

**AEIT2024 International Annual Conference
25-27 September 2024**

PRELIMINARY TECHNICAL PROGRAMME

Wednesday, 25 September

8:30-10:00 *Registration & Welcome Coffee*

10:00-11:00 **MAIN ROOM**
Welcome Statements

11:00-13:00 **MAIN ROOM**
*Panel Intelligenza Artificiale per l'industria:
sfide, opportunità e impatto sociale*

13:00-14:00 *Lunch*

14:00-16:00 **MAIN ROOM**
Keynote Speech I
Panel Stato attuale e prospettive della Transizione Energetica

16:00-16:15 *Coffee Break*

16:15-17:30 **MAIN ROOM**
SME and START UP Session

17:30-18:45 **Parallel Special and Technical Sessions**

MAIN ROOM

TS01 Artificial Intelligence AI

TS01_01 Quantifying the moisture content of transformer oil using dielectric properties and artificial intelligence

Hashem Al-Mattarneh, Adnan Rawashdeh (Yarmouk University, Jordan); Rabah Ismail (Jadara University, Jordan)

TS01_02 Harnessing Multivariate AI to Enhance Hydropower Generation Forecasting

Sarah Di Grande, Mariaelena Berlotti, Salvatore Cavalieri (University of Catania, Italy); Roberto Gueli (Etna Hitech, Italy)

TS01_03 Multilinear Regression Analysis applied to Voltage Dips classified by a Deep Learning-based Validity Algorithm

Michele Zanoni, Riccardo Chiumeo, Chiara Gandolfi, Liliana Tenti, Massimo Volta (Ricerca sul Sistema Energetico - RSE, Italy)

TS01_04 Study and Implementation of a Proprietary RFI Blockchain Infrastructure for Training Registration

Nerea Canales Sebastian, Mirko Ermini, Fabio Senesi (Rete Ferroviaria Italiana, Italy); Marco Sanalidro, Daniele Truzzi, Alessandro Toscano, Silvia Ciucciiovino (University Roma TRE, Italy)

TS01_05 Renewable Energy Forecasting AI-Driven Framework for Peer To Peer Trading

Ameni Boumaiza, Kenza Maher (Hamad Bin Khalifa University, Qatar)

ROOM A

TS02 Power Electronics

TS02_01 Electromagnetic simulation of the misalignment resilience of a capacitive power transfer system with a matrix structure

Kiran Peirens, Amélie Chevalier, Ben Minnaert (University of Antwerp, Belgium)

TS02_02 Harmonic Mitigation Solutions for Industrial Connections with Variable Frequency Drives

Illia Diahovchenko (University College Dublin, Ireland & Sumy State University, Ukraine); Stanislav Serhienko (Sumy State University, Ireland)

TS02_03 Parallel Connection Investigation of GaN FET Devices for High-Current Switches

Salvatore Musumeci, Vincenzo Barba, Divyansh Jain, Michele Pastorelli (Politecnico di Torino, Italy); Marco Palma (EPC Italy, Italy)

TS02_04 Improved Inverter Transfer Function Modeling for Phase-Shifted-Driven Grid-Connected Five-Level Cascaded H-Bridge Multilevel Inverters

Rosario Miceli, Giuseppe Sorrentino, Claudio Nevoloso, Giuseppe Schettino, Gioacchino Scaglione, Fabio Rocco Galluzzo (University of Palermo, Italy)

TS02_05 State of Charge Real-Time Evaluation of Second-Life Batteries for islanded Grid Support

Dario Pelosi, Ercole Castori, Raffaele Aliberti, Giulia Marinelli, Gianluca Sonnati (University of Perugia, Italy); Matteo Marchetti, Federico Rosignoli, Niccolò Mulinari (Loccioni, Italy); Linda Barelli (University of Perugia, Italy)

ROOM B

TS03 TLC/ICT

TS03_01 A massive clustering algorithm for fast radio resource allocation to distributed units in O-RAN networks

Giambattista Amati, Simone Angelini, Federica Mangiatordi, Emiliano Pallotti, Pierpaolo Salvo (Fondazione Ugo Bordoni, Italy)

TS03_02 Navigating 5G Security: Challenges and Progresses on 5G Security Assurance and Risk Assessment

Francesco D'Alterio, Marco Rotunno, Marina Settembre, Andrea Bernardini, Leonardo Sagratella (Fondazione Ugo Bordoni, Italy); Giuseppe Bianchi, Francesco Mancini, Andrea Paci (University of Rome "Tor Vergata", Italy); Nicolò Maunero (IMT School for Advanced Studies, Italy)

TS03_03 Leveraging LEO technology to support grid automation in rural and sub-urban areas and provide extended connectivity in renewable energy plants

Luigi Petrianni, Lourdes Garcia Duarte, Sara Turco, Daniele Rufini, Fabio Bosatelli, Renzo Valente, Matteo Cantù, Giuseppe Leotta (Enel, Italy)

TS03_04 Opportunities and Challenges for the Integration of AI in Network Evolution Toward 6G

Francesco Matera, Marina Settembre (Fondazione Ugo Bordoni, Italy); Alessandro Vizzarri, Franco Mazzenga (University of Rome Tor Vergata, Italy); Jaime Llorca, Antonia Tulino (University of Naples Federico II, Italy); Andrea Detti (University of Rome Tor

Vergata, Italy); Daniele Ronzani (Hewlett Packard, Italy); Sergio Barbarossa (Sapienza University of Rome, Italy)

TS03_05 Optimized Rate-Adaptive Error Correction through Puncturing and Shortening of Simplex Codes

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

ROOM C

TS04 Flexibility, Energy storage and Sector Coupling

TS04_01 System Scheduling with Pumped-Hydro Plants with Different Grid Connection Schemes

Giordano Costanzi, Vincenzo Trovato (University of Trento, Italy); Pietro Colella, Gianfranco Chicco (Politecnico di Torino, Italy)

TS04_02 Implementation of an experimental facility for District Heating Networks flexibility assessment

Claudio Anderis, Marcelo Andre Muro Alvarado, Riccardo Lazzari (Ricerca sul Sistema Energetico - RSE, Italy)

TS04_03 IEC CIM based Ontology Definition for Gas Distribution Networks

Francesca Soldan, Enea Bionda, Gabriele Paludetto (Ricerca sul Sistema Energetico - RSE, Italy); Federico Belloni, Michele Ceglia, Marco Ferrario, Elvira Montresor (Unareti, Italy)

TS04_04 Techno-Economic Analysis and Sizing of RFB and Supercapacitor-Based HESS for an EV Charging Station

Marcin Buchajczyk, Saman Korjani, Mattia Duranti, Edoardo Gino Macchi (Fondazione Bruno Kessler, Italy)

TS04_05 The sizing of a smart microgrid integrating hydrogen technology for a Power to Power scenario

Daniele Menniti, Anna Pinnarelli, Maria Elena Bruni, Nicola Sorrentino, Giovanni Brusco, Vittorio Bilotta, Pasquale Vizza (University of Calabria, Italy)

19:30 Conference Cocktail presso il Castello del Buonconsiglio con il Coro SAT

Thursday, 26 September

9:00-10:45 ROOM B

Tavola Rotonda Road Tunnels Power Systems

9:00-10:45 Parallel Special and Technical Sessions

MAIN ROOM

TS05 Energy Transition

TS05_01 Transmission network expansion planning approach with different time-based aggregation of users connections

Enrico Maria Carlini, Alessandra Zagnoni (Terna, Italy); Maria Carmen Falvo (Sapienza University of Rome, Italy); Carlo Panachia, Chiara Giordano, Roberto Germanà, Matteo Ricciardi, Beatrice Vincenzi (Terna, Italy)

TS05_02 Healing AI Mental Health to Slash Energy Consumption and Carbon Emissions

Shai Misan, Rayhan Beebeejaun (Kaizen Innovator Network, Italy); Pietro Orciuolo, Daniele Bosich, Massimiliano Chiandone, Giorgio Sulligoi (University of Trieste, Italy)

TS05_03 Correlations between the evolution of electricity distribution infrastructure and territory

Giacomo Viganò, Chiara Michelangeli, Marco Rossi (Ricerca sul Sistema Energetico - RSE, Italy)

TS05_04 Challenges and opportunities for Multi-purpose Interconnectors and wind offshore generation

Enrico Maria Carlini, Corrado Gadaleta, Michela Migliori, Francesca Longobardi (Terna, Italy); Arman Derviskadic (Hitachi Energy, Italy); Elin Rahmqvist, Alberto Persico (Hitachi Energy, Sweden)

TS05_05 Offshore wind power plant capability: the Italian case

Luca Buono, Francesco Palone, Roberto Spezie, Gabriele Tresso (Terna, Italy)

TS05_06 Natural Ester Filled Furnace Transformers

Fabio Scatiggio (A&A Fratelli Parodi, Italy); Rainer Frotscher (Maschinenfabrik Reinhausen, Germany); Cristian Chittaro (ABS, Italy); Fabrizio Ferrari (Tamini Trasformatori, Italy)

TS05_07 Operation management of the power system with high RES penetration: the Italian case

Benedetto Aluisio, Chiara Vergine (Terna, Italy)

ROOM A

TS06 Renewable Energy Communities

TS06_01 Impact of energy demand and generation time resolution on self-consumption within Renewable Energy Communities

Cristina Ventura, Giuseppe Marco Tina, Carmelo Fabio Fiore (University of Catania, Italy); Francisco Muñoz-Rodríguez, Catalina Rus-Casas, Gabino Jiménez-Castillo (University of Jaen, Spain)

TS06_02 A combined ML forecast and Real time control approach to reduce imbalance costs in renewable energy communities of prosumagers

Nicola Sorrentino, Daniele Menniti, Anna Pinnarelli, Giovanni Brusco, Pasquale Vizza (University of Calabria, Italy); Stefano Mendicino (Creta Energie Speciali, Italy)

TS06_03 Business Model for Renewable Energy Communities

Jacopo Neri, Edoardo Corsetti (Ricerca sul Sistema Energetico - RSE, Italy)

TS06_04 An Application of Distributed Optimisation to Energy Communities in Italy

Lorenzo Saguatti (LEAP, Italy); Filippo Bovera (Politecnico di Milano, Italy); Marco Gabba, Gaia Martoriello, Matteo Zatti (LEAP, Italy)

TS06_05 Innovative Peer-to-Peer Energy trading in Local Energy Communities Featuring Electric Vehicle Charging Infrastructure

Elham Mokaramian, Pierluigi Siano, Vito Calderaro, Vincenzo Galdi, Giuseppe Graber, Lucio Ippolito (University of Salerno, Italy)

TS06_06 Emerging security and legal challenges within renewable energy communities: key prevention and defence strategies

Silvia Ricciuti (Fondazione Bruno Kessler, Italy); Simona Stoklin (University of Perugia, Italy); Francesca Giuliano (Università Cattolica del Sacro Cuore, Italy); Christian Mari (Politecnico di Milano, Italy); Massimiliano Zanchiello (Sapienza University of Rome, Italy); Salvatore Manfredi (Fondazione Bruno Kessler, Italy)

TS06_07 Integrating Energy Communities and Digital Condominiums with KNX Technology

Gianmarco Sitzia (Sm@rtKNX, Italy); Mariacristina Roscia (University Bergamo, Italy); Massimo Valerii (KNX Italia, Italy); Emilio Ghiani (University of Cagliari, Italy)

ROOM C

TS07 Power Quality and Safety

TS07_01 A New Integrated Instrument for Partial Discharge Monitoring and Diagnostics of Medium Voltage Cables

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

TS07_02 Fire Danger Characterization in Italy: Mitigating the Impact on Real Time Operation of Power System

Filippo D'Amico, Elena Collino, Francesca Viterbo, Riccardo Bonanno (Ricerca sul Sistema Energetico - RSE, Italy); Simone Talomo, Chiara Vergine, Francesco Pietrocola (Terna Rete Italia, Italy); Michele De Nigris (Ricerca sul Sistema Energetico - RSE, Italy)

TS07_03 An Open-Source Optimal Network Reconfiguration Tool for Improving Distribution Grid Reliability

Roberto Cometa, Angelo Velini, Francesco Lorusso (Politecnico di Bari, Italy); Antonio Ricca (ENEA, Italy); Roberto Sbrizzai, Sergio Bruno (Politecnico di Bari, Italy)

TS07_04 High voltage grounding system interferences in industrial areas

Luca Buono, Franco Di Bona, Gaia Leone, Francesco Palone, Gabriele Tresso (Terna, Italy)

TS07_05 Cables' Sheath Cross Bonding: an Overview of the Technique for the Medium Voltage Network of e-distribuzione

Ludovico Spitilli, Niccolò Corsi, Gianluca Di Felice (e-distribuzione, Italy); Luigi D'Orazio, Roberto Calone (Enel Grids, Italy); Francesco Paolo Palazzotto (e-distribuzione, Italy)

TS07_06 Use of Remotely Controlled Earthing Switches for the Safety of HV OHLs

Chiara Vergine (Terna, Italy); Roberto Spezie (Terna Rete Italia, Italy); Rocco Calabrese (Terna, Italy); Luciano Minto, Andrea Valant (Terna Rete Italia, Italy)

10:45-11:00 *Coffee Break*

11:00-11:45 MAIN ROOM

*Invited Speech IAS:2024 IEEE Richard Harold Kaufmann Award
I cento anni della rivista "L'Energia Elettrica"*

11:45-13:00 MAIN ROOM

Panel Infrastrutture elettriche: dalla tecnologia alle competenze

13:00-14:00 *Lunch*

14:00-16:00 MAIN ROOM

Tavola Rotonda IRIS LAB

*Evoluzione e innovazione nell'elettronica industriale:
verso la mecatronica 5.0*

16:00-16:15 *Coffee Break*

16:15-16:45 MAIN ROOM

Invited Speech ARERA

Invited Speech Commissione PNRR-PNIEC

16:45-18:00 MAIN ROOM

*Tavola Rotonda Politiche e strategie per la decarbonizzazione: fonti
rinnovabili ed elettrificazione degli usi finali dell'energia*

18:00-19:00 MAIN ROOM

AEIT FOR YOUNG - dedicated to Fabrizio Cattani

20:30

Conference Dinner

Friday, 27 September

8:30-10:15 Parallel Special and Technical Sessions

MAIN ROOM

TS08 Resilience of Distribution and Transmission Electrical Systems in the times of Climate Changes and Green Energy Transition (*Special Session*)

TS08_01 Protecting Operators During Firefighting Operations Near Overhead Transmission Lines

Michele De Nigris, Giovanni Pirovano, Giovanni D'Avanzo (Ricerca sul Sistema Energetico - RSE, Italy); Francesco Pietrocola, Simone Talomo, Chiara Vergine Luciano Minto (Terna Rete Italia, Italy)

TS08_02 Assessing the benefits from the reduction of substation load outage time via remotely controlled switch disconnectors

Emanuele Ciapessoni, Diego Cirio, Andrea Pitto, Giovanni Pirovano (Ricerca sul Sistema Energetico - RSE, Italy); Silverio Casulli, Federico Falorni, Giuseppe Berrettoni, Enrico Maria Carlini, Francesco Marzullo (Terna, Italy)

TS08_03 An Italian residential electric consumption generator for Renewable Energy Communities analyses

Enrico Pratavia, Jacopo Vivian, Federico Bertelli, Michele De Carli (University of Padua, Italy)

TS08_04 New Flow Battery Chemistries for Long Duration Energy Storage in the path to Net Zero

Andrea Trovò (University of Padua, Italy); Antonio Zingales (SAET, Italy); Nicola Poli, Matteo Rugna, Massimo Guarnieri (University of Padua, Italy)

TS08_05 Node Centrality Evaluation Based on Complex Network Theory: A Real Case Study for an Integrated Power Distribution and ICT System

Mehdi Doostinia, Davide Falabretti, Giacomo Verticale (Politecnico di Milano, Italy); Sadegh Bolouki (Polytechnique Montreal, Italy)

TS08_06 Stochastic modeling of ambient temperature for thermal studies of transformers under different operating conditions

Claudio Francesco Nicolosi, Giovanni Maione, Giuseppe Marco Tina (University of Catania, Italy)

TS08_07 Mapping resilience of distribution networks against heatwaves

Luigi Calcara (Sapienza University of Rome, Italy); Adriano Casu, Fabrizio Pilo, Giuditta Pisano (University of Cagliari, Italy); Maurizio Pollino (ENEA, Italy); Massimo Pompili (Sapienza University of Rome, Italy); Maria Luisa Villani (ENEA, Italy)

ROOM A

TS09 Electric Mobility/Automotive

TS09_01 PKI implementation for the cybersecurity of electric vehicle charging infrastructures

Elsa Corniani, Mauro G. Todeschini (Ricerca sul Sistema Energetico - RSE, Italy)

TS09_02 The Impact of Dashboard Redesign on the Onboard Management in Maritime Applications: an User Experience Approach

Pietro Orciuolo (University of Trieste, Italy); Davide Severini (Politecnico di Milano, Italy); Daniele Bosich, Giorgio Sulligoi (University of Trieste, Italy)

TS09_03 A system-level characterization of residential electric vehicle recharge for the provision of balancing services with a focus on aFRR

Filippo Colzi (Ricerca sul Sistema Energetico - RSE, Italy); Giovanni Lutzemberger, Gianluca Pasini (University of Pisa, Italy); Sara Salamone (Ricerca sul Sistema Energetico - RSE, Italy & University of Pisa, Italy)

TS09_04 On-Line State Estimation for Li-ion Batteries in Traction Applications

Simona Sabatino, Giuseppe Graber, Vincenzo Galdi, Vito Calderaro, Lucio Ippolito (University of Salerno, Italy)

TS09_05 An Intelligent AI-based Smart Contract for Goal-Oriented Semantic Network in the 6G Automotive Sector

Alessandro Vizzarri (University of Rome Tor Vergata, Italy)

TS09_06 Cost Analysis and Optimization of Public Bus Fleets Using Genetic Algorithm Considering Different Technologies

Sofia Borgosano, Alessandro Saldarini, Michela Longo, Dario Zaninelli (Politecnico di Milano, Italy); Valentina Astori (STAR Mobility, Italy)

TS09_07 Assessment of highway fast-charging infrastructures impact on the Italian transmission network

Maria Dicorato, Giuseppe Forte, Francesca Marasciuolo (Politecnico di Bari, Italy); Enrico Maria Carlini, Corrado Gadaleta, Antonio Conserva, Michela Migliori, Davide Monno (Terna, Italy)

ROOM B

TS10 Power System Analysis, Operation and Control

TS10_01 A model in Matlab/Simulink for Grid-Forming Control of VSC Converters in HVDC Systems to Implement the Black-Start Function

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

TS10_02 Clustering techniques to evaluate the impact of reactive power from distribution systems on the transmission system: the Italian case

Andrea Pomarico, Alberto Berizzi (Politecnico di Milano, Italy); Cosimo Pisani, Giorgio Giannuzzi, Chiara Vergine (Terna Rete Italia, Italy)

TS10_03 TWMI: A Single-ended Fault Location Method for Multi-Branch Earthed Overhead Lines based on a Matrix approach

Francesco Sanniti, Sebastian Dambone Sessa (University of Padua, Italy); Alessandro Greco, Simone Talomo, Martina Pajussin (Terna, Italy); Roberto Benato (University of Padua, Italy)

TS10_04 Management and Assessment of Road Tunnel Lighting to Improve Energy Efficiency and Performance in View of Self Widespread Consumption

Andrea Danzo, Paola Verde, Pietro Varilone (University of Cassino and Lazio Meridionale, Italy); Antonio Gallo, Andrea Sebastiani (Anas, Italy)

TS10_05 Modular Layout of Power Systems to Increase the Service Continuity of Existing Road Tunnels

Cristina Moscatiello, Luigi Martirano (Sapienza University of Rome, Italy); Giacomo Greco, Sara Cosentino (TECNE Gruppo Autostrade, Italy)

TS10_06 Continuous Availability Systems in Road Tunnels

Giuseppe Parise (Sapienza University of Rome, Italy); Giuseppe Parise (Sapienza University of Rome, Italy); Mario Lanciano (Italoiberica Engineering Group, Italy); Emilia Pagano (Pagano)

TS10_07 Short-Circuit Analysis in Unbalanced LV Distribution Networks with Distributed Generators

Matteo Bartolomeo, Paola Verde, Pietro Varilone (University of Cassino and Lazio Meridionale, Italy)

TS10_08 Overall Equipment Effectiveness (OEE) methodology applied to the TSO: state-of-the-art and prospects

Francesco Del Pizzo, Cristiano Quaciari, Giorgio Giannuzzi, Chiara Vergine, Gaetano Pecoraro, Benedetto Aluisio (Terna, Italy); Vito Calderaro, Vincenzo Galdi, Giuseppe Graber (University of Salerno, Italy)

ROOM C

TS11 Regulation & Markets

TS11_01 Italian Regulatory Framework for Grid Flexibility: Weaknesses and Potential Enhancements

Giorgia Lattanzio, Giacomo Viganò, Marco Rossi (Ricerca sul Sistema Energetico - RSE, Italy)

TS11_02 Impact of the abolition of PUN on the outcomes of the Italian day ahead market

Federica Davò, Alessandro Zani, Dario Siface (Ricerca Sistema Energetico - RSE, Italy)

TS11_03 Assessment of Graph-Based Clustering Algorithms for Alternative Bidding Zone Configurations

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

TS11_04 Evolution of the Italian retail market for non-household customers in the electricity sector

Gabriella Antonel, Francesca Annarita Sabatini (ARERA, Italy)

TS11_05 Global and local ancillary services: the Italian regulatory framework

Andrea Galliani, Marco Savino Pasquadibisceglie, Andrea Rosazza (ARERA, Italy)

TS11_06 The evolution of quality and output-based regulation of electricity networks in Italy

Riccardo Vailati, Luca Lo Schiavo (ARERA, Italy)

TS11_07 Regulating Water Quality: the Italian Approach

Lorenzo Bardelli, Jacopo Manca (ARERA, Italy)

10:15-10:30 *Coffee Break*

10:30-13:00 **MAIN ROOM**
Case Histories

13:00-14:00 *Lunch*

14:00-15:00 **MAIN ROOM**
Special Session CHIPS/Corifi

14:00-15:00 Parallel Special and Technical Sessions

ROOM A

TS12 Measurements & IoT

TS12_01 Monitoring concrete curing and strength using microwave waveguide sensor and ANN

Hashem Al-Mattarneh (Yarmouk University, Jordan); Rabah Ismail, Faten Albtoush (Jadara University, Jordan)

TS12_02 Appliance Identification in NILM through Image or Signal Features: a Performance Comparison

Zhongzong Yan (Hunan University, China & University of Trento, Italy); Davide Brunelli, David Macii, Matteo Nardello (University of Trento, Italy); He Wen (Hunan University, China); Dario Petri (University of Trento, Italy)

TS12_03 Digital Twin Applications in the Energy Sector 2024 AEIT International Annual Conference

Saeid Shahmoradi, Andrea Mazza, Enrico Pons (Politecnico di Torino, Italy)

TS12_04 Smart Soil Nutrient Analyzer

Shreya Shelke, Parag Shende, Shreya Shelke, Manas Shende, Vedant Shelke, Rohan Shelke, Siddhant Shelke (Vishwakarma Institute of Technology, India)

ROOM B

TS13 Modeling, Design and Simulation of Systems and Devices

TS13_01 Optimized design flow for coupled PCB-type power inductors

Davide Auteri, Mario Giuseppe Pavone, Giovanni Vinci, Enrico Alfredo Bottaro (STMicroelectronics, Italy)

TS13_02 Analysis of Transformer Performance Under Seismic Conditions Using FEM

Ramazan Altay, Necmettin Mert Kocanali, Mahmut Aksoy, Irem Hazar (Best Transformer, Turkey)

TS13_03 Electromagnetic shielding of aged cement-paste with biochar and PVC in C-band

Giuseppe Ruscica, Zahra Alinaghi, Verónica Valentina Parra Pérez, Isabella Natali Sora (University of Bergamo, Italy); Patrizia Savi (Politecnico di Torino, Italy)

TS13_04 Comparative Analysis of 2D and 3D Permanent Magnet Synchronous Motor Models Under Demagnetization Conditions

Shiva Garaei, Chunyan Lai (Concordia University, Canada); Lakshmi Varaha Iyer (Magna International, USA)

15:00-17:00 MAIN ROOM

Special Session L'Italia in Europa: semiconduttori e fotonica

15:00-17:00 Parallel Special and Technical Sessions

ROOM A

TS14 High Voltage Overhead Lines and Cables

TS14_01 Risk Assessment of Induced Currents and Voltages Under Maintenance Conditions Supported by Measurement Campaigns on HV/EHV OHLs

Roberto Benato, Sebastian Dambone Sessa, Giovanni Gardan, Luca Rusalen, Francesco Sanniti (University of Padua, Italy); Luciano Minto, Gilberto Ricci, Michele Schiavinato, Fabio Trombini (Terna, Italy)

TS14_02 Multiconductor Power Flow of HV/EHV Italian Network

Luca Rusalen, Roberto Benato (University of Padua, Italy)

TS14_03 Insulated Cable Sequence Impedances: a Tool for Terna by the Multiconductor Cell Analysis (MCA)

Luca Rusalen, Giovanni Gardan, Roberto Benato (University of Padua, Italy); Cosimo Pisani, Giorgio Giannuzzi (Terna, Italy)

TS14_04 Electrical parameters of the new "5-Phases" overhead lines

Mattia Boiani, Luca Buono, Franco Di Bona, Gaia Leone, Francesco Palone, Lorenzo Papi, Roberto Spezie, Gabriele Tresso, Pierluigi Vacante (Terna, Italy)

TS14_05 "5-Phases" towers for ampacity restoration and refurbishment of existing single circuit corridors

Luca Buono, Mattia Boiani, Francesco Palone, Roberto Spezie, Gabriele Tresso (Terna, Italy)

TS14_06 HVAC cables interference with insulated metallic pipes: analysis in both normal operation and short-circuit condition

Luca Buono, Lorenzo Garzelli, Luca Guizzo, Francesco Palone (Terna, Italy)

TS14_07 Preliminary Laboratory Tests on RTV-Coated Insulators Removed from Service

Marco Balato, Antonio Di Pasquale, Mario Pagano, Carlo Petrarca (University of Naples Federico II)

TS14_08 Criteria for optimizing the operation of high-voltage double-bar systems

Gionata La Barba (Terna Rete Italia, Italy); Michele Poli (Terna, Italy); Luca Barison, Laura Beltramin and Andrea Tognon (Terna Rete Italia, Italy); Chiara Vergine (Terna, Italy)

ROOM B

TS15 RES and their Integration in Power Systems

TS15_01 Innovative strategies for upward frequency regulation provision by renewables and batteries

Marco Raffaele Rapizza, Silvia Canevese, Diego Cirio (Ricerca sul Sistema Energetico - RSE, Italy); Matteo Saviozzi (University of Genoa, Italy); Francesco Conte (Campus Bio-Medico University of Rome, Italy)

TS15_02 A proposal for regulatory and market reforms to promote firm/dispatchable solar generation

Marco Pierro (EURAC Research, Italy); Cristina Cornaro (University of Rome Tor Vergata, Italy); David Moser (EURAC Research, Italy); Richard Perez (State University of New York, USA); Grazia Barchi (EURAC Research, Italy)

TS15_03 Assessment of Typical Meteorological Year for Hybrid Renewable Offshore Energy Systems: An Italian Case Study

Francesco Lanni, Giovanni Manzini, Beatrice Pinzi, Laura Serri (Ricerca sul Sistema Energetico - RSE, Italy); Tullia Bonomi (University of Milano-Bicocca, Italy)

TS15_04 Transmission Hosting Capacity for connections planning in renewables high penetration areas

Enrico Maria Carlini, Alessandra Zagnoni, Alfonso De Cesare, Chiara Giordano, Andrea Zollo, Lorenzo Del Rio, Luca De Bellis (Terna, Italy)

TS15_05 Battery Energy Storage System (BESS) for an efficient RES integration: a real case study on the transmission network evolution in the north-eastern Italian grid portion

Enrico Maria Carlini, Alessandra Zagnoni, Alfonso De Cesare, Luigi Di Bello, Chiara Giordano, Olimpia Sanviti, Andrea Boldrin, Mario Cascini (Terna, Italy)

TS15_06 A Fleet-Wide Context-Aware Approach to Wind Power Data Imputation

Davide Astolfi, Marco Pasetti (University of Brescia, Italy); Fabrizio De Caro (University of Salerno, Italy); Dmitrii Vasenin, Antony Vasile (University of Brescia, Italy); Alfredo Vaccaro (University of Sannio, Italy); Alessandra Flammini (University of Brescia, Italy)

TS15_07 Attaining Grid Code Reactive Power Capabilities for Photovoltaic Power Plant

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

TS15_08 Short-Time Ahead Wind Forecasting Using Hybrid EMD-Based Method

Mona Bahri (University of Newcastle, Australia); Leo Ghignone and Sahand Vahidnia (Research Fellow, Australia)

ROOM C

TS16 Smart Grids and Innovative Distribution Systems

TS16_01 Voltage Regulation Potential of Electric Vehicles in Distribution Networks Considering Trade-off Between Participation Benefit and Driving Demand

Chaowanant Jamroen, Dulpichet Rerkpreedapong (Kasetsart University, Thailand); Miadreza Shafiekhah (University of Vaasa, Finland); Sanchai Dechanupaprittha (Kasetsart University, Thailand)

TS16_02 Recursive reconfiguration of private MV networks to maximize dynamic islanding capability

Andrea Scrocca, Filippo Bovera, Maurizio Delfanti (Politecnico di Milano, Italy); Alessandro Blaco (Optimo IoT, Italy)

TS16_03 Real-Time Simulation of MV/LV Hybrid AC/DC Test Facility: Islanding and Resynchronization

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

TS16_04 Control of Nanogrids with Distributed Storage Optimization and Frequency Support for Renewable Energy Community Applications

Daniele Menniti, Nicola Sorrentino, Anna Pinnarelli, Giovanni Brusco, Giampiero Spina (University of Calabria, Italy); Giuseppe Barone (Creta Energie Speciali, Italy)

TS16_05 Enhanced Evaluation on Electrical Load Forecasting Methodologies in Urban Distribution Networks

Edoardo Daccò, Davide Falabretti (Politecnico di Milano, Italy); Dario Attilio Ronzio, Daniele Perona, Riccardo Lazzari (Ricerca sul Sistema Energetico - RSE, Italy); Gaetano Iannarelli, Alessandro Cirocco (A2A, Italy); Alessandro Bosisio (University of Pavia, Italy)

TS16_06 Optimal management of battery-integrated renewable energy communities for providing energy flexibility services

Andrea Sebellin, Massimiliano Coppo, Fabio Bignucolo (University of Padua, Italy)

TS16_07 Applications of MVDC Technologies for the Evolution of the MVAC Distribution Network

Eleonora Riva Sanseverino, Gaetano Zizzo, Nicolò Calanni Macchio (University of Palermo, Italy); Daniele Clerici, Chiara Gandolfi, Alessandro Veroni (Ricerca sul Sistema Energetico - RSE, Italy); Antony Vasile (University of Brescia, Italy)

TS16_08 Reactive power compensation in present MV and LV grids: the approach of SET Distribuzione

Fabio Bignucolo, Massimiliano Coppo, Mattia Pelizza, Roberto Turri (University of Padua, Italy); Matteo Collini, Massimo Forlani, Massimo Franceschini, Stefano Marcon (SET Distribuzione, Italy)

17:00-17:15 MAIN ROOM

AEIT2024 Student Contest Award

AEIT2024 International Annual Conference Closing Session