onboard Storage Systems

Antonio Di Pasquale, Emanuele Fedele, Diego Iannuzzi, Mario Pagano (University of Naples Federico II, Italy)

TS03_02 Implementation of Active Power Substation for Harvesting Regenerative Braking Energy in Italian 3 kV Railway Systems

Miguel Gurruchaga Llaneza, Hamed Jafari Kaleybar, Morris Brenna (Politecnico di Milano, Italy)

TS03_03 The integration of a PV system for 3 kV dc railway electrical substation: The case study of Cagliari - Oristano line

Alessandro Ruvio, Luca Ranieri (Sapienza University of Rome, Italy); Guido Guidi Buffarini, Nicola Carones (Italferr, Italy)

TS03_04 Assessment of CIR/RO aggregation model for domestic charging: first experimental results

Piersilvio Marcolin, Andrea Cazzaniga, Giuseppe Mauri (Ricerca sul Sistema Energetico - RSE, Italy)

TS03_05 Management optimization of fuel cell electric bus fleet in urban areas

Eleonora Ciotti, Mattia Tritoni, Dario Pelosi, Linda Barelli (University of Perugia, Italy)

TS03_06 A multi-objective Stochastic Power Management Strategy for Vehicle-to-Building and Building-to-Vehicle Integration into Residential Microgrids

Dario Pelosi, Linda Barelli (University of Perugia, Italy)

Sala degli Affreschi

TS04 Energy Transition

Chair: Luigi Martirano – *Sapienza University of Rome*

TS04_01 A comparative analysis of reactive power compensation using reactors and STATCOMs in primary substations: a case study in Milan, Italy

Luigi Sandrini (Unareti, Italy); Alessandro Bosisio (University of Pavia, Italy); Alessandro Cirocco (A2A, Italy); Mario Turrisi, Caterina Pasetti, Andrea Morotti (Unareti, Italy); Luca Cavalletto (A2A, Italy)

TS04_02 An integrated planning approach towards the increasing of RES integration and the optimization of connection solutions

Enrico Carlini, Alessandra Zagnoni, Alfonso De Cesare, Lorenzo Del Rio, Andrea Zollo, Roberto Germanà, Chiara Giordano (Terna, Italy)

TS04_03 Relevant Production Units on the Italian Electricity Market: Evolution of Supply and Demand Bids

Silvia Canevese, Antonio Gatti (Ricerca sul Sistema Energetico-RSE, Italy)

TS04_04 The new target capacity assessment for the Italian power system

Enrico Maria Carlini, Corrado Gadaleta, Michela Migliori, Francesca Ferretti, Flavius Strimbei (Terna, Italy)

TS04_05 Screening Advanced FACTS and State-of-the-Art Technologies to Improve Power Systems Stability in Scenarios with High RES Penetration

Andrea Carbonara (Ricerca sul Sistema Energetico-RSE, Italy); Sebastian Dambone Sessa, Francesco Sanniti, Roberto Benato (University of Padova, Italy); Riccardo Chiumeo, Chiara Gandolfi, Angelo L'Abbate (Ricerca sul Sistema Energetico-RSE, Italy)

TS04_06 Power-Flow studies on the Future Electricity Grid of Sicily: Analysis of 2030 Scenario Cases

Rossano Musca, Eleonora Riva Sanseverino, Antony Vasile, Gaetano Zizzo (University of Palermo, Italy); Adriano Iaria, Angelo L'Abbate, Lorenzo Vitulano (Ricerca sul Sistema Energetico-RSE, Italy)

TS04_07 A PV Hosting Capacity Assessment in Distribution Grids: towards the 2030 and 2050 Energy Scenarios

Grazia Barchi; Matteo Giacomo Prina; David Moser (Eurac Research, Italy)

TS04_08 Draft Animal Power Versus Photovoltaic: A Benchmark

Antonio Perrone (WEDAP, Italy); Mohammad Rajabi Nasab, Massimo La Scala (Politecnico di Bari, Italy)

17:00-18:45 Aula Didattica

Stato di avanzamento del progetto PNRR - RESTART

Chair: Giovanni Cancellieri - *AEIT-AICT*

20:30 Conference Dinner

Friday, 6 October

9:00-11:00 *Parallel Special and Technical Sessions*

Sala del Chiostro

TS05 Electric Mobility II (Special Session)

Chair: Giorgio Sulligoi - *University of Trieste, Italy*

TS05_01 Modelling Electric Transients in a Conductive Electric Road System

David Wenander, Francisco J. Márquez-Fernández, Mats Alakula (Lund University, Sweden)

TS05_02 Optimal Operation of a Semi-urban Network Integrating Electric Vehicles

Maria Dicorato, Francesca Marasciuolo, Giuseppe Forte (Politecnico di Bari, Italy)

TS05_03 Green Port and Ferry's Electrification: a Case Study on Italian Lake Maggiore

Francesco Fasana, Sara Salamone (Ricerca sul Sistema Energetico-RSE, Italy); Paolo Mazzucchelli (Gestione Governativa Navigazione Laghi, Italy); Giuseppe Mauri (Ricerca sul Sistema Energetico-RSE, Italy)

TS05_04 Electrification of a large catamaran water bus for everyday commuting in the Venice Lagoon

Donato Padolecchia (University of Trieste, Italy); Salvatore Savarese (ACTV, Italy); Alberto Marinò (Università di Trieste, Italy); Vittorio Bucci (University of Trieste, Italy)

TS05_05 High-Temperature Superconducting Cables for Shipboard Applications: Design Considerations

Fabio D'Agostino, Marco Gallo, Fabrizio Sivori, Federico Silvestro (University of Genova, Italy); Antonio Chiarelli (Fincantieri, Italy); Gianni Grasso (ASG Superconductors, Italy)

TS05_06 The User Experience as a Demand Response Action in Large All Electric Ships

Pietro Orciuolo, Daniele Bosich, Andrea Vicenzutti, Massimiliano Chiandone, Giorgio Sulligoi (University of Trieste, Italy)

TS05_07 Feasibility study of a hybrid-electric multipurpose craft for coastal sustainable navigation

Natasha Taucer Marchesi, Samuele Utzeri, Serena Bertagna, Luca Braidotti, Alberto Marinò (University of Trieste, Italy)

TS05_08 Electrified Public Maritime Transport in the Italian Smaller Islands' Context: Potentials and Criticalities

Claudio Carlini, Matteo Rossini, Danilo Bertini, Marco Rossi (Ricerca sul Sistema Energetico-RSE, Italy)

Sala degli Affreschi

TS06 High Voltage Overhead Lines and Cables

Chair: Angelo L'Abbate - *Ricerca sul Sistema-RSE*

TS06_01 Experimental Validation of Adaptive Models for Dynamic Rating of Power Cables with Joints

Alfredo Vaccaro, Fabrizio De Caro (University of Sannio, Italy); Gaetano Iannarelli, Andrea Pegoiani, Bartolomeo Greco (A2A, Italy); Giovanni D'Avanzo, Marco Aioldi, Johnny Borghetto, Paolo Mazza (Ricerca sul Sistema Energetico - RSE, Italy)

TS06_02 Cost-benefit analysis of remote securing of high voltage lines through systems consisting of Disconnecting Blocking Devices (DBS)

Paolo Cuccia, Carmelo Mosca, Alessandro Greco, Mario Todaro, Martina Pajussin, Monica Tomasso, Antonio Russi, Antonio Oni (Terna Rete Italia, Italy)

TS06_03 Evaluation criteria to connect the RES power plants to the transmission network through the 36 kV voltage level

Enrico Maria Carlini, Alessandra Zagnoni, Alfonso De Cesare, Luigi Di Bello, Lidia La Maestra, Lorenzo Nuccio, Chiara Giordano (Terna, Italy)

TS06_04 36 kV: a new standard voltage level for the connection of renewable energy sources to the Italian National Transmission Grid

Elena Benedetti, Gaia Leone, Francesco Palone, Roberto Spezie, Enrico Vellucci (Terna, Italy)

TS06_05 New 5-phases solution and series compensation for OHLs power transfer capacity and static stability increase

Enrico Maria Carlini, Maria Rosaria Guarniere, Corrado Gadaleta, Roberto Spezie, Francesco Palone, Michela Migliori, Luca Buono, Gianfranco Luongo, Davide Monno (Terna, Italy)

TS06_06 Analyses of contingencies impact and key benefits in a HVAC-to-HVDC OHL conversion study case

Lorenzo Carmine Vitulano, Angelo L'Abbate, Roberto Calisti (Ricerca sul Sistema Energetico-RSE, Italy); Sebastian Dambone Sessa (University of Padova, Italy)

TS06_07 Switching overvoltages study for HVDC mixed overhead lines and submarine cables including circuit breakers

Luca Buono, Francesco Palone, Gabriele Tresso (Terna, Italy); Stefano Lauria (Sapienza University of Rome, Italy); Luigi Colla (Prysmian Group, Italy)

TS06_08 HVAC Submarine Cable Loss Reduction at Variable Voltage Level

Stefano Lauria, Riccardo Loggia, Luigi Calcara, Luigi Martirano, Massimo Pompili (Sapienza University of Rome, Italy)

11:00-11:15 *Coffee Break*

11:15-13:00 *Sala del Chiostro*

Panel on Energy

The new energy infrastructures to fight the climate change

13:00-14:00 *Lunch*

14:00-14:20 *Sala del Chiostro*

Keynote Speech II

14:20-16:00 *Sala del Chiostro*

Case Histories

16:00-16:15 *Coffee Break*

16:15-18:15 *Parallel Special and Technical Sessions*

Sala del Chiostro

TS07 Renewable Energy Sources

Chair: Alfredo Vaccaro - *University of Sannio*

TS07_01 Effect of Voltmetric Unblock on Global Hosting Capacity

Francesca Oliva, Giulia Taromboli, Lorenzo Zapparoli (Politecnico di Milano, Italy); Ettore De Berardinis (Comitato Elettrotecnico Italiano, Italy); Giovanni Gambirasio (Selecty, Italy); Roberto Faranda (Politecnico di Milano, Italy)

TS07_02 Optimisation of the Cooling System of a Synchronous Generator for Hydroelectric Applications

Renato Rizzo, Giuseppe Quaremba, Amedeo Amoresano (University of Naples Federico II, Italy); Massimo Baret (Motortecnica, Italy)

TS07_03 Simulation of Grid Forming PV Plants in the Medium Voltage Grid - A Maltese Case Study

Antony Vasile, Gaetano Zizzo (University of Palermo, Italy); Alexander Micallef, Cyril Spiteri Staines, John Licari (University of Malta, Malta)

TS07_04 Wind Power Applications of eXplainable Artificial Intelligence Techniques

Davide Astolfi (University of Perugia, Italy); Fabrizio De Caro, Alfredo Vaccaro (University of Sannio, Italy)

TS07_05 Grid connection of large offshore wind plants: techno-economic evaluation of HVAC solutions

Mattia Deriu, Michela Migliori, Corrado Gadaleta, Marco Cortese, Enrico Maria Carlini (Terna, Italy); Maria Dicorato, Giuseppe Forte, Gioacchino Tricarico (Politecnico di Bari, Italy)

TS07_06 Grid-Listening and Grid-Ringing: Alternative Concepts for Grid-Following and Grid-Forming within Power Systems Frequency Transients

Salvatore Favuzza, Rossano Musca (University of Palermo, Italy)

TS07_07 A Neural Simulator of Photovoltaic Power Plants for Comparing SiC and non-SiC Inverter Yield

Sebastiano De Fiore, Diego Piserà, Christian Melchiorre, Stefano Bianchi (algoWatt, Italy); Simone Palazzo (University of Catania, Italy)

TS07_08 Using spatial analysis tools to foster energy transition: real study cases applied to energy distribution networks

Luigi Sandrini (Unareti, Italy); Alessandro Bosisio (University of Pavia, Italy); Andrea Morotti, Caterina Pasetti (Unareti, Italy); Alessandro Cirocco (A2A, Italy); Mario Turrisi (Unareti, Italy)

Sala degli Affreschi

TS08 Power System Analysis, Operation and Control

Chair: Roberto Langella - *University of Campania Luigi Vanvitelli*

TS08_01 Droop control of wind turbines to provide upward support in frequency regulation

Marco Raffaele Rapizza, Silvia Canevese, Diego Cirio (Ricerca sul Sistema Energetico - RSE, Italy)

TS08_02 A Deterministic Approach to Derive the Optimal Synchronous Condenser Synchronization Condition

Roberto Benato, Francesco Sanniti (University of Padova, Italy); Domenico Tedeschi (Terna Rete Italia, Italy)

TS08_03 An innovative controller for optimal operation of Hybrid Energy Storage Systems

Federico Bianchi, Enrica Micolano, Luigi Pellegrino (Ricerca sul Sistema Energetico-RSE, Italy); Alessio La Bella (Politecnico di Milano, Italy); Guido Coletta (Terna Rete Italia, Italy); Domenica Maria Conenna, Elisa Virone (Terna, Italy); Giorgio Giannuzzi, Cosimo Pisani (Terna Rete Italia, Italy);

TS08_04 Towards a Decarbonized Power System: a Matrix Tool for the Assessment of Power Flows Under Uncertainties

Giovanni Gardan, Luca Rusalen, Roberto Benato (University of Padova, Italy)

TS08_05 Advanced Model-based Approaches to be Applied in the Context of a Bidding Zone Review

Federico Quaglia, Mario Limone, Giovanni Screpanti (Terna Rete Italia, Italy); Gianfranco Chicco, Pietro Colella, Andrea Mazza, Angela Russo (Politecnico di Torino, Italy); Cristian Bovo (Università di Pavia, Italy); Valentin Ilea (Politecnico di Milano, Italy)

TS08_06 Inverter-Based Generators as Potential Flexible Resources for the Provision of Ancillary Services

Silvia Canevese, Gaia Ceresa, Antonio Gatti (Ricerca sul Sistema Energetico-RSE, Italy)

TS08_07 A remedial action optimizer for the flow-based capacity calculation

Benedetto Aluisio, Marco Barbeta, Claudio Coluzzi (Terna, Italy); Fabio Massimo Gatta, Alberto Geri, Stefano Lauria, Marco Maccioni, Ludovico Nati (Sapienza University of Rome, Italy); Luca Ortolano (Terna, Italy)

TS08_08 Frequency Domain Modelling of a Commercial Heat Pump for Harmonic Studies

Muhammad Ishaq, Roberto Langella (University of Campania Luigi Vanvitelli, Italy)

TS08_09 Tap staggering operation of Autotransformers

Luca Buono, Daniele Difino, Francesco Palone, Simone Sacco, Roberto Spezie, Gabriele Tresso, Andrea Valant (Terna, Italy)

Aula Didattica

TS09 Power Electronics

Chair: Antonio Imbruglia - *AEIT-AMES*

TS09_01 Analysis for the Integration of the Toroidal Field Power Supply in the DTT Nuclear Fusion Facility

Elena Benedetti (Sapienza University of Rome, Italy); Alessandro Lampasi, Sabino Pipolo (ENEA, Italy); Maria Carmen Falvo, Marzia Caldora (Sapienza University of Rome, Italy); Antonio Trotta (ENI, Italy)

TS09_02 Comparative Detailed Analysis of a 7-Level Cascaded H-Bridge Inverter in Symmetric and Asymmetric Configurations

Massimo Caruso, Antonino Oscar Di Tommaso, Gerlando Frequente, Rosario Miceli, Claudio Nevoloso, Gioacchino Scaglione, Giuseppe Schettino (University of Palermo, Italy)

TS09_03 Investigation on the radiated EMI of a 3-phase traction inverter for urban mobility

Filippo Pellitteri, Nicola Campagna, Massimo Caruso, Antonino Oscar Di Tommaso, Gerlando Frequente, Rosario Miceli, Annalisa Contato, Geraldina Signa (University of Palermo, Italy)

TS09_04 Performance Analysis of Zeta Converter for Photovoltaic-Powered Micromobility Charging Station

Vipinkumar Shriram Meshram (University of Salerno, Italy); Alberto Reatti (University of Florence, Italy)

TS09_05 Variable Inductor Control Strategy in LCC-S Compensated Wireless Power Transfer Application

Vipinkumar Meshram (University of Salerno, Italy); Fabio Corti (University of Florence, Italy); Luigi Solimene, Salvatore Musumeci, Carlo Stefano Ragusa (Politecnico di Torino, Italy); Alberto Reatti (University of Florence, Italy)

TS09_06 Power, Energy and Efficiency Experimental Characterisation of Different Based-Lithium Chemistries Batteries and Supercapacitors

Massimo Ceraolo, Giovanni Lutzemberger, Francesco Giuseppe Quilici, Claudio Scarpelli (University of Pisa, Italy)

TS09_07 A Three-Port DC-DC Converter for Solar PV Integration in DC Off-Grid Systems: Design and Control

Anmol Ratna Saxena, Ashima Kulshreshtha (National Institute of Technology, Delhi, India)

18:15-19:00 Sala del Chiostro
SME and START UP Session

Saturday, 7 October

9:00-11:00 Parallel Special and Technical Sessions

Sala del Chiostro

TS10 Smart Grids and Energy Communities

Chair: Marco Maccioni - *Sapienza University of Rome*

TS10_01 Innovative software for reliability, resilience, security and adequacy assessment of AC and DC grids and microgrids

Antonio Ricca antonio.ricca@enea.it Antonio Ricca, Giovanna Adinolfi, Roberto Ciavarella, Giorgio Graditi, Maria Valenti (ENEA, Italy)

TS10_02 The flexibility opportunities offered by Heat Pumps to contribute to grid security

Francesco D'Oria, Lorenzo Croci (Ricerca sul Sistema Energetico-RSE, Italy)

TS10_03 Freeware Digital Platform for Designing Renewable Energy Communities in Italy: An Overview

Diego Piserà (AlgoWatt, Italy); Tommaso Ferrucci, Davide Fioriti, Davide Poli (University of Pisa, Italy); Federico Silvestro (University of Genova, Italy)

TS10_04 An Algorithm for Energy Communities Designing by Maximizing Shared Energy

Maria Luisa Di Silvestre, Francesco Montana, Eleonora Riva Sanseverino, Giuseppe Sciumè, Gaetano Zizzo (University of Palermo, Italy)

TS10_05 Quantitative assessment of barriers to innovation in Smart Grids in Europe

Marco Antonio Bucarelli (Sapienza University of Rome, Italy); Mohammad Ghoreishi, Francesca Santori (ASM Terni, Italy)

TS10_06 Technical-economic Impact of the Deployment of Renewable Energy Communities: An Italian Case Study

Marco Antonio Bucarelli, Angelo Curci, Alberto Geri, Tommaso Bragatto, Marco Maccioni (Sapienza University of Rome, Italy); Marco Paulucci (ASM Terni, Italy); Jacopo Dell'Olmo (Sapienza University of Rome, Italy)

TS10_07 Development and selection of load forecasting techniques across different non-residential buildings

Stefano Massucco, Matteo Saviozzi, Gabriele Mosaico (University of Genova, Italy)

TS10_08 Exploring the role of Long Duration Energy Storage in the collective drive to Net Zero

Antonio Zingales (Saet, Italy)

Sala degli Affreschi

TS11 Smart Devices and Systems for Information and Communication Technologies I

Chair: Francesco Matera - *Fondazione Ugo Bordon*

TS11_01 Ethics for Artificial Intelligence: the introduction of the Digital Ethics Officer in Electric Industry

Roberto Magnani (AEIT & EuroPIA, Italy)

TS11_02 A family of binary sequences derived from punctured simplex codes

Massimo Battaglioni, Giovanni Cancellieri (Università Politecnica delle Marche, Italy)

TS11_03 2G, 3G QoS experimental measurements in a 4G/5G transition scenario

Claudia Carciofi, Claudio Cecchetti, Andrea Garzia, Valeria Petrini, Simona Valbonesi (Fondazione Ugo Bordon, Italy)

TS11_04 Human exposure to electromagnetic fields for new wireless technologies and frequencies: software characterization study

Antonio Iodice, Francesca Lodato (University of Naples Federico II, Italy); Francesco Matera (Fondazione Ugo Bordon, Italy); Rita Massa, Giuseppe Ruello (University of Naples Federico II, Italy); Simona Valbonesi (Fondazione Ugo Bordon, Italy)

TS11_05 Ray-tracing simulation of railway station ecosystem in 5G scenario

Simona Valbonesi, Andrea Garzia, Elena Mammi (Fondazione Ugo Bordon, Italy); Nerea Canales Sebastian, Marcella Di Mario, Mirko Ermini (Rete Ferroviaria Italiana, Italy)

TS11_06 Non-Public networks for mission/business critical use cases in a 5G scenario

Simona Valbonesi, Andrea Garzia, Paolo Grazioso, Francesco Matera (Fondazione Ugo

Bordoni, Italy)

TS11_07 Achieving bandwidth efficiency for IoT edge networks through improved zero forcing

Talha Younas (COMSATS University Islamabad, Pakistan)

11:00-11:15 *Coffee Break*

11:15-13:00 *Parallel Special and Technical Sessions*

Sala del Chiostro

TS12 Distribution Systems

Chair: Tommaso Bragatto - *Sapienza University of Rome*

TS12_01 A New Inference System for the Robust Identification of Defects Supporting PD in MV Cables

Johnny Borghetto, Giovanni Pirovano, Sergio Chiarello, Manuel Sozzi (Ricerca sul Sistema Energetico - RSE, Italy); Alfredo Contin (University of Trieste, Italy); Andrea Pegoiani (Unareti, Italy)

TS12_02 Selection of Viable Distribution Line Surge Arrester for Prospective Optimal Protection

Nagananthini Ravichandran, Amedeo Andreotti, Antonio Di Pasquale, Mario Pagano, Daniela Proto (University of Naples Federico II, Italy); Erika Stracqualursi, Rodolfo Araneo (Sapienza University of Rome, Italy); Luigi D'Orazio (Enel, Italy)

TS12_03 Reactive Power Flows and Voltage Issues in Urban Distribution and Subtransmission Networks

Tommaso Bragatto, Jacopo Dell'Olmo, Fabio Massimo Gatta, Alberto Geri, Marco Graziani, Stefano Lauria, Marco Maccioni, Ludovico Nati (Sapienza University of Rome, Italy)

TS12_04 A Tool for Assessing Distribution Network Expansion due to Load Growth

Tommaso Bragatto, Fabio Massimo Gatta, Alberto Geri, Marco Maccioni (Sapienza University of Rome, Italy); Alessandro Palazzoli, Paolo Sancioni (Areti, Italy)

TS12_05 A Quantitative Evaluation of the Impact of Remotely Controlled Circuit Breakers on the Quality of Service of Low Voltage Network

Francesco Paolo Palazzotto, Roberto Brandi, Niccolò Corsi, Giulia Muscarà, Ludovico Spitilli, Riccardo Fantacone (e-distribuzione, Italy)

TS12_06 Investigating the impact of short-circuit faults on in different neutral configurations: a real case study

Marco Antonio Bucarelli, Dimitri Agostini, Alberto Geri, Fabio Massimo Gatta, Marco Maccioni (Sapienza University of Rome, Italy); Marco Paulucci (ASM Terni, Italy)

TS12_07 Reactive Power Flows on Distribution Networks with Dispersed Generation: Current Trends and Opportunities

Giovanni Ambrosini, Edoardo Daccò, Davide Falabretti (Politecnico di Milano, Italy); Francesco Gulotta (Ricerca sul Sistema Energetico-RSE, Italy); Stefano Premarini (Politecnico di Milano, Italy)

Sala degli Affreschi

TS13 Smart Devices and Systems for Information and Communication Technologies II

Chair: Massimo Celidonio - *Fondazione Ugo Bordoni*

TS13_01 From ICT framework compliance to quantitative risk assessment: an example of methodology using Risk Scenarios

Glauco Bertocchi, Alberto Piamonte (ISACA Rome Chapter, Italy)

TS13_02 Experimental measurements on the interferential effects produced by IMT signals operating in UHF band on DVB-T2 signals in MATV systems

Claudio Cecchetti, Massimo Celidonio, Fernando Consalvi, Andrea Neri, Lorenzo Pulcini (Fondazione Ugo Bordoni, Italy)

TS13_03 Experimental Studies on Impact of Mobile Systems Operating in the UHF Frequency Band on DTT Video Signals

Claudio Cecchetti, Massimo Celidonio, Fernando Consalvi, Andrea Neri, Lorenzo Pulcini (Fondazione Ugo Bordoni, Italy)

TS13_04 Behaviorally Inspired Behavioral Process Based Malware and its Impact on Detection

Ashley Chung, Anthony Melaragno (United States Naval Academy, USA)

TS13_05 Scaling a Machine Learning Approach to many kinds of Malicious Behavior for Cybersecurity

William Casey, Anthony Melaragno (United States Naval Academy, USA)

TS13_06 Antenna Array Diagnosis via Smart Sensing of Electromagnetics with Learnable Data Acquisition and Processing

Oluwole John Famoriji, Thokozani Calvin Shongwe (University of Johannesburg, South Africa)

TS13_07 Source Localization of EM Wave in the Presence of neighboring Sources and Noisy Environments using Deep Learning and Meta Learning

Oluwole John Famoriji, Thokozani Calvin Shongwe (University of Johannesburg, South Africa)

13:00-13:15 Sala del Chiostro
Student Contest Ceremony

13:15-13:30 Sala del Chiostro
Conference Closure