

AEIT
2016

Capri, 5/7
October 2016

INTERNATIONAL Annual Conference



Sustainable Development in the Mediterranean Area *Energy and ICT Networks of the Future*

under the high patronage of



*Ministero degli Affari Esteri
e della Cooperazione Internazionale*



in collaboration with



SEZIONE di NAPOLI
SEZIONE di BENEVENTO

supported by



Collegio Provinciale dei Periti Industriali
e dei Periti Industriali Laureati
Circonscrizione della Corte d'Appello di Napoli



La partecipazione all'evento garantirà l'attribuzione di crediti formativi secondo un accordo sottoscritto con l'Ordine degli Ingegneri

La partecipazione all'evento garantirà l'attribuzione di 8 crediti formativi per giornata per un totale di 24 crediti formativi secondo un accordo sottoscritto con il Collegio dei Periti Industriali e dei Periti Industriali Laureati di Napoli



OVERVIEW

The Mediterranean area, although continuously growing, does not, collectively or in its individual nations, have the energy and related services required to match the needs and expectations of development, and its future cannot be foreseen without important investment. In the coming years, a great commitment from the worlds of industry and academia will most definitely be required: research and development activities need to be planned and coordinated.

A careful analysis of the Mediterranean area will be required, in which the tendency of the population is to focus in megacities, on huge metropolitan areas, while existing cities are at the same time developing into new “smarter” cities. This scenario also sets out a new type of integration between citizens, public administration and business that increasingly gains in importance. It is widely recognized that such a large and complex system has no future without the programmed and optimal management of the System of Na-

tions and the System of City Nations. As part of its role in the institutional promotion of research and development in the fields of energy, telecommunications, information, automation and electronics, AEIT promotes its International Annual Conference with the intention of creating a permanent forum for discussion of those topics affecting the socio-economic and technological development of the Mediterranean area.

Particular attention will be given to small and medium-sized firms, to whom AEIT extends an invitation to the conference and invites contributions on their experience and expectations. In addition to the topics of economic and social interest, as discussed by authoritative representatives of the international institutional world, technical sessions will be scheduled, containing open contributions, which will certainly be extremely useful. An international commission will award prizes for the contributions and the most interesting papers.

Round Tables, Panels, Speeches and Memories will treat specific problems regarding the economic aspects of planning, management and energy regulation in the Mediterranean Area with the participation of national and international Institutions, Companies and Professional Associations.

Wednesday, 5th October

Conference Venue: Capri Congress Center

08:30 - 09:30 REGISTRATION

09:30 - 10:30 WELCOME STATEMENTS AND EVENT PRESENTATION

Mario Rinaldi - *President General of AEIT*

Domenico Villacci - *Chair, Consortium EnSiEL, University of Sannio*

Adamo Nicola Panzanella - *President of AEIT Naples*

Luigi Vinci - *President of "Engineers Council of Naples' Province"*

Maurizio Sansone - *President of "Collegio dei Periti Industriali e dei Periti Industriali Laureati" Naples' Province*

Local Authorities

Giovanni De Martino - *Sindaco Città di Capri*

Antonino Esposito - *Consigliere con delega al Turismo e Sviluppo del Porto Turistico*

OPENING SPEECHES

Serena Angioli - *Regional Ministry of the Campania Region - European Cooperation and Euro-Mediterranean Area Policy*

Amedeo Lepore - *Regional Ministry of the Campania Region - Economic Affairs*

10:30 - 11:30 OPENING PANEL

Chairperson: Francesco Gagliardi - President of Conference Scientific Committee

Gianluigi Fioriti - *CEO of e-distribuzione*

Luigi Michi - *Director of Strategies and Development Division Terna, CEO of Terna Plus*

Conference Venue: Capri Congress Center, Sala Cerio, Sala Hotel Syrene, Sala Vanalesti

11:30 - 13:30 TECHNICAL PARALLEL SESSIONS (4 sessions) - *See Sessions Programme for Details*

Capri Congress Center - Session A1.1

- **Renewable Energy Sources, New Configuration of Electricity Systems and their Management**

Sala Cerio - Session A2.1

- **Methods, Components and Technologies for the Transmission and Distribution of Electricity**

Sala Hotel Syrene - Session A3.1

- **Mobility and Transports - Suburban and Urban Applications**

Sala Vanalesti - Session C1

- **Machines and Electrical Drives**

13:30 - 14:30 NETWORKING LUNCH

14:30 - 16:30 TECHNICAL PARALLEL SESSIONS (4 sessions) - *See Sessions Programme for Details*

Capri Congress Center - Session A1.2

- **Renewable Energy Sources, New Configuration of Electricity Systems and their Management**

Sala Cerio - Session A2.2

- **Methods, Components and Technologies for the Transmission and Distribution of Electricity**

Sala Hotel Syrene - Session A3.2

- **Mobility and Transports - Naval Power Systems and Electrical Propulsion for Aircraft**

Sala Vanalesti

- **Session C2 - Automation and Control**
- **Session C3 - Electromagnetism and Electromagnetic Compatibility**
- **Session C4 - Education and Representation**
- **Session C5 - Measurements**

16:30 - 18:30

Sala Vanalesti - Session B1

- **IoT & Network**

16:30 - 18:30 PANELS

Capri Congress Center - PANEL: Micro- and Smart-grid Experimental Facilities in Italy

Coordinated by: Michele Trovato, Massimo La Scala - *Politecnico di Bari*

- **New Energy Trends, new Devices and new Systems: the ABB Smart Lab Experience**

P. Perani - *ABB*

- **Smart Grid Interoperability Lab at the Joint Research Centre (JRC) of the European Commission**

E. Kotsakis, G. Fulli, M. Masera - *EC Europe*

- **PrInCE Lab Microgrid: Early Experimental Results**

B. Aluisio, A. Cagnano, E. De Tuglie, M. Dicorato, G. Forte, M. Trovato - *Politecnico di Bari*

- **LabZERO, an Interdisciplinary Living Laboratory for the Promotion of Renewables and Energy Efficiency**

M. La Scala, S. Bruno, S. Lamonaca, U. Stecchi, R. Amirante, M. Dassisti, M. Piccioni, A. Fraddosio, P. Stefanizzi - *Politecnico di Bari*, L. Tapfer, G. Contento - *ENEA*

- **SCUOLA Project & IoT Lab: Microgrids Experiences at Politecnico di Milano**

M. Delfanti, D. Falabretti, M. Merlo, V. Olivieri - *Politecnico di Milano*

- **RSE's Microgrid: a Facility for Research, Development and Testing of Future Distributed Generation and Microgrid Technologies**

R. Ambrogio, V. Prandoni - *Ricerca sul Sistema Energetico RSE*

- **The Smart City Energy Infrastructures at the Savona Campus of the University of Genoa**

S. Bracco, F. Delfino, P. Laiolo, M. Rossi - *Università di Genova*

Sala Cerio - PANEL: Hybrid Systems for Energy

Coordinated by: Romano Giglioli - *Università di Pisa*

- **Hybrid Energy Systems in Stationary Applications**

S. Barsali, R. Giglioli, P. Pelacchi, D. Poli - *University of Pisa*

Hybrid Energy Systems in Mobility Applications

M. Ceraolo, R. Giglioli, G. Lutzemberger, L. Sani - *University of Pisa*

18:30 TECHNICAL SESSIONS CLOSURE

Thursday, 6th October

Conference Venue: Capri Congress Center, Sala Cerio, Sala Hotel Syrene, Sala Vanalesti
Capri Congress Center

09:30 - 13:30/14:30 - 18:30 SPECIAL TECHNICAL SESSION

- **Sustainability in Supply, Use, Storage and Energy Management** - *See Sessions Programme for Details*

Chairperson: Vittorio Cecconi - President of ASTRI - AEIT

09:30 - 11:00 TECHNICAL PARALLEL SESSIONS (3 sessions) - *See Sessions Programme for Details*

Sala Cerio - Session A1.3

- **Renewable Energy Sources, New Configuration of Electricity Systems and their Management**

Sala Hotel Syrene - Session A2.3

- **Methods, Components and Technologies for the Transmission and Distribution of Electricity**

Sala Vanalesti - Session B2

- **Networks**

11:00 - 12:00

Sala Cerio - Session A4

- **Electricity Markets**

Sala Hotel Syrene - Session A5

- **Regulations and Standards**

11:00 - 13:30

Sala Vanalesti - Session B3

- **Energy Efficiency & EMI Techniques**

12:00 - 13:30 PANELS

Sala Cerio - PANEL: Cyber Physical Power Systems and Electrical Digitalization

Coordinated by: Domenico Villacci - University of Sannio and Enrico Maria Carlini - Terna

- **Holistic Cyber-Physical System Architectures for Smart Transmission Systems Monitoring, Protection and Control**

A. Vaccaro - University of Sannio

- **Enabling Technologies and Methodologies for Dynamic Thermal Rating Assessment**

F. Bassi - Terna

- **WAMS based Dynamic State Estimation of Smart Transmission Grids**

G. Giannuzzi - Terna

- **Spatial and Temporal Wind Power Forecasting by Knowledge Discovery on Big Data**

F. De Caro, A. Vaccaro, D. Villacci - University of Sannio

- **Integrating Components Thermal Models in Optimal Power Flow Analysis**

V. Guida, A. Vaccaro, D. Villacci - *University of Sannio*

- **Reliable Thermal Estimation of Overhead Lines by Interval Analysis**

G. Coletta, A. Vaccaro, D. Villacci - *University of Sannio*

Sala Hotel Syrene - PANEL: HVDC Systems for Trasmission Network

Coordinated by: Massimo Rebolini - Terna

13:30 - 14:30 NETWORKING LUNCH

14:30 - 15:30

Sala Vanalesti - Session B4

- **Air Measurements and Control**

14:30 - 18:30 PANELS

Sala Cerio - PANEL: Energertic Availability in the Mediterranean Area

- **Smart Resilient City Towards Sustainability of Africa**

C. Lazaroiu - *University Politehnica of Bucharest, Romania*, M. Roscia - *University of Bergamo*

Sala Cerio - PANEL: European RTDS Network for Electrical Power Systems

Coordinated by: Ettore Bompard - Politecnico di Torino

- **Natural Laboratories in Real Time: the Concept of ERIC-LAB**

E. Bompard - *Politecnico di Torino*

- **Towards Real Time European Network Laboratory: ERIC-LAB Experience**

G. Fulli - *Joint Research Centre of the European Commission, Ispra, Italy*

Sala Cerio - PANEL: Building Utilities' Digital Future

Coordinated by: Francesco Fusco Girard - A.T. Kearney Senior Manager for Utilities

- **Utilities Moving to Digital**

F. Fusco Girard - *A.T. Kearney Senior Manager for Utilities*

Sala Hotel Syrene - PANEL: Green-Ports: Energy Supplying and Electrical Infrastructures

Coordinated by: Giuseppe Parise - Sapienza Università di Roma and Roberto Napoli - Politecnico di Torino

- **Reorganisation of Port Areas Legislation and Energy Sustainability**

A. Ferrante - *Consigliere Tecnico del Consiglio Superiore dei Lavori Pubblici*

- **Improvements of Energy Efficiency in Port Systems through Cold-Ironing for Cruise Ships**

G. Sulligoi - *Università di Trieste*

- **Industrial Solutions for Sustainability of Port Areas: Some Achievements in Europe**

P. Perani - *ABB*

PANEL: Some Smart International Challenges for the Future: Research, Education, Business Models

Coordinated by: Roberto Napoli - Politecnico di Torino

with: A. Vicino - CUN Delegate, P.L. Mancarella - University of Melbourne & Manchester

18:30 TECHNICAL SESSIONS CLOSURE

21:00 GALA DINNER

Friday, 7th October

Conference Venue: Capri Congress Center

09:00 - 10:15 OPENING SESSION

Chairperson: Domenico Villacci - Consortium EnSiEL - University of Sannio
Vincenzo De Luca - Director General, Directorate General for Cultural and Economic Promotion and Innovation, Ministry of Foreign Affairs and International Cooperation, Italy
Ameur Bchir - CEO of STEG and President of Comelec
Pietro Putti - CEO of GME - Italian Market Operator
Hafez EL-Salmawy - Zagazig University - Cairo

10:15 - 11:45 PANEL SESSION - Mediterranean Energy System Integration

Chairperson: Hafez EL-Salmawy - Zagazig University - Cairo

- **MEDREG Role in the Energy Integration Systems**
Nicolò di Gaetano - Mediterranean Regulators - MEDREG

- **The Transition Toward New Energy Scenarios**
Philipp Godron - German Agency for Energy Transition - Agora

- **Smart Grids for Energy and Climate Objectives**
Roberto Zangrandi - Special Advisor at EDSO for Smart Grids

11:45 - 13:00 PANEL SESSION - Renewable Energy Sources: Pervasive Integration in Power System

Chairperson: Roberto Vigotti - Secretary General of RES4MED

- **Options for a Massive Deployment of RE in Algeria under 2020 and 2030 Scenarios**
Bruno Cova - Systems Planning Director - CESI

- **Cost Benefit of the Integration of Solar and Wind in the Algerian System**
Rabah Touileb - General Director of Strategy and Planning - Sonelgaz

- **Experiences in Morocco**
Abdellatif Bardach - Directeur Central Production Electricité - Office National de l'Electricité ed de l'EAU potable - ONEE

13:00 - 14:30 NETWORKING LUNCH

14:30 - 16:00 PANEL SESSION - Scenarios and Deployment of the Mediterranean Integrated Electricity System

Chairperson: Enrico Maria Carlini - Director of Planning Grid and Interconnection - TERN

- **The Euro Mediterranean Supergrid Project: E-Highway 2050**
Gerald Sanchis - General Coordinator - E-Highway 2050 Project, "Réseau de transport d'électricité" - RTE

- **Development Scenarios and Planning in the Euro-Mediterranean Area**
Chiara Vergine - Planning and Network Studies - TERN

TECHNICAL SESSIONS

Wednesday, 5th October

AEE TECHNICAL SESSIONS

Capri Congress Center

11:30 - 13:30 - Session A1.1

Renewable Energy Sources, New Configuration of Electricity Systems and their Management

Chairperson: Domenico Villacci - Università of Sannio

- **Use of Hidden Inertia from Wind Generation for Frequency Support in Power Grids**

F. Bassi, L. Caciolli, G. Giannuzzi - *Terna Rete Italia*, N. Corsi, A. Giorgi - *University of Florence*

- **PV and Building Energy Efficiency Measures Impact on the Grid in a Middle East Case Study**

P. Lazzeroni, S. Olivero, F. Stirano - *Istituto Superiore sui Sistemi Territoriali per L'Innovazione (SITI)*, M. Repetto - *Politecnico di Torino*, C. Micono, P. Montaldo, G. Zanzottera - *Ai Engineering*

- **Effects of Average Power Factor Management in Distribution Systems with Dispersed Generation**

F. Bignucolo, A. Savio, R. Caldon - *University of Padova*, A. Cerretti - *Enel Distribuzione*

- **Contribution of MV Static Distributed Generation to Voltage Unbalance Mitigation**

A. Savio, F. Bignucolo, R. Caldon - *University of Padova*

- **Impact on Residential Peak Consumption of an Electrochemical Storage System**

R. Urban, D. Moneta, M. Gallanti - *RSE - Ricerca sul Sistema Energetico*

Capri Congress Center

14:30 - 16:30 - Session A1.2

Renewable Energy Sources, New Configuration of Electricity Systems and their Management

Chairperson: Roberto Caldon - AEE AEIT

- **Smart Distribution Management System**

C. Arrigoni, M. Bigoloni, I. Rochira - *Siemens*, C. Bovo, M. Merlo, V. Ilea - *Politecnico di Milano*,

R. Bonera - *Freelance Senior Analyst and Developer*

- **Independent Energetic Grids for a Smart Island: Model and Design of a Microgrid for a Small Italian Island**

G. Graditi, R. Ciavarella, M. Valenti - *ENEA Centro Ricerche Portici*, M. Ippolito, D. La Cascia,

G. Zizzo - *University of Palermo*

- **Exploiting Distributed Energy Storage to Increase Network Hosting Capacity with a Multi-Agent Control System**

S. Mocci, N. Natale, F. Pilo, S. Ruggeri - *University of Cagliari*

- **Development of the Control Strategy for a Direct Current Microgrid: a Case Study**

R. Lazzari - *RSE*, D. Ronchegalli - *Eldor*

ONS PROGRAMME

- **Analysis of Active Power Curtailment Strategies for Renewable Distributed Generation**
M. Rossi, G. Viganò, D. Moneta, D. Clerici, C. Carlini - *RSE*
- **Measurements Placement in Active Distribution Networks for Centralized Control Systems**
G. Viganò, M. Rossi, C. Carlini, D. Moneta - *RSE*

Sala Cerio

11:30 - 13:30 - Session A2.1

Methods, Components and Technologies for the Transmission and Distribution of Electricity

Chairperson: Roberto Caldon - *AEIT AEE*

- **Modelli stocastici per la previsione del profilo di assorbimento aggregato di carichi termostatici residenziali**

F. Conte, S. Massucco, F. Silvestro - *Università di Genova*, E. Ciapessoni, D. Cirio, A. Pitto - *RSE*

- **Valutazione probabilistica della Net Transfer Capacity mediante power flow probabilistico**
F. Adinolfi, S. Massucco, M. Saviozzi, F. Silvestro - *Università di Genova*, E. Ciapessoni, D. Cirio, A. Pitto - *Ricerca sul Sistema Energetico RSE*

- **Integrating Forecasting Models in Cyber Physical Power Systems**

A. Andreotti - *University of Naples "Federico II"*, E.M. Carlini - *Terna Rete Italia*, A. Vaccaro, D. Villacci - *University of Sannio*

- **Improving Power Quality and Efficiency in Electrical Plants using a Three-Phase Series Hybrid Passive Filter**

F. Grasso, A. Luchetta, S. Manetti - *University of Firenze*, S. De Giorgis, F. Cenghialta, E. D'Antuono - *Energia Europa*

- **Innovative Technologies for Modelling and Measuring Electrical Discharges**

A. Villa, L. Barbieri, M. Gondola, R. Malgesini - *Research on Energy System - RSE*, A.R. Leon-Garzon - *Politecnico di Milano*

Sala Cerio

14:30 - 16:30 - Session A2.2

Methods, Components and Technologies for the Transmission and Distribution of Electricity

Chairperson: Alfredo Testa - *Seconda Università di Napoli*

- **Enhance Available Battery Energy by Means of a New Management System Control Strategy**
L. Pellegrino, E. Micolano - *RSE*

- **Natural Esters Distribution Transformers: a Solution for Environmental and Fire Risk Prevention**

M. Pompili, L. Calcara - *University of Roma "La Sapienza"*, A. Sturchio, F. Catanzaro - *E-distribuzione*

- **Sodium-Nickel Chloride (NaNiCl₂) Experimental Transient Modelling**

R. Benato, S. Dambone Sessa - *University of Padova*, A. Necci, F. Palone - *Terna Rete Italia*

- **Sodium-chloride (Na-NiCl₂) Battery Safety Tests for Stationary Electrochemical Energy Storage**

R. Benato, S. Dambone Sessa - *University of Padova*, G. Crugnola, M. Todeschini, A. Turconi, N. Zanon, S. Zin - *Fiamm Sonick*

- **Equivalent Circuit Models for the Analysis of a Commercial Ultracapacitor Module**

M. Andriollo, M. Caramanna, A. Tortella - *University of Padova*

- **Finite Element Model of a 3 m long Three-core Armoured Submarine Cable**

R. Benato, S. Dambone Sessa, M. Forzan, F. Gentilin - *University of Padova*, M. Marelli, D. Pietribiasi - *Prysmian Power Link*

- **Measurement of short Circuit Impedance with EDG**

U. Corbellini - *Corbellini srl Engineering Company*, M. La Rosa - *RAI - Radiotelevisione Italiana*, G.L. Amicucci, F. Fiamingo - *INAIL*

- **Accurate Prediction of the Corona Noise Produced by Overhead Transmission Lines**

A. Donini, R. Spezie - *Terna Rete Italia*, R. Cortina - *Consultant*, E.A. Piana - *University of Brescia*, R. Turri - *University of Padova*

Sala Hotel Syrene

11:30 - 13:30 - Session A3.1

Mobility and Transports - Suburban and Urban Applications

Chairperson: Carlo Carganico - Italferr

- **Installazione in un nodo ferroviario di sistemi di accumulo per il recupero di energia in frenata dai convogli in arrivo**

M. Ceraolo, G. Lutzemberger - *Università di Pisa*

- **A Simulation Model to Estimate Touch Voltage in DC Railway Systems**

C. Spalvieri - *Rete Ferroviaria Italiana*, R. Lamedica, F.M. Gatta, A. Ruvio, L. Pantalone - *Sapienza University of Rome*

- **Innovative Protection System for Separation Section between 15 kV a.c. and 3 kV d.c. Railway Networks**

G. Guidi Buffarini, G. Trezza, R. Consalvi - *Italferr*, R. Lamedica, A. Ruvio, S. Muzi - *Sapienza University of Rome*

- **Intervento di up-grade della Linea di Contatto per l'aumento della velocità nel tratto in curva posto tra il km 31 ed il km 50 della linea AV Milano-Bologna**

E. Fedeli, P. Fellini, C. Spalvieri - *RFI*, M. Porreca - *SATFERR*, G. Ricci - *G.C.F. Generale Costruzioni Ferroviarie*

- **Processo di certificazione e prove del V300 Zefiro ETR 1000 per velocità commerciali fino a 350 km/h**

C. Carganico - *Italferr*, C. Zappacosta, L. Bocciolini, G. Pancari, G. Ratti, S. Bianchi, F. Piccioli - *Italcertifer*

- **Delay Tolerant Network for Smart City: Exploiting Bus Mobility**

C. Giannini, P. Calegari, C. Buratti, R. Verdone - *University of Bologna*

- **A Method for Optimizing Railway Speed Profiles Basing on the Maximization of the Coasting**

A. Guastafierro, G. Lauro - *Ansaldo STS*, M. Pagano - *Università di Napoli Federico II*

M. Brenna, F. Foiadelli, M. Longo, D. Zaninelli - *Politecnico di Milano*, P. Bellini, M. Sicurello - *Azienda Trasporti Milanese*

14:30 - 16:30 - Session A3.2

Chairperson: Davide Lauria, Andrea Del Pizzo - Università di Napoli Federico II

Prof. Antonio Moccia - *Direttore del Dipartimento di Ingegneria Industriale dell'Università di Napoli Federico II*

T. Coppola, M. Fantauzzi, S. Miranda, F. Quaranta - *University of Naples Federico II*

E. Begovic, C. Bertorello - *Università di Napoli Federico II*

F. Balsamo, D. Lauria - *University of Naples Federico II*, G. Pede - *National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)*, C. Capasso, O. Veneri - *Istituto Motori - National Research Council Naples*

A. Del Pizzo, L.P. Di Noia, A. Pizza - *University of Naples Federico II*

A. Del Pizzo, L.P. Di Noia, F. Marulo - University of Naples Federico II

A. Vicenzutti, V. Bucci, G. Sulligoi - *University of Trieste*, R. Pelaschiar - *Fincantieri Italian Shipyards*

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ASTRI TECHNICAL SESSIONS

Sala Vanalesti

11:30 - 13:30 - Session C1

Machines and Electrical Drives

Chairperson: Rosario Miceli - Università di Palermo

- **An Extended Library of Models of Railway Vehicles for Fast Simulation and Optimization of Regenerative Braking and Energy Management**

A. Frilli, E. Meli, D. Nocciolini, S. Panconi, L. Pugi, A. Rindi - *University of Firenze*

- **Integrated Design of an Hydraulic Servo-System Fed by Vehicle Regenerative Braking**
- B. Allotta, M. Pagliai, A. Nocentini, L. Pugi - *University of Florence*, G. Lutzemberger - *University of Pisa*, A. Pretto - *PRETTO*

- **Double and Single Sided Tubular Linear Permanent Magnets Generator for the Wave Energy Conversion**

A. Musolino, R. Rizzo, L. Sani - *University of Pisa*, G. Bracco, G. Mattiazzo - *Politecnico di Torino*

- **Loss Analysis in Soft Ferrite Cores for Arbitrary Input Waveforms**

M. Marracci, B. Tellini - *University of Pisa*

- **Cogging Torque Comparison of IPMSMs with Different Stator Windings**

M. Caruso, A.O. Di Tommaso, F. Genduso, R. Miceli, G. Schettino, F. Viola - *Università degli Studi di Palermo*

Sala Vanalesti

14:30 - 15:00 - Session C2

Automation and Control

Chairperson: Angelo Raciti - Università di Catania

- **Secure SCADA Systems for Oil Industry in Gulf Cooperation Council Countries**

S. Alshaya - *Majmaah University, Saudi Arabia*, D. Giuli, F. Paganelli, T. Pecorella - *Università di Firenze*, F. Hadi - *EWADY LLC, Saudi Arabia*

- **Towards a Comprehensive Strategy in Industrial Control System Security**

S. Alshaya - *Majmaah University, Saudi Arabia*, D. Giuli, F. Paganelli, T. Pecorella - *Università di Firenze*, F. Hadi - *EWADY LLC, Saudi Arabia*

Sala Vanalesti

15:00 - 15:30 - Session C3

Electromagnetism and Electromagnetic Compatibility

Chairperson: Ermanno Cardelli - Università di Perugia

- **3D ELF Magnetic Field Strength Modeling through Fully Connected Cascade Networks**

S. Coco - *University of Catania*, A. Laudani, G.M. Lozito, F. Riganti Fulginei, A. Salvini - *University of Roma Tre*

- **Identification of a FEM Based Model through CFS03 Algorithm**

A. Laudani, G.M. Lozito, F. Riganti Fulginei, A. Salvini - *University of Roma Tre*

Sala Vanalesti

15:30 - 16:00 - Session C4

Education and Representation

Chairperson: Giovanni Cancellieri - Università Politecnica delle Marche

- **Implementing Fuzzy Analysis for Creating Virtual Training Methods In Lifelong Learning**
D. Dintsis - *Specialist Center of Computer Training, Russia*

Sala Vanalesti

16:00 - 16:30 - Session C5

Measurements

Chairperson: Stefano Pirani - Università Politecnica delle Marche

- **Measuring Magnetic Losses in Si-Fe Alloys with Rotating Polarization**

M. Pompei, S. Quondam Antonio - *University of Perugia*

- **Numerical Methods to Achieve Robust Relaxometry Mapping in Multi-Echo Chemical Shift-Based MRI**

G. Siracusano, A. La Corte - *University of Catania*, M. Gaeta - *University of Messina*, M. Carpentieri - *Politecnico of Bari*, F. Siracusano - *Independent Reseracher*, R. Tomasello - *University of Perugia*, G. Finocchio - *University of Messina*

AMES/AICT TECHNICAL SESSIONS

Sala Vanalesti

16:30 - 18:30 - Session B1

IOT & Network

Chairperson: Maurizio Mayer - A&IT

- **L'«Internet delle cose» e la legge applicabile alla protezione dei dati personali nell'Unione Europea**

P. Piroddi - *Studio legale Piroddi*

- **Internet of Things: problematiche e prospettive**

A. Gagliardi

- **Physical Layer Security for IoT Devices Configuration and Key Management - a Proof of Concept**

L. Brilli, T. Pecorella, L. Mucchi - *Università di Firenze*

- **Next Generation M2M Cellular Networks: LTE-MTC and NB-IoT Capacity Analysis for Smart Grids Applications**

S. Persia, L. Rea - *Fondazione Ugo Bordon*

- **The Effect of Video Caching on Network Resource Planning - A Real-Case Study**

L. Brilli, R. Fantacci, T. Pecorella - *Università di Firenze*, T. Ionta - *Telecom Italia*

- **Exploiting White Space Communication for Increasing GNSS Reliability in Maritime Transportation**

E. Bonetto, D. Brevi, R. Scopigno - *Istituto Superiore Mario Boella*

Thursday, 6th October

AEE TECHNICAL SESSIONS

Sala Cerio

09:30 - 11:00 Session A1.3

Renewable Energy Sources, New configuration of Electricity Systems and their Management

Chairperson: Stefano Massucco - Università di Genova

- **Ancillary Services by DG and Storage Systems in Distribution Networks for Energy Market Participation**

M. Coppo, F. Cappelletto, R. Caldon, R. Turri - *University of Padova*, N. Natale, F. Pilo, G. Pisano, G.G. Soma - *University of Cagliari*

- **Distribution System Participation to the Italian Ancillary Service Market**

N. Natale, F. Pilo, G. Pisano, G.G. Soma - *University of Cagliari*

- **NanoGrids for Home Application in a Power Cloud Framework**

D. Menniti, A. Pinnarelli, N. Sorrentino, A. Burgio, G. Brusco, V. Frascà, L. Mendicino, M. Mercuri - *Università della Calabria*

- **Active Distribution Grids: a MatLab-Simulink Tool for Energy Performance Analysis**

E. Ciancamerla, M. Minichino - *ENEA Casaccia*, M.C. Falvo, L. Martirano - *University of Rome Sapienza*

- **Infrastruttura di ricarica per i veicoli elettrici in Italia: linee guida per l'installazione e punti aperti nell'implementazione**

F. Colzi, S. Celaschi - *Ricerca sul Sistema Energetico - RSE*

Sala Hotel Syrene

09:30 - 11:00 Session A2.3

Methods, Components and Technologies for the Transmission and Distribution of Electricity

Chairperson: Massimo La Scala - Politenico di Bari

- **Phase-to-Ground Fault Location Methods in Unearthed Sub-Transmission Networks: a Review**

M. Baù, R. Benato, S. Dambone Sessa - *Università degli Studi di Padova*, M. Poli, C. Quaciari - *Terna Rete Italia*

- **Impact of Protective Structures on EHV Cable Transient Behaviour: Comparison between FEM, EMTP and Measurements**

R. Benato, S. Dambone Sessa, N. Viafora - *Università degli Studi di Padova*, F. Palone - *Terna Rete Italia*

- **Valutazione di sicurezza in linea del sistema elettrico considerando le incertezze: l'approccio iTESLA**

E. Ciapessoni, D. Cirio, A. Pitto - *Ricerca sul Sistema Energetico - RSE*, N. Omont - *Réseau de Transport d'Électricité - RTE*, C. Bagnasco - *TechRain*

- **Monitoring of Frequency Disturbances in the European Continental Power System**

S. Canevese, E. Ciapessoni, A. Gatti, M. Rossi - *RSE*

- **Nuovo elettrodotto in doppia terna a 380 kV Sorgente-Rizziconi**

F. De Salvo, C. Silvestri - *Lombardi ingegneria*, G. Carletti, R. De Zan, M. Rebolini, P. Sylos Labini - *TERNA Rete Italia*, M. Bacchini - *Prysmian Powerlink*

- **Il collegamento di Capri alla Rete Elettrica Nazionale: affidabilità e resilienza**

F. Palone, V. Iuliani, M. Rebolini, L. Avellino, R. Cirrincione - *Terna Rete Italia*

Sala Cerio

11:00 - 12:00 Session A4

Electricity Markets

Chairperson: Michele Antonio Trovato - *Politenico di Bari*

- **Forecasting Italian Electricity Market Prices Using a Neural Network and a Support Vector Regression**

F. Davò, M.T. Vespucci - *University of Bergamo*, A. Gelmini, P. Grisi, D. Ronzio - *RSE - Ricerca Sistema Energetico*

- **A Future Scenario Analysis of the Impact of EU ETS on the Pan-European Power System**

D. Siface, A. Zani, A. Gelmini, A. L'Abbate, M. Benini - *Ricerca sul Sistema Energetico - RSE*

- **Islamic Finance and Renewable Energy: an Innovative Model for the Sustainability of Investments**

D. Morea, L.A. Poggi - *University of Rome Tor Vergata*

- **Presentazione della Joint Venture F2i - Enel nel settore fotovoltaico in Italia: da HFV a Ultor**

G. Noviello - *Presidente HFV*, D. Percopo - *Amministratore Delegato HFV e Ultor*

Sala Hotel Syrene

11:00 - 12:00 Session A5

Regulations and Standards

Chairperson: Roberto Napoli - *Politecnico di Torino*

- **Power Transformer Energy Performance: Landscape of Market Surveillance Testing Avenues**

F. Bua, A. Marra - *ECD*, A. Baggini - *Università degli Studi di Bergamo*

- **The Role of Electrical Energy Meters in Legal Ascertainments**

A. Ferrero, V. Scotti - *Politecnico di Milano*

AMES/AICT TECHNICAL SESSIONS

Sala Vanalesti

09:30 - 11:00 Session B2

Networks

Chairperson: Pietro Erratico - *AMES AEIT*

- **Adaptive Network-Coding MIMO Schemes for Reliable Multicast Green Communications**

F. Chiti, R. Fantacci, L. Pierucci - *University of Florence*

- **Software Defined Network Approach Driven by the mPlane Measurement Plane**

E. Tego, A. Rufini, A. Valenti, F. Matera - *Fondazione Ugo Bordoni*, M. Mellia, S. Traverso - *Politecnico di Torino*

- **Efficient Coordinated Beamforming and Scheduling Approaches for Heterogeneous Networks**

G. Bartoli, R. Fantacci, D. Marabissi - *University of Florence*

M. Celidonio, E. Fionda, L. Pulcini - *Fondazione Ugo Bordoni*, R. Dal Molin, E.R. Restuccia - *Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione (Ministry of Economic Development)*

M. Celidonio, E. Fionda, L. Pulcini - *Fondazione Ugo Bordoni*, M. Ferrante, E.R. Restuccia - *Istituto Superiore delle Comunicazioni e delle Tecnologie dell'Informazione (Ministry of Economic Development)*

11:00 - 13:30 Session B3

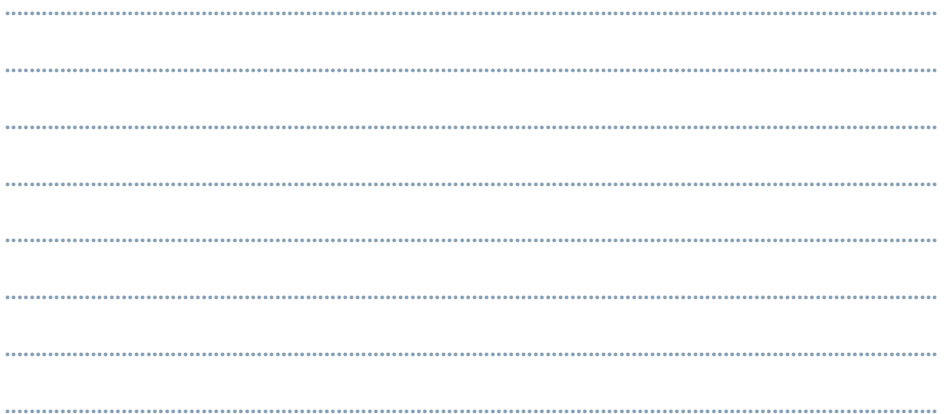
Chairperson: Angelo Raciti - A&IT

A. Imbruglia - *STMicroelectronics*, A.D. Grasso, S. Pennisi - *University of Catania*, G. Scotti, A. Trifiletti - *Sapienza University of Rome*

G. Ala, G.C. Giaconia, G. Giglia - *Università degli Studi di Palermo*, M.C. Di Piazza, M. Luna, G. Vitale - *ISSIA - Consiglio Nazionale delle Ricerche (CNR), Palermo*, P. Zanchetta - *University of Nottingham, United Kingdom*

M. Pompei, S. Quondam Antonio - *University of Perugia*

S. Di Mauro, S. Musumeci, A. Raciti, G. Vasta - *University of Catania*



SPECIAL TECH

Thursday, 6th October

09:30 - 13:30/14:30 - 18:30

Sostenibilità nell'approvvigionamento, utilizzo, accumulo e Gestione dell'Energia

Promotori: ASTRI - Society AEIT per le Scienze e Tecnologie per la Ricerca e l'Industria, Sezione AEIT di Palermo, CATePIS - Coordinamento di Associazioni Tecniche e Professionali Italiane per la Sostenibilità, CIRPS - Centro Interuniversitario di Ricerca Per lo Sviluppo sostenibile

Supporters: ATI - Associazione Termotecnica Italiana, Università degli Studi di Palermo, Scientific and Technological Research Council of Turkey, GELISIM University of Istanbul Turkey, GAZI University of Ankara Turkey, AICQ Sicilia - Associazione Italiana Cultura Qualità, CMAEL - Associazione per la ricerca sui Convertitori, Macchine e Azionamenti Elettrici, ANIE - Associazione Nazionale Industrie Elettriche ed elettroniche, SDESLAB - Laboratorio per lo Sviluppo Sostenibile e il Risparmio Energetico di Palermo

APERTURA LAVORI

RELAZIONI PROGRAMMATE

- **La sostenibilità nelle opere e nelle azioni dell'uomo**

Vittorio Cecconi - *Presidente ASTRI e AICQ Sicilia*

- **Gli attuali fabbisogni energetici, la loro evoluzione e la gestione sostenibile dell'intero ciclo dell'energia**

Vincenzo Naso - *Sapienza Università di Roma e direttore CIRPS*

- **The Technical Standardization: a Key Tool for the Energy Efficiency Promotion**

Roberto Bacci - *General Director, Comitato Elettrotecnico Italiano*, Franco Bua - *Technical Officer CT315, Comitato Elettrotecnico Italiano*

- **Approccio alla sostenibilità nel settore delle costruzioni: il BIM (Building Information Modeling) e i nuovi profili professionali connessi**

Claudio Rosso - *Presidente AICQ Nazionale*

- **Integrazione delle fonti rinnovabili e dell'accumulo nelle reti e microreti energetiche: tecnologie e strategie per una gestione sostenibile**

Giorgio Graditi - *Centro Ricerche ENEA di Portici*

- **Modelli sostenibili di organizzazione energetica, tecnica e gestionale dei Comuni di piccole e medie dimensioni**

Giacomo Gorni - *Tozzi Green*

NICAL SESSION

- **La gestione sostenibile delle micro reti elettriche**

Rosario Miceli - *Università di Palermo*

- **La manutenzione delle opere dell'uomo per accrescerne la sostenibilità**

Francesco Cangialosi - *past president AIMAN e presidente Commissione Manutenzione dell'UNI*

- **Convertitori e macchine elettriche per la sostenibilità energetica: la ricerca accademica in Italia**

Alberto Tenconi - *Politecnico di Torino*, Giuseppe Tomasso - *Università di Cassino e del Lazio Meridionale, presidente e vice-presidente CMAEL*

- **Le strategie sostenibili di interconnessione di reti elettriche nazionali ad altissima tensione**

Chiara Vergine - *TERNA*

- **L'impegno dell'ANIE per la sostenibilità dei prodotti elettrici ed elettronici**

Maria Antonietta Portaluri - *Direttore ANIE*

- **Il Protocollo ITACA sulla sostenibilità e relativa verifica di conformità**

Claudio Capitanio - *iiSBE*

- **La questione strategicamente sostenibile dell'accumulo di energia**

Luigi Michi, C. Tortora - *TERNA PLUS*

POSTER SESSION CON PRODUZIONE DI MEMORIE SCRITTE

- **L'idrogeno: la sua produzione e gestione e il suo ruolo in uno scenario energetico virtuoso, rinnovabile e sostenibile**

V. Naso, L. Schirone, F. Pellitteri - *Sapienza Università di Roma*

- **Innovazioni nella produzione di energia elettrica dal mare**

V. Franzitta, M. Trapanese - *Università degli Studi di Palermo*

- **Sostenibilità del rapporto con le popolazioni nella realizzazione di linee elettriche ad altissima tensione**

A. Motawi - *Corporate Affair TERNA*

- **Wireless Power Transmission for House Appliances: a Small Scale Resonant Coupling Prototype**

S. Benanti, M. Caruso, V. Castiglia, V. Cecconi, M. Corpora, V. Di Dio, A. O. Di Tommaso, F. Genduso, A. Imburgia, R. Miceli, C. Nevoloso, F. Pellitteri, G. Ricco Galluzzo, P. Romano, G. Schettino, C. Spataro, M. Stella, M. Trapanese - *Member IEEE*, F. Viola - *Università di Palermo*

- **The Challenge of Telecommuting: Technological Supports and Inclusion Possibilities for Disabled People**

G. Cancellieri - *Università Politecnica delle Marche*



CONFERENCE VENUE

Capri Congress Centre

Via Sella Orta 3 - CAPRI

Palazzo Cerio (Sala Cerio, Sala Vanalesti)

Piazzetta Cerio, 5 - CAPRI

Hotel Syrene

Via Camerelle 51 - CAPRI

ON SITE SECRETARIAT

The Conference Secretariat will be open at **Capri Congress Centre** as follows:

Wednesday, October 5, 2016 8,30 - 18,30

Thursday, October 6, 2016 8,30 - 18,30

Friday, October 7, 2016 8,30 - 17,30

SOCIAL EVENTS

Thursday October 6th

21.00 GALA DINNER

Villa Jovis - Via Roma 36 - Capri

Friday October 7th

21:00 DINNER

SECRETARIAT

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