Dear ladies and gentlemen, dear colleagues, dear friends,

We are honored and delighted to welcome you to the 19th edition of the IEEE International Conference on Environment and Electrical Engineering in Genoa, Italy, from Tuesday June 11th until Friday June 14th, 2019.

This year the Conference is organized by the University of Genoa, which hosts the conference in the amazing historical city of Genoa, a venue that will guarantee a successful technical conference amid culture and incredible sceneries. The conference received the full sponsorship by Industry Application Society (IAS), and the technical co-sponsorship by Electromagnetic Society (EMCS) and Power and Energy Society (PES). Three of the most important IEEE international societies.

We would also like to express our sincere gratitude to IAS for the generous financial support. We have the privilege to host the 3rd edition of the Industrial & Commercial Power System Europe Conference. The Industrial & Commercial Power System Department is one of the four department of IAS, whose scope is the advancement of the theory and practice of engineering as it relates to design and management of electrical power systems.

Over the past nineteen years, the conference has become a worldwide scientific guiding conference devoted to understand all the present-state matters between electrical engineering and environmental aspects. Delegates from university, industry, governmental and non-governmental organizations providers will present their views on hot-topics strictly related to the environmental-electrical engineering pair.

EEEIC and I&CPS have become one of the major events of the IEEE in Europe, and currently represent one of the largest gatherings of researchers and industry professionals in the world. This year we have about 350 attendees from all around the world. All the continents are represented to demonstrate that EEEIC&ICPS conference represents a unique opportunity for researchers, academics, engineers, and experts to present and exchange the latest information on the exciting and stimulating fields of electrical technology, energy, environmental engineering, smart grid, building automation, storage, e-mobility, etc.
Our technical program is rich and varied, with numerous technical oral sessions, distributed in four days. A special poster session is organized for PhD students encouraged by the sponsorship of ABB. IAS promoted a special project to increase the active participations of young researchers, volunteers, PhD students and students in general. We know that the success of a conference ultimately depends on the many people who have worked in planning and organizing both the technical program and supporting social arrangements.

We recognize the hard work of all the Chairs involved in the organization of a successful conference. Energy engineering with all its interests and applications is nowadays one of the most continuously evolving field of research. All sectors are becoming more and more electrifying. The batteries and the full electric vehicles will transform our life. The union of power systems with communication systems is transforming our systems: smart buildings, smart grids, smart mobility, smart cities. The systems are becoming safer and more efficient.

To avoid adverse effects on environment represents the most important challenge not only for scientists and engineers but for all the citizens. In this framework, the conference sessions will cover fundamental aspects of

- sustainable and renewable energy production
- energy storage
- smart grids management
- smart buildings
- energy conversion
- sustainable transport systems
- EMC control in lightning and grounding systems
- novel materials and nanotechnology.

We are sure that all the attendees will have a memorable and enjoyable time in this extraordinary city of Genoa, a symbol of trade, industry, freedom, power and cosmopolitan culture open to the future from a millennial history. Genoa began to gain autonomy from the Holy Roman Empire around 1096, becoming a medieval commune and after the “Free Maritime Republic of Genoa”. Genoa gave birth to Christopher Columbus, explorer, navigator and discoverer of the “new world”. Genoa can be considered as the historical bridge between the old and the new worlds.

We look forward to seeing you at EEEIC & ICPS 2019 in Genoa, Italy, 11-14 June 2019.
Dear Attendees,

on behalf of the Organizing Committee we are glad and honoured to welcome Authors and Participants to the 19th IEEE International Conference on Environment and Electrical Engineering and to the 3rd IEEE Industrial and Commercial Power Systems Europe Conference which take place in Genoa (Italy).

First of all, we would like to acknowledge the University of Genoa for patronising the conference and making available beautiful historical places for some of the scheduled events such as the Historical Aula Magna in Via Balbi where the conference Plenary Session will take place.

We hope Participants will also enjoy the beautiful venue chosen to host the conference technical works, NH Collection Genova Marina Hotel and Convention Centre designed by the famous architect Renzo Piano and located in the charming area of Genoa Ancient Port.

Beside the rich and intensive scientific work an interesting social program is also provided. A walk tourist tour will allow to discover the beauties of Genoa historical centre, a maze of tiny alleyways and narrow cobbled paths leading to hidden churches and astonishing palaces, belonging to the Rolli Palaces, declared part of the UNESCO World Heritage List.

The Welcome Cocktail will give the opportunity to enjoy “Palazzo della Meridiana” one of the most beautiful palaces of the Rolli, located in the heart of the town centre. Finally, the Gala Dinner will take place at Villa dello Zerbino, an historical noble house in a panoramic point of the city, characterized by a unique garden and a breath-taking water pool.

We want also to acknowledge the Conference General Chairs, for having contributed with their experience in the supervision of all aspects of the Conference, and to all Colleagues and to the Local Organizing Committee who have contributed in the Conference’s organization and will help in managing the event.

We sincerely wish that all participants will enjoy the Conference, taking the chance to exchange technical and scientific experiences in a profitable and stimulating way, and experiencing Genoa, its history, its monuments, its atmosphere, its sun and food.

Wishing a pleasant and memorable stay in Genoa, we look forward to meeting you during the event.

RENATO PROCOPIO
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This year conference again received the technical co-sponsorship of three worldwide renowned IEEE societies: Electromagnetic Society (EMC), Industrial Application Society (IAS), and Power and Energy Society (PES), along with the support of the IEEE Italy Section.

The Organizing Committee has planned and designed this edition with in mind the goal to ensure enriching technical and professional networking opportunities.

Four days of technical multi-track oral sessions include the presentations of top-rated peer-reviewed papers by experts of Universities and the Industry. Special sessions have brought in a record number of technical papers on important and current topics. Poster Sessions for PhD students and undergraduate students have been arranged to encourage their active participation to the conference.

We would like to sincerely welcome you to IEEE EEEIC19 and I&CPS Europe Conference and look forward to meeting you during the event, which we hope will be a memorable experience.

Enjoy the conference! Best Regards
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EEEIC is an international forum for the exchange of ideas and information on energy systems both today and in the future. The conference provides a unique opportunity for industry to interact directly with university researchers, manufacturers and distributors of energy equipment and to discuss a wide variety of topics related to energy systems and environmental issues. The conference is technically and financially sponsored and organized by IEEE Italy Section.

The scope of the Conference is to promote a forum, where researchers and engineers involved with electrical power systems may exchange their experiences and present solutions found for present and future problems. The conference offers prominent academia and industrial practitioners from all over the world the forum for discussion about the future of electrical energy and environmental issues and presents a base for identifying directions for continuation of research.

The Conference has been technically co-sponsored by IEEE since 2008. Accepted and orally presented papers are submitted to IEEE Xplore, and will also be submitted for indexing through INSPEC®, EI’s engineering information index, COMPENDEX®, and ISI Thomson’s scientific and technical proceedings®, ISTP®/ISI proceedings. The conference proceedings have been indexed by Scopus since 2010 and by Web of Science (Thomson Reuters) since 2013.

EEEIC2019 is the 19th annual conference, making it one of the largest, longest-running, professional networking and educational event of its kind in Europe. The 19th edition will be held in Genoa, Italy. Since 2015 the conference is fully sponsored by IEEE.
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NH Collection Genoa Marina Hotel is an outstanding architectural hotel designed by Renzo Piano and located in the heart of Genoa, the renovated Ancient Arbour area hosting some of the most important attractions of the city such as the Aquarium, the Sea Museum, the Neptune Galleon and a wonderful landscape on the sea. The building itself has been built on four floors, with slate roofs and washed-out, reddish plastering typical of Ligurian architecture. It floats on the water and is supported on special designed stilts overlooking the suggestive and elegant Genoa Gulf.

NH Collection Genoa Marina Convention Centre boasts six elegant convention rooms. All of them enjoy natural daylight and especially designed for conferences, conventions, business meetings and seminars. The flexibility of the spaces, the technical equipment, the terraces overlooking the Marina Harbour and their size make the halls the ideal setting also for banquets, fashion shows, cocktails and parties or simply to enjoy a coffee break or a lunch in the pauses of the Conference works.
The Hotel restaurant “Il Gozzo”, with its two amazing terraces overlooking the sea, will offer the opportunity to taste typical dishes from the Mediterranean and Ligurian tradition in a unique marine atmosphere.

NH Collection Marina Hotel offers 140 spacious and comfortable rooms, decorated in a contemporary “nautical” style, with parquet floors and wooden furniture; most of them enjoy charming views of the harbour. They are all provided with the best amenities to ensure a memorable stay: satellite TV, free Wi-Fi, in-room safe, minibar, coffee and tea making facilities.
CONFERENCE VENUE
NH COLLECTION GENOVA MARINA HOTEL
MOLO PONTE CALVI, 5 | 16124 GENOA (GE) | ITALY

PLENARY SESSION
UNIVERSITY OF GENOA
AULA MAGNA STORICA
VIA BALBI, 5 | 16124 GENOA (GE) | ITALY

WELCOME COCKTAIL
PALAZZO DELLA MERIDIANA
SALITA DI S. FRANCESCO, 4 | 16124 GENOA (GE) | ITALY

GALA DINNER
VILLA LO ZERBINO
PASSO DELLO ZERBINO, 1 | 16124 GENOA (GE) | ITALY

PUBLIC TRANSPORTATIONS
CLOSEST METRO STATION
CLOSEST BUS STOP

TOURIST SITES
GENOA AQUARIUM
Ponte Spinola, 16128 Genoa GE

SAN LORENZO CATHEDRAL
Piazza San Lorenzo, 16123 Genoa GE

PALAZZO DUCALE
Piazza Giacomo Matteotti, 9, 16123 Genoa GE

DE FERRARI SQUARE
Piazza De Ferrari, 16121 Genoa GE

CHRISTOPHER COLUMBUS HOUSE
Via di Porta Soprana, 16121 Genoa GE

PALAZZO REALE (ROLLI PALACES)
Via Balbi, 10, 16126 Genoa GE
The palace was built around 1634 and 1636 as a Jesuit’s college, designed by Bartolomeo Bianco. It is one of the brightest examples of Genoese baroque and it became the University seat in 1775. The palace lays its foundations on a steep hill which strongly affected its design and construction; in particular, this fact gave birth to peculiar spatial solutions. The large courtyard designed at the end of the 18th century as a sequence of terraces serves this purpose still toady. The palace harbors various rooms artworks of remarkable historical interest. The monumental atrium is flanked by two gigantic marble lions sculpted by Domenico Parodi at the beginning of the 18th century. The “Cabella” room and the university chapel still show their original decorations.

The Conference Plenary Lecture will take place in the Historical Auditorium (Aula Magna Storica) located at the first floor of the palace overlooking Via Balbi street. This place was originally intended to practice spiritual exercises. The entire surface of the room walls and vault was decorated between 1683 and 1684 by Giovanni Andrea Carlone, already famous for his paintings in the Gesù Church in Rome. The wall decorations are perfectly conserved; however, the vault was totally shattered by the Piedmontese army bombing aiming at crushing the Genoa uprising in 1849 and, for this reason, the vault was re-painted to replace Carlone artwork by the Italian artist Francesco Menzio.
A surprisingly elegant building in which different architectures and styles coexist, frescos and pictorial decorations of great value, a delightful outdoor area and a central position in the most visited part of the old city of Genoa, at the end of via Garibaldi.

Built in 1536 for Gerolamo Grimaldi Oliva, a banker and trader with financial interests in Portugal and Spain, Palazzo Grimaldi della Meridiana is one of the early and most significant examples of the architectural renovation that took place in Genoa during the mid-16th century. This stately home was originally constructed outside the city, on a plot of land at the foot of the Castelletto hill, at a time when neither the Strada Nuova (“New Street”) nor its beautiful buildings existed.

Gerolamo Grimaldi left “in fideicommissum” the palace to his only son, Battista, who was responsible for the completion of the building’s internal (1565-1566) with the works of Bergamasco, Luca Cambiaso (“Ulysses slaying the Suitors”, “Episodes of the Odyssey”, “Satyr mocked by Love”), Peroll and Lazzaro Calvi.

The Palace owes its name to the sun-dial (meridiana, in Italian) drawn on its 18th-century south-facing façade. With the opening of Strada Nuovissima, literally “Very New Street”, now Via Cairoli, access to the building was modified and a new entrance was created following the confiscation and clearing of the south garden.

Nowadays, following lengthy and careful restoration work, Palazzo della Meridiana is used for exhibitions, meetings and events. Today’s Sala del Colonnato, the covered hallway with its early 20th-century Art Nouveau skylight by Gino Coppedè is quite remarkable, as are the Grand Hall with frescos by Luca Cambiaso, the halls decorated by Lazzaro Calvi and the north garden and orchard.

During World War I and II the building was adapted to a military Hospital. Then, from the ’50s until the 2004, the building hosted civic public offices.

In 2004 the palace was bought by a private corporation which independently funded the integral and authentic conservation works of the building and reopened these spectacular spaces with a brand new modern logic, which combines the museum, its use for events and receptions and its residential feature. The first re-opening was in 2010.

Palazzo della Meridiana is one of the “Palazzi dei Rolli”, a system of 42 Genoese buildings that in 2006 became a Unesco World Heritage Site.
Villa Balbi Durazzo Gropallo allo Zerbino, known more familiarly as Villa lo Zerbino, is a perfectly preserved 16th century stately home in the centre of Genoa, surrounded by large gardens with a view of the sea and overlooking the city. It was constructed from 1599 to 1603 as a suburban villa for the Genoese noblemen Stefano Balbi, ambassador to Milan, and Giovanni Battista Balbi. The name Zerbino is derived from the dialectical word “zerbo”, meaning "uncultivated" since at the time when the villa was built, the surrounding area was still outside Genoa city walls and uncultivated. In the 18th century the Villa passed to Marcello III Durazzo, and following to the Gropallo family.

The architecture of the villa follows the traditional tri-partition of the façade, common in Genoa at the time under the influence of Galeazzo Alessi. Also the internal distribution is a typical one, centred around the main rooms. Throughout the centuries this ancient dwelling belonged to some of the most prominent Genoese aristocrat families. The historic villa boasts many superbly preserved frescos and neoclassic decorations from the 17th century: 10 elegant and luxuriously painted halls by a variety of esteemed artists such as Domenico Piola and Gregorio De Ferrari, the latter credited with the most notable fresco in the central room of the ‘piano nobile’ (noble floor), featuring Time and the Seasons. The ‘piano nobile’ (noble floor) allows the villa guests to admire the city of Genoa from the balcony that runs along the whole façade. On the ground floor, renovated in the neoclassical style 18th century by Tagliafichi, there is a large room opened to the garden and decorated by Giovanni Barabino and Michele Canzio.
The Garden
The garden was remodelled at the beginning of the 19th century by Tagliafichi with terraces, staircases, a nymphaeum and a romantic grotto. The nobleman Ippolito Durazzo, retired to private life after the fall of the Republic of Genoa in 1815, dedicated himself to the development of a botanical garden still present in the garden.

With Genoa at your feet and downtown a few steps away, in an evocative private park of almost 30,000 square meters. The hustle of the city is only a memory whilst in the garden of Villa Lo Zerbino the quietness makes it the perfect location to host a cocktail party or seated dinner. In daylight the Villa is reflected in the central pool of the park, while at night it is the latter to stand out: with the addition of light play, choreographed water features or fireworks, the surroundings are even more sensational.
Greetings from the University of Genoa
Prof. Marco Invernizzi – Pro-Rector for Research – University of Genoa - Italy

Greetings from the Conference Chairs
Prof. Rodolfo Araneo – Sapienza University of Rome
Prof. Luigi Martirano – Sapienza University of Rome
Prof. Renato Procopio – University of Genoa - Italy
Prof. Andrea Bonfiglio – University of Genoa – Italy

Greeting from local authorities

INVITED TALKS

TALK MODERATOR: Prof. Osama A. Mohammed

**ELECTRICAL SAFETY ENGINEERING: PREVENTION THROUGH DESIGN**
Prof. Massimo Mitolo
Full Professor
Irvine Valley College, USA

**MICROGRIDS SERIously AFFECT YOUR BRAIN**
Prof. Josep M. Guerrero
Full Professor
Aalborg University, Denmark

**THE ITER PROJECT AND ITS POWER SUPPLIES**
Eng. Ivone Benfatto
Head of Electrical Engineering Division
Iter Organization, France

**LIGHTNING RESEARCH FACILITY AT THE SANTIS TOWER**
Prof. Marcos Rubinstein
Full Professor
Haute Ecole d’Ingénierie et de Gestion du Canton de Vaud, Switzerland
Osama Mohammed is the Associate Dean of Research and Professor of Electrical and Computer Engineering and Director of the Energy Systems Research Laboratory at Florida International University, Miami, Florida, USA. He received his Master and Doctoral degrees in Electrical Engineering from Virginia Tech in 1981 and 1983, respectively. He has performed research on various topics in computational electromagnetics and energy systems including design optimization and physics based modeling in electric drive systems, electromagnetic signatures, wideband gap devices, power electronics, ship power and energy and other low frequency environments. Professor Mohammed is a world renowned leader and has active research projects in these areas. He also has current research interest in smart grid distributed control and interoperability and energy cyber physical systems for future energy systems applications and transportation electrification.

Professor Mohammed has published nearly 700 articles in refereed journals and other major IEEE refereed international conference records. He also authored a book and several book chapters. Professor Mohammed is an elected Fellow of IEEE and is an elected Fellow of the Applied Computational Electromagnetic Society. Professor Mohammed is the recipient of the prestigious IEEE Power and Energy Society Cyril Veinott electromechanical energy conversion award and the 2012 outstanding research award, and the 2017 outstanding doctoral mentor award from Florida International University. Professor Mohammed has lectured extensively with invited keynote and plenary talks at major research and industrial organizations worldwide.

He has served or currently serving as editor of several IEEE Transactions. He has served as the International Steering Committee Chair for the IEEE (IEMDC), the IEEE Conference on Electromagnetic Field Computation (CEFC), and COMPUMAG. Professor Mohammed has been General Chair of eight major international conferences in his areas of research expertise in addition being general chair for two future IEEE major conferences. He has further been Technical program chair for five major IEEE International Conferences. He has also served on various IEEE Boards, society technical committees, working groups.
Massimo Mitolo is currently a Full Professor of Electrical Engineering at the Irvine Valley College, Irvine, CA, USA, and a Senior Consultant in electric power engineering with Engineering Systems Inc., ESI. Dr. Mitolo has authored over 115 journal papers and the books “Electrical Safety of Low-Voltage Systems” (McGraw-Hill, 2009) and “Laboratory Manual for Introduction to Electronics: A Basic Approach” (Pearson, 2013). His research interests include the analysis and grounding of power systems, and electrical safety engineering.

Dr. Mitolo is a registered Professional Engineer in the state of California and in Italy. He is currently the deputy Editor-in-Chief of the IEEE Transactions on Industry Applications. He is active within the Industrial and Commercial Power Systems Department of the IEEE Industry Applications Society (IAS) in numerous committees and working groups. He also serves as an Associate Editor for the IEEE IAS Transactions. Dr. Mitolo has received numerous recognitions and best paper awards, among which are the IEEE-I&CPS Ralph H. Lee Department Prize Paper Award, the IEEE-I&CPS 2015 Department Achievement Award, and the IEEE Region 6 Outstanding Engineer Award.

Josep M. Guerrero received the B.S. degree in telecommunications engineering, the M.S. degree in electronics engineering, and the Ph.D. degree in power electronics from the Technical University of Catalonia, Barcelona, in 1997, 2000 and 2003, respectively. Since 2011, he has been a Full Professor with the Department of Energy Technology, Aalborg University, Denmark, where he is responsible for the Microgrid Research Program (www.microgrids.et.aau.dk). From 2014 he is chair Professor in Shandong University; from 2015 he is a distinguished guest Professor in Hunan University; and from 2016 he is a visiting professor fellow at Aston University, UK, and a guest Professor at the Nanjing University of Posts and Telecommunications.

His research interests is oriented to different microgrid aspects, including power electronics, distributed energy-storage systems, hierarchical and cooperative control, energy management systems, smart metering and the internet of things for AC/DC microgrid clusters and islanded minigrids; recently specially focused on maritime microgrids for electrical ships, vessels, ferries and seaports. Prof. Guerrero is an Associate Editor for a number of IEEE TRANSACTIONS. He has published more than 450 journal papers in the fields of microgrids and renewable energy systems, which are cited more than 30,000 times. He received the best paper award of the IEEE Transactions on Energy Conversion for the period 2014-2015, and the best paper prize of IEEE-PES in 2015. As well, he received the best paper award of the Journal of Power Electronics in 2016. During five consecutive years, from 2014 to 2018, he was awarded by Thomson Reuters as Highly Cited Researcher. In 2019 he was elevated as IEEE Fellow for his contributions on “distributed power systems and microgrids.”
Ivone Benfatto was born in 1957. He received his M.Sc. degree in Electrical Engineering from the University of Padova (Italy) in 1982. From the same university, in 1983 he obtained a diploma of post-graduate studies in Controlled Thermohotronic Fusion Engineering. He has dedicated his entire research and professional career to the design and construction of power supplies for experimental devices to perform research on Controlled Thermohotronic Fusion. Since 2007, he is the Head of the Electrical Engineering Division of the ITER project. His professional expertise and interests include power systems and distribution, high power converters, large static var systems, electrical installations, and energy management.

Marcos Rubinstein received the Bachelor's degree in electronics from Simon Bolivar University, Caracas, Venezuela in 1982 and the Master's and Ph.D. degrees in electrical engineering from the University of Florida, Gainesville in 1986 and 1991. In 1992 he joined the Swiss Federal Institute of Technology in Lausanne, where he was active in the fields of electromagnetic compatibility and lightning close cooperation with the former Swiss PTI (Post, Telegram, Telegraph). In 1995, he took a position at Swisscom, where he was involved in numerical electromagnetics and EMC in telecommunications and where he led a number of coordinated projects covering the fields of EMC and biological effects of electromagnetic radiation. In 2001, he accepted a professorship at the University of Applied Sciences of Western Switzerland, Yverdon-les-Bains (HEIG-VD), where he is currently a professor in telecommunications, a member of the Institute for Information and Communication Technologies (IICT) team and the head of the Advanced Communication Systems Group.

Prof. Rubinstein is the Chairman of the International Project on Electromagnetic Radiation from Lighting to Tall structures IPTL. He is also a member of the Scientific Committee of the International Conference on Lightning Protection ICLP and of the International Scientific Committee of the International Symposium on Lightning Protection SIPDA. In addition, Prof. Rubinstein was a Co-Chair of the 2008 European Electromagnetics International Symposium held in Lausanne, the leader of Working Group 2 in European COST Action P18 “The Physics of Lightning Flash and its Effects and the Editor-in-Chief of The Open Atmospheric Science Journal. He is currently an Associate Editor of the IEEE Transactions on EMC. Prof. Rubinstein is the author or co-author of over 200 scientific publications in reviewed journals and international conferences. He is also the co-author of six book chapters and he has co-edited a book on Electromagnetic Time Reversal.

Prof. Rubinstein is a Fellow of the IEEE and the recipient of the best Master’s Thesis award from the University of Florida. He received the IEEE achievement award for outstanding contributions to the modeling of lightning discharge and its electromagnetic effects and is a co-recipient of NASA’s recognition for innovative technological work. He received the ICDP’s Karl Berger Award for Distinguished Achievements in the Science and Engineering of Lightning Research Developing New Fields in Theory and Practice, Modeling, and Measurements. He is a Fellow of the Suranna Foundation, an honorary professor of the University of El Valle in Colombia, a Swiss representative of Commission C of the International Union of Radio Science and a member of the Swiss Academy of Sciences.
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<td>Massimo Mitolo</td>
<td>Irvine Valley College</td>
<td>Maintenance, operation and safety in power systems</td>
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<td>A1-TS1</td>
<td>Rubi Rana</td>
<td>IIT Delhi</td>
<td>Power systems: micro-grids components and operation - 1</td>
</tr>
<tr>
<td>A1-TS2</td>
<td>Ameldeo Andreotti</td>
<td>University of Naples Federico II</td>
<td>SS02 Lightning, Energy and Environment</td>
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<tr>
<td>A1-TS3</td>
<td>Eleonora Riva Sanseverino</td>
<td>University of Palermo</td>
<td>Energy efficient systems</td>
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<td>A1-TS4</td>
<td>Panayiotis Moutsis</td>
<td>DEPsys SA Switzerland</td>
<td>SS19 Advances in state estimation and system measurements for distribution networks and smart grids</td>
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<tr>
<td>A1-TS5</td>
<td>Hossein Cheraghi Bidokhri</td>
<td>University of Rome La Sapienza</td>
<td>Materials: nanotechnology for renewable energy, novel materials</td>
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## TECHNICAL SESSIONS
### WEDNESDAY
#### June 12th 2019

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<td>M2-TS1</td>
<td>Osama Mohammed</td>
<td>Florida International University</td>
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<td>M2-TS2</td>
<td>Ezio Santini</td>
<td>University of Rome La Sapienza</td>
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<td>M2-TS3</td>
<td>Jose Luis Domingos</td>
<td>Federal Institute of Goias</td>
<td>Regulation and electricity markets</td>
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<td>M2-TS4</td>
<td>Ana Cabrera-Tobar</td>
<td>Universidad Técnica del Norte</td>
<td>Sustainable development of energy supply</td>
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<tr>
<td>M2-TS5</td>
<td>Józef Borkowski</td>
<td>Wrocław University of Science and Technology</td>
<td>Circuits, Sensors, Actuators, Electromagnetic Compatibility</td>
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<tr>
<td>N2-PS</td>
<td>Massimo Mitolo</td>
<td>Irvine Valley College</td>
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<tr>
<td>N2-TS2</td>
<td>Gevork B. Gharehpetian</td>
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<tr>
<td>N2-TS3</td>
<td>Davide Poli</td>
<td>University of Pisa</td>
<td>SS17 Energy Storage for Smart Grids</td>
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<td>N2-TS4</td>
<td>Mariano Andrele</td>
<td>Embassy of Italy in Hanoi Vietnam</td>
<td>SS01 Italy-Vietnam: Bilateral Research Experience on Energy, Environment and ICT</td>
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<td>Alessandro Labella</td>
<td>University of Genoa</td>
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### TECHNICAL SESSIONS AND CHAIRS

#### THURSDAY
June 13th 2019

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<td>M3-TS1</td>
<td>Enrico Elio De Taglie</td>
<td>Politecnico di Bari</td>
<td>SS04 Advanced Research in Microgrids Control, Management, Applications and Implementations</td>
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<td>M3-TS2</td>
<td>Mariano Gallo</td>
<td>Università del Sannio</td>
<td>SS03 Transport Systems and Sustainable Mobility - 1</td>
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<td>M3-TS3</td>
<td>Vincenzo Di Dio</td>
<td>University of Palermo</td>
<td>Measurements - 1</td>
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<tr>
<td>M3-TS4</td>
<td>Mehdi Bagheri</td>
<td>Nazarbayev University</td>
<td>Mobility, Sustainable transportation, E-cars</td>
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<td>M3-TS5</td>
<td>Salvatore Favuzza</td>
<td>University of Palermo</td>
<td>Power systems: transmission grids components and operation - 1</td>
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<tr>
<td>N3-TS1</td>
<td>Stefano Massucco</td>
<td>University of Genoa</td>
<td>AIET - AEE Round Table - Academy and Industry for Smart Electric Energy Systems</td>
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<td>N3-TS2</td>
<td>Gaetano Zizzo</td>
<td>University of Palermo</td>
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<tr>
<td>N3-TS3</td>
<td>Nicola Sacco</td>
<td>University of Genoa</td>
<td>SS03 Transport Systems and Sustainable Mobility - 2</td>
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<td>N3-TS4</td>
<td>Adam Matusiak</td>
<td>Wroclaw University of Technology</td>
<td>Measurements - 2</td>
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<td>Massimo Borra</td>
<td>INAIL</td>
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<tr>
<td>A3-TS1</td>
<td>Gevork B. Gharapetian</td>
<td>Amirkabir University of Technology</td>
<td>Power systems: distribution grids components and operation - 2</td>
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<tr>
<td>A3-TS2</td>
<td>Bonface O.Ngoko</td>
<td>Osaka University</td>
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<td>Francesco Conte</td>
<td>University of Genoa</td>
<td>SS07 Frequency Regulation Services by Loads and Renewable Energy Sources</td>
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<td>A3-TS4</td>
<td>Sanjeevikumar Padmanaban</td>
<td>Aalborg University</td>
<td>Electrical Machines and Power Converters</td>
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<td>A3-TS5</td>
<td>Mostafa Kermani</td>
<td>University of Rome La Sapienza</td>
<td>Renewable energy sources and storage - 3</td>
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<tr>
<td>M4-TS1</td>
<td>Federico Silvestro</td>
<td>University of Genoa</td>
<td>Power systems: micro-grids components and operation - 3</td>
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<tr>
<td>M4-TS2</td>
<td>Karan Sareen</td>
<td>Central Electricity Authority, Ministry of Power, Government of India</td>
<td>SS12 Smart Ways to Energy Management of Renewable Energy</td>
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<td>M4-TS3</td>
<td>Giovanni Lutzemberger</td>
<td>University of Pisa</td>
<td>SS14 E-Mobility: Smart Energy Management of Vehicles and Recharge Infrastructure</td>
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<td>M4-TS4</td>
<td>Damien Guilbert</td>
<td>University of Lorraine France</td>
<td>SS06 Power Converters for Fuel Cells and Electrolyzers</td>
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<td>M4-TS5</td>
<td>Laurent Canale</td>
<td>LAPLACE Lab. of Toulouse</td>
<td>SS08 Lighting Systems, Environment and Applications (LED &amp; OLED)</td>
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<tr>
<td>N4-TS1</td>
<td>Laurent Canale</td>
<td>LAPLACE Lab. of Toulouse</td>
<td>Smart Buildings, Lighting, Metering, Demand Side Management - 2</td>
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<tr>
<td>N4-TS2</td>
<td>Stefano Bracco</td>
<td>University of Genoa</td>
<td>SS11 Electric Vehicles Management and Integration in Smart Grids and Microgrids</td>
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<td>N4-TS3</td>
<td>Leonardo Sandrolini</td>
<td>University of Bologna</td>
<td>SS15 New EMC Challenges in the Smart Grid</td>
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<td>N4-TS4</td>
<td>Silvano Vergura</td>
<td>Politecnico di Bari</td>
<td>SS20 Blockchain, Diagnosis and Reliability for Renewable Energy Sources</td>
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<td>N4-TS5</td>
<td>Giorgio Sulligoi</td>
<td>University of Trieste</td>
<td>SS21 Port electrical systems: analysis, operation and planning</td>
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<td>Vincenzo Trovato</td>
<td>EDF R&amp;D UK London</td>
<td>SS16 Control and Market Solutions for Flexible Demand Response</td>
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<td>A4-TS2</td>
<td>Padmanabhan Sanjeevikumar</td>
<td>Aalborg University</td>
<td>SS05 Recent Development in Multilevel Inverters Design, Modelling and Control Strategy</td>
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<td>Andrea Mazza</td>
<td>Politecnico di Torino</td>
<td>SS09 Multi-Vector Urban Distribution System in the Smart Grid Framework</td>
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<td>A4-TS4</td>
<td>Daniele Mestriner</td>
<td>University of Genoa</td>
<td>ICT for smart grids</td>
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<td>A4-TS5</td>
<td>Andrea Cristofolini</td>
<td>University of Bologna</td>
<td>SS13 Modelling and Measurement of Electromagnetic Fields and Electromagnetic Couplings in Power Lines</td>
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<tr>
<td>CRS</td>
<td>Zbigniew Leonowicz</td>
<td>Wrocław University of Science and Technology</td>
<td>Chaired Remote Session</td>
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The rooms Mediterraneo, Adriatico, Tirreno, Jonio, Atlantico, Ligure are reserved for the EEEIC oral sessions.

The Poster Session will take place in the room Mediterraneo.
INSTRUCTIONS FOR THE ORAL PRESENTATIONS

PRESENTATION TIME: Presentation time is critical; each paper is allocated about 15 minutes for technical sessions, including time for questions, session-chair introductions, and any set up that is not completed in advance. We recommend that the presentation of your slides leave minutes for introduction by the session chair and questions from the audience. To achieve appropriate timing, organize your slides around the points you intend to make, using no more than one slide per minute. A reasonable strategy is to allocate about 2 minutes per slide when there are equations or important key points to make, and one minute per slide when the content is less complex. Be prepared to begin your presentation as soon as the prior presenter has finished; it is important to keep on schedule.

PRIOR TO YOUR PRESENTATION: Come to the room during the break immediately prior to your session and upload your presentation to the computer in the room. Note: the presentation computer has ONLY a USB port; there is no CD-ROM or other disc drive. You must also meet with your Session Chair at this time so that your Session Chair is aware that you are present; your Session Chair may also have last-minute instructions for your presentation.

EQUIPMENT PROVIDED: All lecture rooms will be equipped with a computer, a video projector, and in some of them a microphone. Each computer will have a USB port; there will be no other equipment available. Each computer will have a recent version of the Windows OS installed as well as Acrobat Reader software. While PowerPoint will also be provided, presenters are strongly urged to use PDF for their presentations to avoid issues with fonts and other problems. Remember to embed all your fonts into your PDF presentation. Keep in mind that some of the oral presentations will be given in halls that are quite large. When preparing your slides, make sure that they will be legible for the entire audience (i.e., use fonts of sufficient size).

INSTRUCTIONS FOR POSTER PRESENTATIONS

DIMENSIONS: For your poster, a board will be provided; the board is oriented in a “portrait” format, for containing A0 posters (84,1 × 118,9 cm). Push tacks or Velcro fasteners will be provided at the conference to mount your poster to the board.

ORGANIZING YOUR POSTER: Poster sessions are a good medium for authors to present papers and meet with interested attendees for in-depth technical discussions. In addition, attendees find the poster sessions a good way to sample many papers in parallel sessions. Thus it is important that you display your message clearly and noticeably to attract people who might have an interest in your paper. Carefully and completely prepare your poster well in advance of the conference. Try tacking up the poster before you leave for the conference to see what it will look like and to make sure that you have all of the necessary pieces. The title of your poster should appear at the top in CAPITAL letters about 25mm high. Below the title, put the author(s)’ name(s) and affiliation(s). The flow of your poster should be from the top left to the bottom right. Use arrows to lead your viewer through the poster. Use color for highlighting and to make your poster more attractive. Use pictures, diagrams, cartoons, figures, etc., rather than text wherever possible. Try to state your main result in 6 lines or less, in lettering about 15mm high so that people can read the poster from a distance. The smallest text on your poster should be at least 9mm high, and the important points should be in a larger size.

PRESENTING YOUR POSTER: Prepare a short presentation of about 5 or 10 minutes that you can periodically give to those assembled around your poster throughout the poster session. If you need extra presentation materials, such as a video display or computer, you are required to bring them yourself; note that any equipment used in the poster area should be battery-operated, since power will not be provided on the floor. Each poster session is 2 hours long; a presenter must be present at your poster during the entirety of the session. If possible, more than one author should attend the session to aid in presentations and discussions, and to provide the presenters with the chance to rest or briefly view other posters.

PRIOR TO YOUR PRESENTATION: Please put up your poster during the break before your session starts, and take it down immediately after your session ends. Please go to the poster session 30 minutes before the session starting.

EQUIPMENT PROVIDED: Push tacks or Velcro fasteners will be provided at the conference to mount your poster to the board. No printers are available on site.

Important note: all the accepted papers have been assigned as an oral presentation in a Technical Session or a poster presentation in a Poster Session. Please consider that papers are scheduled into oral and poster sessions based on thematic coherence and not by paper quality. In either case, the full paper appears in IEEE Xplore, and there is no indication in Xplore as to whether the paper was presented orally or as a poster.
M1-TS1 42  QUADRATIC CONVEX RELAXATION BASED CENTRALIZED OPF FOR MULTI-PHASE ACTIVE DISTRIBUTION NETWORKS
Muhammad Usman (University of Padova); Massimiliano Coppo (University of Padova); Fabio Bignucolo (University of Padova); Roberto Turri (University of Padova)

M1-TS1 109  THE INFLUENCE OF EXTERNAL PARAMETERS ON TRANSFORMER FREQUENCY RESPONSE SIGNATURE AND NUMERICAL INDICES
Venera Nurmanova (Electrical and Computer Engineering Department, Nazarbayev University); Aybez Khassenov (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University); Toan Phung (UNSW); Gevork B Gharehpetian (Amirkabir University of Technology (AUT))

M1-TS1 155  DISTRIBUTION TRANSFORMER FREQUENCY RESPONSE ANALYSIS: BEHAVIOR OF DIFFERENT STATISTICAL INDICES DURING INTER-DISK FAULT
Venera Nurmanova (Electrical and Computer Engineering Department, Nazarbayev University); Adilet Sultanbek (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University); Roya Ahmadi (Tallinn University of Technology); Oveis Abedinia (Department of Electric Power Engineering Budapest University of Technology and Economics, Budapest, Hungary); Toan Phung (UNSW); Gevork B Gharehpetian (Amirkabir University of Technology (AUT))

M1-TS1 156  A FLEXIBLE ASSET OPERATION STRATEGY FOR DEMAND/SUPPLY BALANCE IN ELECTRICAL DISTRIBUTION GRIDS
Nouha Dkhili (PROMES-CNRS); Julien Eynard (PROMES-CNRS); Stéphane Thil (PROMES-CNRS); Stéphanie Grieu (PROMES-CNRS)

M1-TS1 425  HYBRID SENSING OF PARTIAL DISCHARGE FAULTS IN AIR INSULATED SWITCHGEAR
Ghulam Amjad Hussain (American University of Kuwait); Detlef Hummes (American University of Kuwait); Ashraf Zaher (American University of Kuwait); Madia Safdar (Aalto University); Matti Lehtonen (Aalto University Finland)

M1-TS1 464  CONTINUOUS CONTROL SET MODEL PREDICTIVE CONTROLLER FOR PMSM DRIVEN SOLAR PV WATER PUMPING SYSTEM
Mohd Kashif (Indian Institute of technology, Delhi); Shadab Murshid (IIT, Delhi); Bhim Singh (Indian Institute of Technology, Delhi)
M1-TS2 197 **CRITICAL COMPARISON OF ENERGY MANAGEMENT ALGORITHMS FOR LITHIUM-ION BATTERIES IN RENEWABLE POWER PLANTS**
Alberto Berrueta (Public University of Navarre); Adrian Soto (Public University of Navarre);
Miguel Garcia (Public University of Navarre); Inigo de la Parra (Public University of Navarre);
Pablo Sanchis (Public University of Navarre); Alfredo Ursúa (Public University of Navarre)

M1-TS2 232 **COST-BENEFIT ANALYSIS OF USING BATTERY STORAGE FOR PEAK SHAVING OF SUBSTATION TRANSFORMER**
Artitaya Chaichana (Electricity Generating Authority of Thailand - EGAT)

M1-TS2 246 **STUDY OF A GAS-DISCHARGE CURRENT INTERRUPTER WITH A SLOTTED CONFIGURATION OF HOLES IN THE GRID NODE AND IMPROVED DISCHARGE PARAMETERS IN A HIGH-VOLTAGE PULSE GENERATOR WITH INDUCTIVE ENERGY STORAGE**
Sergey A Kruglov; Nikolay M Vereshchagin; Sergey Karabanov (Ryazan State Radio Engineering);
Andrey A Serezhin; Dmitriy Suvorov (Ryazan State Radio Engineering University);
Sergey Shatilov (Ryazan State Radio Engineering University);
Kirill Agaltsov (Ryazan State Radio Engineering University);
Sergey Serezhin (Ryazan State Radio Engineering University)

M1-TS2 277 **STORAGE PLACEMENT AND SIZING IN A DISTRIBUTION GRID WITH HIGH PV-GENERATION**
Benjamin Matthiass (ZSW)

M1-TS2 213 **DYNAMIC RISK ANALYSIS AND ENERGY SAVING IN TUNNELS**
Giacomo Greco (Sapienza, University of Rome);
Luigi Martirano (Sapienza, University of Rome);
Alessandro Focaracci (Prometeoengineering.it)
M1-TS3 27 INTEGRATION OF SCADA SERVICES IN CROSS-INFRASTRUCTURE HOLISTIC TESTS OF CYBER-PHYSICAL ENERGY SYSTEMS
Van Hoa Nguyen (CEA)

M1-TS3 150 AGENT-BASED DISTRIBUTED EVENT-TRIGGERED SECONDARY CONTROL FOR ENERGY STORAGE SYSTEM IN ISLANDED MICROGRIDS - CYBER-PHYSICAL VALIDATION
Tung Lam Nguyen (G2elab); Wang Yu (Nanyang Technological University); Tuan Quoc Tran (French Alternative Energies and Atomic Energy Commission - CEA); Raphaël Caire (Univ. Grenoble Alpes); Xu Yan (Nanyang Technological University); Yvon Besanger (Univ. Grenoble Alpes)

M1-TS3 161 A MULTIAGENT AND IEC 61850-BASED FAULT LOCATION AND ISOLATION SYSTEM FOR DISTRIBUTION NETWORK WITH HIGH PV INTEGRATION – A CHIL IMPLEMENTATION
Tran The Hoang (Grenoble INP); Tuan Quoc Tran (French Alternative Energies and Atomic Energy Commission (CEA)); Yvon Besanger (G2Elab - Grenoble INP)

M1-TS3 217 IMPACT OF CONSUMER PROFILES AND FORECAST ACCURACY ON DAY-AHEAD SCHEDULING OF HOUSEHOLD APPLIANCES
Chloe Lucas (INES); Mouloud Guemri (INES); Tuan Quoc Tran (French Alternative Energies and Atomic Energy Commission - CEA)

M1-TS3 274 STRATEGIC ROLE OF NEW POWER GENERATION ASSETS FOR THE SECURITY OF THE FUTURE ITALIAN POWER SYSTEM
Giuseppe M Tina (University of Catania); Sebastiano Licciardello (University of Catania); Domenico Stefanelli (Enel S.p.A, Energy Management Italia)

M1-TS3 473 MODELING AND TUNING OF ADAPTIVE COMPLEX CURRENT CONTROLLER FOR THREE-PHASE GRID-INTERFACED POWER CONVERTERS
Saeed Golestan (Aalborg University); Josep M Guerrero (University of Aalborg); Juan C Vasquez (University of Aalborg); Abdullah M Abusorrah (King Abdulaziz University)
M1-TS4 175  COMPUTATION OF DELAY MARGIN IN A POWER SYSTEM HAVING OPEN CHANNEL COMMUNICATION BASED AUTOMATIC GENERATION CONTROL USING PADE APPROXIMATION
Dushyant Sharma (Indian Institute of Technology Delhi); Sukumar Mishra (IIT Delhi); Ayesha Firdaus (Indian Institute of Technology Delhi)

M1-TS4 288  POWER QUALITY EVENT DETECTION USING FAWT AND BAGGING ENSEMBLE CLASSIFIER
Doaa Bashoah (Effat University); Abdulhamit Subasi (Effat University)

M1-TS4 292  A FRAMEWORK TO EMBED THE UNIT COMMITMENT PROBLEM INTO TIME DOMAIN SIMULATIONS
Taulant Kerci (School of Electrical and Electronic Engineering - University College Dublin); Federico Milano (School of Electrical and Electronic Engineering - University College Dublin)

M1-TS4 363  COMBINED ELECTRICAL AND THERMAL AGING OF ALUMINA FILLED EPOXY SOLID INSULATORS FOR GIS
Cong Liu (Xi’an Jiaotong University); Yu Chen (Xi’an Jiaotong University); Kai Yao (Xi’an Jiaotong University); Yi Hao (Xi’an Jiaotong University); Shuang Wang (Xi’an Jiaotong University); Zengbin Wang (Electric Power Research Institute of Guangdong Power Grid Co, Ltd); Ruilei Gong (Shandong Taikai High Voltage Switchgear Co. Ltd); Chaoyun Du (Xi’an XD Electrical Material Co. Ltd)

M1-TS4 368  ESTIMATION OF DOMINANT POWER OSCILLATION MODE USING LSTM-RNN BASED ON SYNCHROPHASOR DATA
Fanta T Senesoulin (Kasetsart University); Komsan Hongesombut (Kasetsart University); Sanchai Dechanupaprittha (Kasetsart University)
M1-TS5 337  SMART RESPONSIVE GREEN WALLS FOR PUBLIC TRANSPORTATION AREAS IN TIMISOARA
Anamaria Andreea Anghel ("Politehnica" University of Timișoara);
Irina Mohora (Politehnica University Timisoara);
Flaviu M Frigura-Iliasa ("Politehnica" University Timisoara);
Diana Giurea (Politehnica University Timisoara);
Alma-Dia Preda (Politehnica University of Timisoara);
Camil Milincu (Politehnica University of Timisoara)

M1-TS5 338  SMART SOLUTIONS FOR ADAPTIVE WORKPLACES. ARCHITECTURAL AND TECHNOLOGICAL APPLICATIONS
Irina Mohora (Politehnica University Timisoara);
Anamaria Andreea Anghel ("Politehnica" University of Timișoara);
Flaviu M Frigura-Iliasa ("Politehnica" University Timisoara)

M1-TS5 383  AN INNOVATIVE HOME AND BUILDING AUTOMATION DESIGN TOOL FOR NANOGREDS APPLICATIONS
Aurelio Paolillo (DIMES, University of Calabria & Alma s.r.l.);
Luigi Martirano (Sapienza, University of Rome); Andrea Aiello (Alma Soft);
Domenico Luca Carni (DIMES, University of Calabria);
Mostafa Kermani (Sapienza, University of Rome)

M1-TS5 385  EFFECTS OF UNCERTAINTY CHARACTERIZATION OF ENERGY DEMAND OF A NEIGHBORHOOD ON STOCHASTIC DAY-AHEAD SCHEDULING
Dewan Siam Shafiullah (Eindhoven University of Technology);
A N M M Haque (Eindhoven University of Technology);
P H Nguyen (Eindhoven University of Technology)
N1-TS1 21  DESIGN, MODELING AND SIMULATION OF PIEZOELECTRIC MICROGENERATOR FOR APPLICATION IN UNDERGROUND VEHICLES  
Alex Mouapi (Université du Québec en Abitibi-Témiscamingue - UQAT)

N1-TS1 360  A NEW VOLTAGE SENSORLESS CONTROL METHOD FOR A SHUNT ACTIVE POWER FILTER FOR UNBALANCED CONDITIONS  
Saad F Al-Gahtani (King Khalid University); Robert Nelms (Auburn University, USA)

N1-TS1 367  PERFORMANCE ANALYSIS OF PERTURB AND OBSERVE, INCREMENTAL CONDUCTANCE AND ROBUST SLIDING MODE MPPT CONTROLLERS FOR A 500KW PV BASED MICROGRID USING ACTUAL SOLAR IRRADIANCE DATA  
Sayyeda Umbereen Umbereen Bano (National University of Sciences and Technology (NUST)); Attaullah Memon (National University of Science and Technology (NUST))

N1-TS1 414  ZVS OPERATION RANGE ANALYSIS AND DEADBAND CONDITIONS OF A DUAL H-BRIDGE BIDIRECTIONAL DC-DC CONVERTER WITH PHASE SHIFT CONTROL  
Ahmed Hamed Ahmed Adam (Chongqing University); Shuaicheng Hou (Chongqing University); Jiawei Chen (Chongqing University)

N1-TS1 415  ANALYSIS, DESIGN, AND PERFORMANCE OF ISOLATED THREE-PORT UPS CONVERTER FOR HIGH-POWER APPLICATIONS  
Ahmed Hamed Ahmed Adam (Chongqing University); Shuaicheng Hou (Chongqing University); Jiawei Chen (Chongqing University)

N1-TS1 264  DESIGN AND DEVELOPMENT OF MODIFIED BL LUO CONVERTER FOR PQ IMPROVEMENT IN EV CHARGER  
Radha Kushwaha (IIT Delhi); Bhim Singh (IIT Delhi)
N1-TS2 8 USING DRONE-SUPPORTED THERMAL IMAGING FOR CALCULATING THE EFFICIENCY OF A PV PLANT
Paolo Pinceti (DITEN - UNIGE); Maurizio Vanti (DITEN); Pietro Profumo (DITEN); Elisa Travaini (DITEN)

N1-TS2 36 MODULAR FLOW ACCELERATOR FOR A WIND POWER PLANT WITH A VERTICAL ROTATION AXIS
Anton A Bubenchikov (Omsk State Technical University - OmTSU); Igor Lebedev (Omsk State Technical University - OmTSU); Tatyana Bubenchikova (Omsk State Technical University - OmTSU); Andrey Zakharov (Omsk State Technical University - OmTSU); Elena Manakova (Omsk State Technical University - OmTSU)

N1-TS2 224 TECHNICAL AND ECONOMIC ANALYSIS OF A SOLAR PUMPING IRRIGATION SYSTEM FOR RURAL AREAS IN ETHIOPIA
Daniele Bricca (Università La Sapienza); Enrico Bocci (Marconi University of Rome); Ezio Santini (Università La Sapienza)

N1-TS2 340 ORGANIC COMPOUNDS IN CHAR FROM THE COMBUSTION OF PEAT BRIQUETTES IN HOUSEHOLD BOILERS
Jana Růžičková (ENET VSB- TU Ostrava); Marek Kuchel (ENET VSB- TU Ostrava); Helena Raclavská (ENET VSB- TU Ostrava); Barbora Světlová (ENET VSB- TU Ostrava); Konstantin Raclavský (ENET VSB- TU Ostrava); Michal Sařík (ENET VSB- TU Ostrava)

N1-TS2 357 A PROCEDURE FOR THE PRODUCIBILITY CURVE IDENTIFICATION OF A DISH-SHRILING PLANT, STARTING FROM EXPERIMENTAL DATA.
Vincenzo Di Dio (University of Palermo); Giovanni Cipriani (University of Palermo); Giuseppina Ciulla (University of Palermo); Christian Chiaruzzi (Horizon s.r.l.); Massimiliano Bongiorno (Chalmers University of Technology); Gunnar Larson (Ripasso Energy AB); Jardel Dos Santos Nunes (University of Palermo)

N1-TS2 443 SENSORLESS FIELD ORIENTED ISMCC FOR SOLAR PV BASED INDUCTION MOTOR DRIVE FOR WATER PUMPING
Rashmi Rai (Indian Institute of Technology Delhi); Saurabh Shukla (Indian Institute of Technology Delhi); Bhim Singh (Indian Institute of Technology Delhi)
N1-TS3 10  THE ESTIMATION OF THE INFLUENCE OF EACH HARMONIC COMPONENT IN LOAD UNBALANCE OF DISTRIBUTION TRANSFORMERS IN HARMONIC LOADING CONDITION  
Javad Behkesh Noshahr (Ardabil Province Electricity Distribution Company); Mehdi Bagheri (Nazrabayev University, Kazakhstan); Mostafa Kermani (Sapienza University of Rome, Italy)

N1-TS3 35  ANALYSIS OF INSULATION AND ENVIRONMENTAL PROPERTIES OF DECOMPOSITION PRODUCTS IN SF6-N2 MIXTURES IN THE PRESENCE OF H2O  
Sebla Dincer (Ankara University); Hıdır Duzkaya (Gazi University); Suleyman S Tezcan (Unknown); Mustafa Sezai Dincer (Near East University)

N1-TS3 66  ON THE IMPACT OF TOPOLOGY ON POWER SYSTEM TRANSIENT AND FREQUENCY STABILITY  
Faezeh Ebrahimzadeh (School of Electrical and Electronic Engineering - University College Dublin); Muhammad Adeen (School of Electrical and Electronic Engineering - University College Dublin); Federico Milano (School of Electrical and Electronic Engineering - University College Dublin)

N1-TS3 231  ANALYSIS OF RADIATION IN THE UHF AND OPTICAL RANGE EMITTED BY SURFACE PARTIAL DISCHARGES  
Michał Kozioł (Opole University of Technology); Łukasz Nagi (Opole University of Technology); Michał Kunicki (Opole University of Technology); Ireneusz Urbaniec (Opole University of Technology)

N1-TS3 476  BEHAVIOR THE CAPACITANCE COMPONENT OF LOADS IN FREQUENCY RANGE 2-150 KHZ (SUPRA-HARMONIC)  
Javad Behkesh Noshahr (Ardabil Province Electricity Distribution Company); Mostafa Kermani (Sapienza University of Rome, Italy); Mehdi Bagheri (Nazrabayev University, Kazakhstan)
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<td>Marcos Telló (State Company of Electrical Energy); Victor Telló (Siemens Ltd.); Lucas Pulz (Vör Electric Consulting); Daniel S Gazzana (Federal University of Rio Grande do Sul - UFRGS); Roberto Leborgne (Federal University of Rio Grande do Sul - UFRGS); Arturo Bretas (University of Florida)</td>
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<td>Daniel S Gazzana (Federal University of Rio Grande do Sul - UFRGS); Akex B Tronchoni (Federal University of Rio Grande do Sul - UFRGS); Arturo Bretas (University of Florida); Roberto Leborgne (Federal University of Rio Grande do Sul - UFRGS); Marcos Telló (State Company of Electrical Energy)</td>
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<td>Rahim Jafari (Western University); Mital Kanabar (GE Grid Solutions, Markham, Ontario, Canada); Tarlochan Sidhu (University of Ontario Institute of Technology, Oshawa, Ontario, Canada)</td>
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<td>LEGAL LIABILITY OF PROFESSIONAL ENGINEERS: THE CASE OF A FIRE IN A SHOPPING CENTER</td>
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MAINTENANCE, OPERATION AND SAFETY IN POWER SYSTEMS
Session Chairs: Massimo Mitolo
Irvine Valley College
Tuesday | June 11th 2019 | 11:30 – 13:30
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N1-TS5 219 MANAGEMENT AND OPERATION OF SMALL HYDROPOWER PLANTS THROUGH A CLIMATE SERVICE TARGETED AT END-USERS
Eva Contreras Arribas (University of Cordoba); Javier Herrero Lantarón (University of Cordoba); Cristina Aguilar Porro (University of Cordoba); María José Polo Gómez (University of Córdoba)

N1-TS5 303 RAS TANURA OIL TERMINAL EXPERIENCE WITH RELIABILITY AND SAFETY OF MOTORS CIRCUITS
Mostafa A Alramadhan (Saudi Aramco)

N1-TS5 316 OPERATIONAL COST OF PRIMARY POWER SUPPLY EQUIPMENT AS PLANNING DRIVER
Sharief A Al-Askari (Saudi Aramco)

N1-TS5 358 APPLICATION OF THERMOGRAPHIC TECHNIQUES FOR THE DETECTION OF FAILURES ON PHOTOVOLTAIC MODULES
Vincenzo Di Dio (University of Palermo); Giovanni Capriani (University of Palermo); Valeria Boscaino (University of Palermo); Fabio Cardona (University of Palermo); Gaetano Zizzo (DEIM University of Palermo); Jaser A Sa'ed (Birzeit University); Salvatore Di Caro (University of Palermo)

N1-TS5 392 MULTIOBJECTIVE CONGESTION MANAGEMENT AND TRANSMISSION SWITCHING ENSURING SYSTEM RELIABILITY
Morteza Sheikh (Shiraz University of Technology); Jamshid Aghaei (Shiraz University of Technology); Mohammad Rajabдорри (Shiraz University of Technology); Miadreza Shahie-Khah (UBI); Mohamed Lotfi (FEUP); Mohammad Sadegh Javadi Estahbanati (Islamic Azad University); Joao Catalao (FEUP)
A1-TS1 112 INVESTIGATION OF ELECTRICAL FAULTS IN A DC MICROGRID BASED ON THE IDENTIFICATION OF IMPEDANCES IN DIFFERENTIAL MODE
Djelloul Bensaad (Laboratory of Analysis and Control of Energy Systems and Electrical Networks’ LACoSERE, University Amar TELIDJI, Faculty of Technology, LAGHOUAT, Algeria);
Achour Ales (Laboratory Electrotechnical Systems, Ecole Militaire PolytechniqueBP 17 Bordj El-Bahri 16111 Algiers, Algeria); Abdelchafik Hadjadj (Laboratory of Analysis and Control of Energy Systems and Electrical Networks’ LACoSERE - University Amar TELIDJI, Faculty of Technology, LAGHOUAT)

A1-TS1 116 DECENTRALIZED SECOND ORDER SLIDING MODE CONTROLLER FOR A STORAGE UNIT IN ISLANDED MICROGRIDS
Alessandro Palmieri (Università degli studi di Genova - Scuola Politecnica); Alberto Oliveri (Nil)

A1-TS1 145 NON-LINEAR BACKSTEPPING BASED CONTROL OF AN ISLANDED DC MICROGRID WITH CONSTANT POWER LOADS
Vaibhav Nougain (Indian Institute of Technology, Delhi); Aquib Jahangir (Indian Institute of Technology, Delhi); Rubi Rana (IIT Delhi); Sukumar Mishra (IIT Delhi)

A1-TS1 359 OPTIMAL DESIGN OF PV-BATTERY MICROGRID INCORPORATING LEAD-ACID BATTERY AGING MODEL
Mansour Alramlawi (Ilmenau University of Technology); Youssef Soudi (Ilmenau University of Technology); Pu Li (Ilmenau University of Technology, Department of Simulation and Optimal Processes)

A1-TS1 70 INFLUENCE OF A/D QUANTIZATION IN A RENEWABLE ENERGY SYSTEM USING GENERALIZED MAXIMUM SIDELOBE DECAY WINDOWS FOR THE FREQUENCY ESTIMATION
Józef Borkowski (Wrocław University of Science and Technology); Dariusz Kania (Wrocław University of Science and Technology)

A1-TS1 134 OPTIMAL OPERATION OF AN ENERGY HUB IN THE PRESENCE OF UNCERTAINTIES
Mohammad Sadegh Javadi Estahbanati (Islamic Azad University); Ali Esmaeel Nezhad (Department of Electrical, Electronic, and Information Engineering, University of Bologna, Italy); Amjad Anvari-Moghaddam (Aalborg University); Josep M Guerrero (University of Aalborg); Mohamed Lotfi (FEUP); Joao Catalao (FEUP)
A1-TS2 65  **ON THE INFLUENCE OF AN ELEVATED TERRAIN ON THE GROUNDING RESISTANCE OF A VERTICAL ROD**
Antonio Sunjerga (EPFL); Farhad Rachidi (Swiss Federal Institute of Technology - EPFL); Marcos Rubinstein (University of Applied Sciences Western Switzerland, Yverdon-les-Bains); Dragam Poljak (University of Split - FESB)

A1-TS2 67  **STATISTICAL ANALYSIS OF LIGHTNING-INDUCED VOLTAGES IN THE CASE OF LOSSY GROUND**
Amedeo Andreotti (University of Naples Federico II)

A1-TS2 98  **LIGHTNING CURRENT PARAMETERS EFFECTS ON THE INDUCED OVERVOLTAGES IN TRANSMISSION LINES**
Daniele Mestriner (University of Genoa); Martino Nicora (University of Genoa); Renato Procopio (University of Genoa); Massimo Brignone (University of Genoa); Mansuet Rossi (University of Genoa); Federico Delfino (University of Genoa-Savona); Elisabetta Fiori (CIMA Foundation)

A1-TS2 208  **STATISTICAL CHARACTERIZATION OF LIGHTNING INDUCED OVERVOLTAGE WAVEFORMS IN OVERHEAD LINES**
Fabio Napolitano (University of Bologna); Fabio Tossani (University of Bologna); Alberto Borghetti (University of Bologna); Georgij Podporkin (Streamer Electric Company); Carlo Alberto Nucci (University of Bologna)

A1-TS2 376  **IMPACT OF THE ELECTRICAL OPERATING POINT OVER A DBD DRIVEN PLASMA JET**
David Florez (Universidad Sergio Arboleda); Dmitry Schitz (Kantiana University); Hubert Piquet (Hubert Piquet Laboratoire Plasma et Conversion d'Energie (Unité Mixte de Recherche 3213), Centre National de la Recherche Scientifique); Rafael Diez (PUJ)

A1-TS2 103  **MODEL AND CONTROL OF A COMBINED PV-STORAGE SYSTEM INTO A MICROGRID**
Kevin Longo (Mines ParisTech); Silvano Vergura (Dep. of Electrical and Information Engineering)
AFTERNOON SESSION
TECHNICAL SESSION 13 (A1-TS3)

ENERGY EFFICIENT SYSTEMS
Session Chairs: Eleonora Riva Sanseverino
University of Palermo

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A1-TS3 73 DESIGN AND IMPLEMENTATION OF A FUZZY CONTROL SYSTEM APPLIED TO A 6X4 SRG
Ghunter P Viajante (IFG); Eric Nery Chaves (IFG); Luís Carlos Miranda (IFG);
Carlos Antunês Queiroz (IFG); Marcos Antônio Arantes de Freitas (IFG); Josemar A Santos (IFG)

A1-TS3 79 LOAD SCHEDULING APPROACH FOR ENERGY MANAGEMENT AND POWER QUALITY ENHANCEMENT IN GLASS MELTING FURNACES
Joaquin Garrido-Zafra (Universidad de Córdoba); Antonio Moreno-Munoz (University of Cordoba);
Aurora Gil-de-Castro (Universidad de Córdoba); Francisco Bellido-Outurro (Universidad de Córdoba);
Ricardo Medina-Gracia (Universidad de Córdoba); Elena Gutiérrez Ballesteros (Universidad de Córdoba)

A1-TS3 206 MULTI-OBJECTIVE BUILDING ENVELOPE OPTIMIZATION THROUGH A LIFE CYCLE ASSESSMENT APPROACH
Eleonora Riva Sanseverino (University of Palermo); Francesco Montana (University of Palermo);
Maurizio Cellura (Università di Palermo); Sonia Longo (University of Palermo)

A1-TS3 321 GRID CONNECTED PV SYSTEM WITH FILTERED INPUT SIGNAL NORMALISED LEAST MEAN ‘P’ POWER ADAPTIVE ALGORITHM
Shalvi Tyagi (Indian Institute of Technology Delhi); Shailendra Kumar (Indian Institute of Technology Delhi);
Bhim Singh (Indian Institute of Technology Delhi)

A1-TS3 399 STOCHASTIC SECURITY CONSTRAINED UNIT COMMITMENT WITH HIGH PENETRATION OF WIND FARMS
Mohsen Kia (Pardis Branch, Islamic Azad University );
Seyed Hamid Hosseini (Sharif University of Technology);
Alireza Heidari (The University of New South Wales (UNSW)); Mohamed Lotfi (FEUP);
João P Catalão (Faculty of Engineering of University of Porto, Porto, Portugal);
Miadreza Shaie Khah (UBI); Gerardo J Osório (C-MAST, University of Beira Interior);
Sérgio F Santos (University of Beira Interior)

A1-TS3 469 DESIGN NOVEL FUZZY LOGIC CONTROLLER OF PHOTOVOLTAIC CONVERSION CASCADE BASED FIVE LEVELS INVERTER FOR STAND-ALONE APPLICATIONS
Thameur Abdelkrim (URAER, CDER, Algeria);
Noureddine Bouarroudj (URAER, CDER, Algeria);
Abdelkader Lakhdari (URAER, CDER, Algeria); Boualam Benlahbib (URAER, CDER, Algeria);
Abdelhalim Borni (URAER, CDER, Algeria); Karima Benamrane (URAER, CDER, Algeria)
A1-TS4 196  **OPTIMISED GEOGRAPHICAL ALLOCATION OF WIND ENERGY CAPACITY USING A MEAN-VARIANCE PORTFOLIO ALGORITHM FOR CLUSTERED AND UN-CLUSTERED PROFILES**
Chantelle Yvonne Janse van Vuuren (Stellenbosch University); Hendrik Vermeulen (Stellenbosch University); Johannes Bekker (Stellenbosch University)

A1-TS4 238  **A PROBABILISTIC APPROACH TO POWER SYSTEM STATE ESTIMATION USING A LINEAR ALGORITHM**
Martin R Wagner (Carnegie Mellon University); Marko Jereminov (Carnegie Mellon University); Amritanshu Pandey (Carnegie Mellon University); Larry Pileggi (Carnegie Mellon University)

A1-TS4 354  **REDUCING WIND POWER FORECAST ERROR BASED ON MACHINE LEARNING ALGORITHMS AND PRODUCERS MERGING**
Dunja Srpak (University North); Ladislav Havaš (University North); Srđan Skok (University North); Boštjan Polajžer (University of Maribor)

A1-TS4 405  **VEGETATION RECOGNITION BASED ON UAV IMAGE COLOR INDEX**
Fatima Zahra Bassine (ENSEM); Ahmed Errami (ENSEM); Mohammed Khaldoun (ENSEM)

A1-TS4 428  **ECONOMIC LOAD DISPATCH USING AN IMPROVED PARTICLE SWARM OPTIMIZATION BASED ON FUNCTIONAL CONSTRICTION FACTOR AND FUNCTIONAL INERTIA WEIGHT**
Tankut Yalcinoz (University of Stuttgart)
**AFTERNOON SESSION**

**TECHNICAL SESSION 15 (A1-TS5)**

**MATERIALS: NANOTECHNOLOGY FOR RENEWABLE ENERGY, NOVEL MATERIALS FOR ENERGY HARVESTING**

*Session Chairs: Hossein Cheraghi Bidsorkhi*  
*University of Rome La Sapienza*

**Tuesday | June 11th 2019 | 15:00 – 17:00**

*Venue: JONIO*

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**A1-TS5 72**

**AC RESISTANCE EVALUATION, MEASUREMENTS AND SAVINGS OF INNOVATIVE BARE CONDUCTORS**  
Giovanni G R Rinzo (De Angeli prodotti); Debora Mimo (De Angeli prodotti); Lucia Garbellotto (De Angeli prodotti); Davide Peroni (De Angeli prodotti); Antonio Chiarelli (University of Padova); Renato Gobbo (University of Padova)

**A1-TS5 157**

**STUDY OF CRYSTALLINE PHASES IN THE 3BI2O3:2TEO2 AND BI6-XTBXTE2O13 SYSTEMS FOR FUEL CELL APPLICATIONS**  
Katiuscia Daiane Ferreira (IFG); Jesiel Carvalho (Universidade Federal de Goiás); Gisane Gasparotto (Universidade Federal de Goiás); Ghunter P Viajante (IFG)

**A1-TS5 240**

**STUDY OF THE TEMPERATURE INFLUENCE ON THE EFFICIENCY OF SILICON VACUUM REFINING UNDER ELECTROMAGNETIC STIRRING**  
Sergey Karabanov (Ryazan State Radio Engineering University); Dmitriy Suvorov (Ryazan State Radio Engineering University); Dmitry Y Tarabrin; Evgeniy V Slivkin (Ryazan State Radio Engineering University); Andrey Serebryakov (Ryazan State Radio Engineering University); Vladimir Kiripak (Ryazan State Radio Engineering University); Andrey Karabanov (Helios Resource Ltd.); Oleg Belyakov (Helios Resource Ltd.)

**A1-TS5 342**

**ZNO BASED SCHOTTKY-BARRIER SOLAR CELL CONVERSION EFFICIENCY ENHANCED BY PIEZO-PHOTOTRONIC EFFECT**  
Rabeb Belghouthi (LMOPS)

**A1-TS5 380**

**AN OPTIMIZED AC/DC BUCK-BOOST CONVERTER FOR WIND ENERGY HARVESTING APPLICATION**  
Mohammad Haider (University of Genova); Hussein Chible (Lebanese University); Ermanno DiZitti (University of Genova); Daniele D. Caviglia (University of Genova)
M2-TS1 137 DATA FORECASTING FOR OPTIMIZED URBAN MICROGRID ENERGY MANAGEMENT
Jura Arkhangelski (University of Paris Est Creteil, Certes Lab.);
Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.);
Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.)

M2-TS1 146 EVS CHARGING POWER CONTROL PARTICIPATING IN SUPPLEMENTARY FREQUENCY STABILIZATION: RISKS AND CHALLENGES UNDER UNCERTAINTIES
Chaowanan Jamroen (King Mongkut's University of Technology North Bangkok, Rayong Campus, Thailand); Sanchai Dechanupapritta (Kasetsart University)

M2-TS1 176 A NOVEL COORDINATED CONTROL OF PV DG SYSTEM WITH BATTERY ESS AND SUPER CAPACITOR
Manas Ranjan Mishra (IIT Delhi);
Surya Prakash (IIT Delhi); Sukumar Mishra (IIT Delhi)

M2-TS1 183 TEAGER-HUANG BASED FAULT DETECTION IN INVERTER-INTERFACED AC MICROGRID
Animesh K Sahoo (University of New South Wales, Sydney); Anusuya Arunan (University of New South Wales); Khizir Mahmud (University of New South Wales); Jayashri Ravishankar (UNSW); Mohammad Sohrab Hasan Nizami (Macquarie University); M J Hossain (Macquarie University)

M2-TS1 374 OPTIMAL OPERATION AND RESERVE PROVISION PLANNING FOR AN EV-ORIENTED DC MICROGRID
Maria Dicorato (Politecnico di Bari); Michele Trovato (Politecnico di Bari); Roberto Sbrizzai (Politecnico di Bari); Giuseppe Forte

M2-TS1 379 OPERATION SCHEME OF A MICROGRID TO MAXIMIZE PHOTOVOLTAIC SYSTEM UTILIZATION IN BLACKOUTS: A CASE STUDY
Hakam Shehadeh (Birzeit University); Jamal Siam (Birzeit University); Ali Hasan Abdo (Birzeit University)

M2-TS1 87 TRANSITIONS FROM GRID-CONNECTED TO ISLAND OPERATION OF SMART MICROGRIDS
Alessia Cagnano (Politecnico di Bari); Enrico De Tuglie (Politecnico di Bari); Desire Datuphin Rasolomampionona (Institute of Electrical Power Engineering - Warsaw University of Technology); Mariusz Klos (Institute of Electrical Power Engineering - Warsaw University of Technology); Salvatore Favuzza (University of Palermo); Fabio Massaro (University of Palermo); Gaetano Zizzo (University of Palermo)
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Musa Afrasiabi (Shiraz University); Shahabodin Afrasiabi (Shiraz University); Benyamin Parang (Shiraz University); Mohammad Mohammadi (Shiraz University); Mohammad Mehdi Arefi (Shiraz University); Mohammad Rastegar (Shiraz University)

M2-TS2 128  **GLOBAL MPPT METHOD FOR PHOTOVOLTAIC SYSTEMS OPERATING UNDER PARTIAL SHADING CONDITIONS USING THE 0.8VOC MODEL**  
Ziqiang Bi (Xi’an Jiaotong-Liverpool University); Jieming Ma (Xi’an Jiaotong-Liverpool University); Ka Lok Man (Xi’an Jiaotong-Liverpool University); Jeremy Smith (University of Liverpool); Yong Yue (Xi’an Jiaotong-Liverpool University); Huiqing Wen (XJTLU)

M2-TS2 151  **A NEW MULTIPLEXED–FIRST–STAGE SEQUENTIAL HYBRID MPPT APPROACH FOR PHOTOVOLTAIC SYSTEMS**  
Muhy Eddin Qasem za’ter (Princess Sumaya University for Technology); Majd G Batarseh (Princess Sumaya University for Technology)

M2-TS2 172  **ON CONTROLLING POWER RAMPING AND OUTPUT OF GRID-CONNECTED ROFTOP SOLAR PV SYSTEM USING BATTERY ENERGY STORAGE SYSTEM**  
Somboon Nuchprayoon (Chiang Mai University); Apichai Saipet (Chiang Mai University)

M2-TS2 184  **DUAL SOURCE ENERGY SYSTEM (PHOTOVOLTAIC-BATTERIES) BASED ON THREE LEVEL NEUTRAL POINT CLAMPING INVERTER**  
Farid Hadjou (Ecole Militaire Polytechnique); Bekheira Tabbache (Ecole Militaire Polytechnique); Benbouzid Mohamed (Université de Brest, France)

M2-TS2 192  **CHARACTERIZATION AND CAPACITY DISPERSION OF LITHIUM-ION SECOND-LIFE BATTERIES FROM ELECTRICAL VEHICLES**  
Elisa Braco (Public University of Navarre); Idoia San Martin (Public University of Navarra); Pablo Sanchis (Public University of Navarra); Alfredo Ursúa (Public University of Navarra)

M2-TS2 226  **A NEW METHODOLOGY TO PREVENT SHADOWS IN TWO-AXIS SOLAR TRACKING PLANTS**  
Luis M Fernández-Ahumada (Universidad de Córdoba); José C Ramírez-Faz (Universidad de Córdoba); Rafael López-Luque (Universidad de Córdoba); Marta Vero-Martínez (Universidad de Córdoba); Isabel M Moreno-García (Universidad de Córdoba); Francisco J Casares de la Torre (Universidad de Córdoba)
M2-TS3 105  IMPACT OF HIGH VARIABLE RENEWABLE PENETRATIONS ON DYNAMIC OPERATING RESERVES IN FUTURE INDONESIAN ELECTRICITY INDUSTRY SCENARIOS
Yusak Tanoto (UNSW)

M2-TS3 210  LIMITED ENERGY RESERVOIRS: ANALYSIS OF THE PROPOSED METHODOLOGY FOR OPENING FREQUENCY CONTAINMENT RESERVE TO ENERGY STORAGE IN EU
Giuliano Rancilio (Politecnico di Milano); Marco Savino Pasquadibisceglie (ARERA); Marco Merlo (Politecnico di Milano); Filippo Bovera (Politecnico di Milano); Davide Falabretti (Politecnico di Milano); Maurizio Delfanti (Politecnico di Milano)

M2-TS3 265  MINIMIZATION OF THE ELECTRICITY BILL OF BRAZILIAN CONSUMERS WITH PV SYSTEM THROUGH THE OPTIMIZATION OF CONTRACTING DEMAND AND THE ORIENTATION OF PHOTOVOLTAIC PANELS
André M Martins (Instituto Federal de Goiás); Carlos Augusto Guimarães Medeiros (Pontifical Catholic University of Goiás); Jose Luis Domingos (Federal Institute of Goiás); Marcio R Reis (Federal Institute of Goiás); Wesley Pacheco Calixto (IFG); Raphael Aquino Gomes (Federal Institute of Goiás)

M2-TS3 393  DISTRIBUTION SYSTEM RELIABILITY EVALUATION IN PRESENCE OF DG
Amged Halim (TEC Engineering and Contracting); Samah Elsafty (Arab Academy for Science and Technology and Maritime Transport); Ahmed Helal (Arab Academy for Science and Technology and Maritime Transport)

M2-TS3 416  OPTIMAL THERMAL ENERGY STORAGE CONFIGURATION MODEL FOR CSP UNITS
Chenjia Feng (Xi’an Jiaotong University); Chengcheng Shao (Xi’an Jiaotong University); Shen Zhang (Xi’an Jiaotong University)

M2-TS3 459  APPLYING REINFORCEMENT LEARNING METHOD FOR REAL-TIME ENERGY MANAGEMENT
Roya Ahmadi (Tallinn University Of Technology)

M2-TS3 28  OPTIMAL PLACEMENT AND SIZING OF FAULT CURRENT LIMITERS IN POWER SYSTEMS WITH UNCERTAINTIES
Mohammad Amin Jarrahi (Shiraz University); Mohammad Mohammadi (Shiraz University); Haidar Samet (Shiraz University)

M2-TS3 260  POST OCCUPANCY EVALUATION AND ENVIRONMENTAL PARAMETERS MONITORING BY A HUMANOID ROBOT
Gianpaolo Vitale (ICAR, Institute for high performance computing and networking, Italian National Research Council of Italy); Marina Bonornolo (ICAR-CNR); Patrizia Ribino (ICAR-CNR); Carmelo Lodato (ICAR-CNR)
M2-TS4 230  **MARKOV CHAIN MODELLING-BASED APPROACH TO RESERVE ELECTRIC VEHICLES IN PARKING LOTS FOR DISTRIBUTION SYSTEM ENERGY MANAGEMENT**  Marjan Yazdani (Politecnico di Torino); Abouzar Estebsari (Politecnico di Torino); Mofahharel Estebasari (Politecnico di Torino); Roozbeh Rajabi (Qom University of Technology)

M2-TS4 147  **A FLEXIBLE TEST-BED PILOT FACILITY FOR THE ANALYSIS AND SIMULATION OF SMART MICROGRIDS**  Miguel de Simón-Martín (Universidad de León); Alberto González-Martínez (Universidad de León); Jorge Blanes-Peiro (Universidad de León); Federico Dellino (University of Genoa-Savona); Mansueto Rossi (University of Genoa); Stefano Bracco (University of Genoa-Savona)

M2-TS4 158  **GHI FORECASTING USING ONLINE SPARSE GAUSSIAN PROCESS REGRESSION BASED ON QUASIPERIODIC KERNELS**  Shab Gbemou (PROMES-CNRS); Hanany Tolba (PROMES-CNRS); Stéphane Thil (PROMES-CNRS); Stéphane Grieu (PROMES-CNRS)

M2-TS4 344  **THE EFFECT OF AMBIENT TEMPERATURE ON THE YIELD OF A 3 MWP PV PLANT INSTALLED IN ECUADOR**  Ana Cabrera-Tobar (Universidad Técnica del Norte); Yasmamy Fernández (Universidad Técnica del Norte); José Huaca (Universidad Técnica del Norte); Marcelo Pozo (Escuela Politécnica Nacional); Oriol Gomis Bellmunt (CITCEA UPC); Alessandro Massi Pavan (University of Trieste, Italy)

M2-TS4 404  **UNDERSTANDING CAUSES OF LOW VOLTAGE (LV) FAULTS IN ELECTRICITY DISTRIBUTION NETWORK USING ASSOCIATION RULE MINING AND TEXT CLUSTERING**  Charith Silva (University of Salford); Mohamad (Mo) Saraee (University of Salford)

M2-TS4 299  **DISTINGUISHING BETWEEN FAULT AND INRUSH CURRENT IN PRESENCE OF THE CT SATURATION: A NEW METHOD BASED ON GRAVITY CENTER IN TIME**  Alireza Bagheri (Shiraz University); Mehdi Allahbakhshi (Shiraz University); Haidar Saniot (Shiraz University); Mohsen Tajdinian (Shiraz University); Alireza Seifi (Shiraz University)

M2-TS4 251  **ENHANCING POWER SYSTEM FLEXIBILITY THROUGH DISTRICT HEATING - POTENTIAL ROLE IN THE ITALIAN DECARBONISATION**  Fabrizio Fattori (Politecnico di Milano); Laura Tagliaebue (Politecnico di Milano); Gabriele Cassetti (Politecnico di Milano); Mario Motta (Politecnico di Milano)
M2-TS5 20  PERFORMANCE ANALYSIS OF MULTISTAGE VOLTAGE DOUBLER RECTIFIER FOR RF ENERGY HARVESTING
Alex Mouapi (Université du Québec en Abitibi-Témiscamingue - UQAT)

M2-TS5 33  ROBUSTNESS AGAINST DIFFERENT UNKNOWN INPUTS VIA SWITCHED OBSERVERS: LATERAL VEHICLE DYNAMICS APPLICATION
Ali Hasan Abdo (Birzeit University); Jamal Siam (Birzeit University); Rashad Mustafa (Birzeit University); Hakam Shehadeh (Birzeit University)

M2-TS5 125  SYSTEMATIC ERRORS IN THE INTERPOLATED-DFT-BASED FREQUENCY ESTIMATION FOR THE CONTROL OF POWER USING GENERALIZED MAXIMUM SIDELOBE DECAY WINDOWS
Józef Borkowski (Wrocław University of Science and Technology); Janusz Mroczka (Wrocław University of Science and Technology)

M2-TS5 170  A WIDE RANGE AND HIGH SWING CHARGE PUMP FOR PHASE LOCKED LOOP IN PHASOR MEASUREMENT UNITS
Motahhareh Estebsari (Politecnico di Torino); Abouzar Estebsari (Politecnico di Torino)

M2-TS5 199  SOIL THERMAL RESISTIVITY: INNOVATIVE MEASUREMENT SYSTEM
Gianluca Di Felice (Università di Roma La Sapienza); Luigi Calcara (Sapienza University of Rome); Flavia Perrucci (Università di Roma La Sapienza); Francesco Avenerio Marchetti (Università di Roma La Sapienza)

M2-TS5 57  DE-RATING OF TRANSFORMERS UNDER NON-SINUSOIDAL LOADS: MODELING AND ANALYSIS
Ali Fakhrian (University of Kashan); Babak Ganji (University of kashan); Hamid Reza Mohammadi (University of Kashan); Haidar Samet (Shiraz University)
N2-PS 85  **THE IMPACT OF NUMBER OF PARTITIONS ON TRANSIENT STABILITY OF INTENTIONAL CONTROLLED ISLANDING**  
Mehdi Babaei (Curtin University)

N2-PS 117  **ITER REACTIVE POWER COMPENSATION SYSTEMS: ANALYSIS ON REACTIVE POWER SHARING STRATEGIES**  
Daniele Mestriner (University of Genoa); Alessandro Labella (University of Genoa); Andrea Bonfiglio (University of Genoa); Ivone Benfatto (ITER Organization); Jinchao Li (ITER Organization); Yulong Ye (ITER Organization); Zhiquan Song (ITER Organization)

N2-PS 121  **A DYNAMIC MESOSCOPIC NETWORK LOADING MODEL FOR SPILLBACK QUEUING ASSESSMENT**  
Abedelkareem Alnajajreh (Polytechnic University of Bari); Mario Marinelli (Polytechnic University of Bari); Stefana Sinesi (Polytechnic University of Bari)

N2-PS 123  **MDSOGI-FLL CONTROL FOR SYRG-PMBLDCG-BES-PV BASED MICROGRID**  
Rohini Sharma (IIT Delhi); Seema Kewat (IIT Delhi); Bhim Singh (IIT Delhi)

N2-PS 124  **STANDALONE PV-BES-DG BASED MICROGRID WITH POWER QUALITY IMPROVEMENTS**  
Vivek Narayanan (IIT Delhi); Seema Kewat (IIT Delhi); Bhim Singh (IIT Delhi)

N2-PS 179  **STABILITY ENHANCEMENT OF INVERTER BASED AUTONOMOUS MICROGRID USING ELECTRIC SPRING**  
Ayesha Firdaus (Indian Institute of Technology Delhi); Sukumar Mishra (IIT Delhi); Dushyant Sharma (Indian Institute of Technology Delhi)

N2-PS 181  **A SPACE VECTOR MODULATED QUASI-Z-SOURCE BASED FOUR-LEVEL VSI FOR PV APPLICATIONS**  
Manoj Pasupuleti (NIT Warangal); Dr. Somasekhar V T (National Institute of Technology, Warangal); Kiruba A (NIT Warangal)
N2-PS 209 **BENEFITS OF DISTRIBUTED ENERGY AND STORAGE SYSTEM IN PROSUMER BASED ELECTRICITY MARKET**
Hafiz Abdul Muqeet (UET Taxila); Aftab Ahmad (UET Taxila);
Dr. Malik Intisar Ali Sajjad (University of Engineering & Technology, Taxila, Pakistan);
Rehan Liaquat (UET Taxila); Syed Aamin Raza Naqvi (UET Taxila);
Muhammad Muzaffar Iqbal (UET Taxila); Luigi Martirano (Sapienza, University of Rome)

N2-PS 218 **DISTRIBUTED POWER QUALITY MONITORING IN CUSTOMER'S ELECTRICAL DISTRIBUTION SYSTEM**
Andrea Fioravanti (University of l'Aquila, Department of Industrial and Information Engineering and Economics); Alberto Prudenzi (University of l'Aquila);
Francesco Pierannunzi (University of l'Aquila); Fabrizio Ciancetta (University of l'Aquila, Department of Industrial and Information Engineering and Economics)

N2-PS 255 **COMBINING THE EXERGY AND ENERGY ANALYSIS FOR THE ASSESSMENT OF DISTRICT HEATING POWERED BY RENEWABLE SOURCES**
Laura Pompei (Sapienza, University of Rome); Fabio Nardecchia (Sapienza, University of Rome);
Benedetta Mattoni (Sapienza, University of Rome); Luca Giugliermetti (Sapienza, University of Rome);
Fabio Bisegna (Sapienza, University of Rome)

N2-PS 387 **A SURVEY OF MACHINE LEARNING APPLICATIONS FOR POWER SYSTEM ANALYTICS**
Seyed Mahdi Miraftabzadeh (Politecnico di Milano); Michela Longo (Politecnico di Milano)

N2-PS 388 **ANALYZING THE ROLE OF MICROGRIDS TO MITIGATE THE EFFECTS OF FORECASTING ERROR OF RENEWABLE DISTRIBUTED GENERATORS**
J M Lujano-Rojas (INESC-ID); José A Domínguez-Navarro (University of Zaragoza);
Jose María Yusta Loyo (University of Zaragoza); Gerardo J Osório (C-MAST, University of Beira Interior);
Sérgio F Santos (University of Beira Interior); Mohamed Lofti (FEUP);
João P Catalão (Faculty of Engineering of University of Porto, Porto, Portugal.)

N2-PS 446 **PEAK CURRENT DETECTION STARTING BASED POSITION SENSORLESS CONTROL OF BLDC MOTOR DRIVE FOR PV ARRAY FED IRRIGATION PUMP**
Aryadip Sen (Indian Institute of Technology, Delhi); Bhim Singh (IIT, Delhi)

N2-PS 477 **A G2V/V2G OFF-BOARD FAST CHARGER FOR CHARGING OF LITHIUM-ION BASED ELECTRIC VEHICLES**
Saran Chaurasiya (IIT Delhi); Bhim Singh (Indian Institute of Technology Delhi)
NOON SESSION
POSTER SESSION (N2-PS)

PhD STUDENTS POSTER SESSION
Session Chairs: Massimo Mitolo
Irvine Valley College
Wednesday | June 12th 2019 | 11:30 – 13:30
Venue: MEDITERRANEO

N2-PS 372 FEASIBILITY STUDY OF NEARLY ZERO ENERGY BUILDING IN A REAL MICROGRID CASE STUDY
Stefano Alfieri (Sapienza, University of Rome); Sara Piccini (Sapienza, University of Rome); Mostafa Kermani (Sapienza, University of Rome)

N2-PS 466 FAILURE PREDICTION OF PV INVERTERS UNDER OPERATIONAL STRESSES
Mohamed Khalil (Doble Power Test)

N2-PS 59 RADIAL POWER FLOW IN A SINGLE BUS MICROGRID WITH DISPATCHABLE LOAD
Vishnu Suresh (Wroclaw University of Science and Technology)

N2-PS 411 ONLINE FAULT LOCATION IN MONOPOLAR LCC-HVDC LINKS WITH METALLIC RETURN USING MODAL TRANSIENT DATA
Mani Ashouri (Aalborg University); Filipe Faria da Silva (AAU); Claus Leth Bak (AAU)

N2-PS 330 STOCHASTIC MANAGEMNT OF BIDIRECTIONAL ELECTRIC VEHICLES: THE CASE OF AN ELECTRIC VEHICLES AGGREGATOR
Isaias Gomes (IDMEC, Instituto Superior Técnico, Universidade de Lisboa); Melicio Rui (IDMEC, Instituto Superior Técnico, Universidade de Lisboa); Victor Mendes (Instituto Superior de Engenharia de Lisboa)

N2-PS 253 ROBUST CONTROL OF A WIND TURBINE USING THIRD GENERATION CRONE CONTROL
Francisco Ravasco (IDMEC, Instituto Superior Técnico, Universidade de Lisboa); Melicio Rui (IDMEC, Instituto Superior Técnico, Universidade de Lisboa); Nelson Batista (ICT, Universidade de Evora); Duarte Valério (IDMEC, Instituto Superior Técnico, Universidade de Lisboa)
Noon Session
Technical Session 21 (N2-TS2)

Power Systems and Smart Grids - 1
Session Chairs: Gevork B. Gharehpetian
Amirkabir University of Technology

Wednesday | June 12th 2019 | 11:30 – 13:30
Venue: Adriatico

N2-TS2 327  System Approach to Management of Electrical Consumption in Intelligent Electrical Networks
Boris Papkov (Nizhny Novgorod State Engineering and Economic Institute); Anatolijs Mahnitko (RTU); Inga Zicmane (RTU FPEE); Kristina Berzina (Riga Technical University); Tatjana V Lomane (RTU); Yuri Veremiichuk (Department of Electricity Supply National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”)

N2-TS2 382  Stability Analysis and Control of a Grid Connected Wind Turbine Based on Doubly Fed Induction Generator
Marwa Hassan (Sapienza, University of Rome)

N2-TS2 409  New Brushless and Dynamic De-excitation Structure for Brushless Synchronous Generators
Seif Eddine Chouaba (DAC-HR laboratory, Sétif-1 University)

N2-TS2 435  Medium and Long-term Power System Development Planning Considering Carbon Dioxide Mitigation
Jiajie Fan (Xi'an Jiaotong University); Xiuli Wang (Xi'an Jiaotong University); Qihang Huang (Xi'an Jiaotong University); Zhidong Wang (State Grid Economic and Technological Research Institute Co., Ltd.); Chengzhi Zhu (State Grid Zhejiang Electric Power Co., Ltd)

N2-TS2 471  Asymptotic Output Tracking in Control of a Grid Connected Wind Turbine Based on Doubly Fed Induction Generator
Marwa Hassan (Sapienza, University of Rome)

N2-TS2 204  On-line Identification of Simplified CHP Models
Roberto Turri (University of Padova); Enrico De Tuglie (Politecnico di Bari); Alessia Cagnano (Politecnico di Bari); Andrea Vian (University of Padova); Andrea Cerri (University of Padova)

N2-TS2 444  A Grey-box Model Based on Unscented Kalman Filter to Estimate Thermal Dynamics in Buildings
Marco Massano (Politecnico di Torino); Enrico Maci (Politecnico di Torino, Dept. of Control and Computer Engineering); Edoardo Patti (Politecnico di Torino, Department of Control and Computer Engineering); Lorenzo Bottaccioli (Politecnico di Torino); Andrea Acquaviva (Politecnico di Torino, Department of Control and Computer Engineering)
N2-TS3 29 **ROLLING-HORIZON SCHEDULING STRATEGIES FOR OFF-GRID SYSTEMS: ON THE OPTIMAL REDISPATCHING FREQUENCY AND THE EFFECTS OF FORECASTING ERRORS**
Davide Fioriti (DESTEC); Davide Poli (University of Pisa - DESTEC);
Giovanni Lutzemberger (University of Pisa)

N2-TS3 111 **MODEL PARAMETERS EVALUATION FOR NMC CELLS**
Giovanni Lutzemberger (University of Pisa); Massimo Ceraolo (University of Pisa);
Davide Poli (University of Pisa - DESTEC); Claudio Scarpelli (University of Pisa)

N2-TS3 207 **A REAL-LIFE EXPERIENCE ON 2ND LIFE BATTERIES SERVICES FOR DISTRIBUTION SYSTEM OPERATOR**
Tommaso Bragatto (A.S.M. Terni S.p.A.); Massimo Cresta (A.S.M. Terni S.p.A.);
Francesca Santori (A.S.M. Terni S.p.A.);
Vincenzo Croce (Engineering Ingegneria Informatica S.p.A.);
Denisa Ziu (Engineering Ingegneria Informatica S.p.A.); Marco Paulucci (A.S.M. Terni S.p.A.)

N2-TS3 214 **ANALYSIS OF THE MAIN BATTERY CHARACTERIZATION TECHNIQUES AND EXPERIMENTAL COMPARISON OF COMERCIAL 18650 LI-ION CELLS**
Adrian Soto (Public University of Navarre); Alberto Berrueta (Public University of Navarra);
Pablo Sanchis (Public University of Navarre); Alfredo Ursúa (Public University of Navarra)

N2-TS3 384 **BEES PARTICIPATION IN THE ITALIAN BALANCING SERVICE: PROFITABILITY EVALUATION VIA AN OPTIMAL BIDDING APPROACH**
Silvia Canavesi (Ricerca sul Sistema Energetico - RSE); Antonio Gattu (RSE SpA)

N2-TS3 429 **COORDINATED FREQUENCY CONTROL OF FLYWHEEL ENERGY STORAGE AND DIESEL GENERATOR IN AMIRKABIR UNIVERSITY OF TECHNOLOGY (AUT) MICROGRID**
Saeed Mahdavi (Amirkabir University of Technology);
Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University);
Gevork B Gharehpetian (Amirkabir University of Technology - AUT)

N2-TS3 44 **INFLUENCE OF FLEXIBLE CONSUMERS ON LOCAL BALANCING OF GENERATION AND CONSUMPTION**
Patrick Schultheis (RWTH Aachen)
**N2-TS4 80**  **INTER-AREA OSCILLATIONS IN THE 500-KV VIETNAMESE POWER SYSTEM**
Rossano Musca (University of Palermo); Gaetano Zizzo (DEIM University of Palermo); Maria Luisa Di Silvestre (University of Palermo); Eleonora Riva Sanseverino (University of Palermo); Salvatore Favuzza (University of Palermo); Ninh Nguyen Quang (Institute of Energy Science); Hang Le Thi Thuy (Instituté of Energy Science IES-VAST); Linh Duy Bui (NLDC)

**N2-TS4 166**  **5G COMMUNICATION SYSTEM ANTENNA DESIGN**
Paola Pirinoli (Politecnico di Torino); Michele Beccaria (Politecnico di Torino); Andrea Massaccesi (Politecnico Di Torino); Kiem Nguyen Khac (Hanoi University of Science and Technology); Trung Nguyen Huu (Hanoi University of Science and Technology); Linh Ho Manh (Hanoi University of Science and Technology)

**N2-TS4 190**  **DATA-DRIVEN CONTROL OF WATER RESERVOIRS USING EL NINO SOUTHERN OSCILLATION INDEXES**
Matteo Giuliani (Politecnico di Milano); Andrea Castelletti (Politecnico di Milano)

**N2-TS4 333**  **A SINGLE-INDUCTOR MISO CONVERTER WITH UNIFIED DECOUPLED MPPT ALGORITHM FOR PV SYSTEMS UNDERGOING SHADING CONDITIONS**
Rana M Ahmed (Arab Academy for Science and Technology); Nahla Ezz Eldin Zakzouk (Arab Academy for Science and Technology and Maritime Transport)

**N2-TS4 366**  **ANALYSIS OF ELECTRICAL AND PHYSICOCHEMICAL PROPERTIES OF GIS EPOXY INSULATOR WITH LONG-TERM SERVICE**
Yi Hao (Xi’an Jiaotong University); Yu Chen (Xi’an Jiaotong University); Shuang Wang (Xi’an Jiaotong University); Cong Liu (Xi’an Jiaotong University); Kai Yao (Xi’an Jiaotong University); Zengbin Wang (Electric Power Research Institute of Guangdong Power Grid Co, Ltd); Ruilei Gong (Shandong Taikai High Voltage Switchgear Co. Ltd); Chaoyun Du (Xi’an XD Electrical Material Co. Ltd)

**N2-TS4 422**  **A HYBRID PARTICLE SWARM OPTIMIZATION-FUZZY LOGIC CONTROLLED PHOTOVOLTAIC APPROACH**
Neeraj Priyadarshi (Millia Institute of Technology); Sanjeevikumar Padmanaban (Dept. of Energy Technology, Aalborg University, Esbjerg); Sagar Bhaskar Mahajan (Renewable Energy Lab, Department of Communications and Networks Engineering, College of Engineering, Prince Sultan University, Riyadh, Saudi Arabia); Unashankar Subramaniam (Prince Sultan University); Dhafar Almakhles (Prince Sultan University)

**N2-TS4 62**  **DETECTION AND CLASSIFICATION OF MULTIPLE POWER QUALITY DISTURBANCES BASED ON TEMPORAL DEEP LEARNING**
Mohammad Mohammadi (Shiraz University); Musa Afraziabi (Shiraz University); Shahabodin Afraziabi (Shiraz University); Benyamin Parang (Shiraz University)
N2-TS5 26  DESIGN AND IMPLEMENTATION OF A DRIVETRAIN FOR AN FSAE ELECTRIC VEHICLE
Alec Tokosch (York College of Pennsylvania); Donald Hake II (York College of Pennsylvania); Kala Meah (York College of Pennsylvania); Joseph Maier (York College of Pennsylvania)

N2-TS5 148  ENERGY EFFICIENCY PROJECT WITH ACTIONS TO ENCOURAGE THE RATIONAL AND SUSTAINABLE USE OF ELECTRIC ENERGY
Gerley C Lemos (Instituto Federal de Goiás); Adriano Faria (Universidade Federal de Goiás (UFG)); Hunter P Viajante (IFG); Jose Luis Domingos (Federal Institute of Goias); Elder Domingues (Federal Institute of Goiás); Sergio Batista B Silva (Federal Institute of Goias - IFG); Olivo Souto (IFG); Eduardo Frauche (Universidade Federal de Goiás); Jessé Franca (PUC-GO)

N2-TS5 326  POWER TRANSFORMER CONDITION MANAGEMENT PROGRAM FOR OIL AND GAS INDUSTRIAL FACILITIES
Hamad A Tuaimi (Saudi Aramco); Ibrahim Al-Khadi (Saudi Aramco); Mufarreh Algahtani (Saudi Aramco)

N2-TS5 331  ADAPTIVE NEURAL NETWORK PID CONTROLLER
Mohamed Benrabah (université saad dahleb blida)

N2-TS5 407  AI-BASED POWER CONTROL OF AN ALL-ELECTRIC AIRCRAFT
Brook Abegaz (Loyola University of Chicago)

N2-TS5 177  A FIVE-LEVEL QUASI Z-SOURCE BASED NPC INVERTER FOR PV APPLICATIONS
Chinmay Kumar Das (NIT Warangal); Kiruba A (NIT Warangal); Dr. Somasekhar V T (National Institute of Technology, Warangal)
SS04 ADVANCED RESEARCH IN MICROGRIDS CONTROL, MANAGEMENT, APPLICATIONS AND IMPLEMENTATIONS

Session Chairs: Enrico Elio De Tuglie
Politecnico di Bari

Thursday | June 13th 2019 | 9:00 – 11:00
Venue: MEDITERRANEO

M3-TS1 58 PROBABILISTIC MULTI-OBJECTIVE OPTIMIZATION IN ISLANDED MICROGRIDS CONSIDERING LOAD AND WIND UNCERTAINTIES WITH WIND SITE CORRELATIONS
Jithendranath J (Indian Institute of Technology Kharagpur, Kharagpur); Debapiya Prof. Das (IIT Kharagpur)

M3-TS1 97 FEED-FORWARD BASED FUZZY LOGIC CONTROLLED BESS FOR ENHANCING THE FREQUENCY STABILITY OF ISLANDED PEA-MICROGRID IN THAILAND
Sillawat Romphochai (Rajamangala University of Technology of Technology Khon Kaen Campus)

M3-TS1 132 EFFECTS OF DEMAND SIDE MANAGEMENT ON THE OPERATION OF AN ISOLATED LV MICROGRIDS
Gaetano Zizzo (Università di Palermo); Salvatore Favuzza (University of Palermo); Fabio Massaro (University of Palermo); Rossano Musca (University of Palermo); Jaser A Sa’ed (Birzeit University); Enrico De Tuglie (Politecnico di Bari); Alessia Cagnano (Politecnico di Bari)

M3-TS1 220 A POWER CONTROL SCHEME FOR THE ISLANDING TRANSITION OF A MICROGRID WITH BATTERY ENERGY STORAGE SYSTEMS
Juan Diego Rios Penaloza (University of Bologna); James Amankwah Adu (University of Bologna); Alberto Borghetti (University of Bologna); Fabio Napolitano (University of Bologna); Fabio Tossani (University of Bologna); Carlo Alberto Nucci (University of Bologna)

M3-TS1 221 A RELIABLE ENERGY STORAGE SYSTEM MODELS FOR THE ENERGY COMMUNITY MANAGEMENT
Luigi Pelleggrino (RSE S.p.A.); Edoardo Corsetti (RSE); Matteo Redaelli (Università degli Studi di Milano)

M3-TS1 262 A MICROGRID ARCHITECTURE FOR INTEGRATING EV CHARGING SYSTEM AND PUBLIC STREET LIGHTING
Sergio Bruno (DEI - Politecnico di Bari); Giovanni Giannoccaro (DEI - Politecnico di Bari); Massimo La Scala (DEI - Politecnico di Bari); Giuseppe Lopopolo (DEI - Politecnico di Bari); Carmine Rodio (DEI - Politecnico di Bari)

M3-TS1 480 ROBUST OPTIMIZATION AND AFFINE ARITHMETIC FOR MICROGRID SCHEDULING UNDER UNCERTAINTY
Marina Petrelli (Politecnico di Milano); Alfredo Vaccaro (University of Sannio); Alberto Berizzi (Politecnico di Milano)
M3-TS2 48  THE ENVIRONMENTAL IMPACTS CONNECTED WITH TRAVELLING TO EVENTS: THE CASE STUDY OF THE CITY OF NAPLES IN ITALY
Francesca Pagliara (University Federico II of Naples);
Luigi Biggiero (University Federico II of Naples); Ilaria Henke (University Federico II of Naples)

M3-TS2 64  THINKING BIG: REHABILITATING A FORMERLY MINOR RAILWAY SUPPLY IN A MEDIUM-DENSITY URBAN AREA IN CENTRAL ITALY
Maria Vittoria Corazza (Sapienza University of Rome); Sandro Imbastaro (TUA);
Marco Pascucci (consultant)

M3-TS2 71  ADVANCED DYNAMICAL MODELS FOR FULL-GREEN AND SUSTAINABLE SAIL DRONES
Luca Pugi (University of Florence); Enrico Boni (University of Florence);
Marco Montagni (University of Florence); Andrea Bertini (University of Florence)

M3-TS2 88  A MODEL FOR ESTIMATING THE IMPACT OF NATIONAL TRANSPORT INVESTMENTS ON THE RAIL MODAL SHARE AND GREENHOUSE GAS EMISSIONS
Mariano Gallo (Universita' del Sannio - Dipartimento di Ingegneria);
Andrea Amo Guevara (Universidad de Castilla-La Mancha)

M3-TS2 91  THE IMPLEMENTATION OF ENERGY-SAVING STRATEGIES IN THE CASE OF LIMITATION IN ROLLING STOCK AVAILABILITY
Luca D’Acierno (Federico II University of Naples); Marilisa Botte (Federico II University of Naples)
M3-TS3 162 **DYNAMIC CHARACTERISTICS OF INTERPOLATED-DFT-BASED FREQUENCY ESTIMATION METHOD WITH GENERALIZED MAXIMUM SIDELOBES DECAY WINDOWS**
Józef Borkowski (Wrocław University of Science and Technology); Adam Matusiak (Wrocław University of Science and Technology)

M3-TS3 301 **ENHANCING IMMUNITY OF FULL-CYCLE DISCRETE FOURIER TRANSFORM AGAINST DECAYING DC COMPONENTS: A COMPARATIVE ANALYSIS**
Mohsen Tajdinian (Shiraz University); Haidar Samet (Shiraz University); Alireza Hamedi (Shiraz University); Arsalan Hadaeghi (Shiraz University); Alireza Bagheri (Shiraz University); Mehdi Allahbakhshi (Shiraz University); Alireza Seifi (Shiraz University)

M3-TS3 364 **TEMPERATURE CALCULATION AND MEASUREMENT ON POWER CABLE CONDUCTOR BASED ON EQUIVALENT THERMAL CIRCUIT AND BOTDA**
Jing Zhou (Guangzhou Bureau, EHV Transmission Company of China Southern Power Grid Co., Ltd.); Kai Yao (Xi’an Jiaotong University); Xiaowei Huang (Guangzhou Bureau, EHV Transmission Company of China Southern Power Grid Co., Ltd.); Guanshu Sun (Xi’an Jiaotong University); Weijia Zhang (Guangzhou Bureau, EHV Transmission Company of China Southern Power Grid Co., Ltd.); Ahsan Ashfaq (Xi’an Jiaotong University); Yi Hao (Xi’an Jiaotong University); Yu Chen (Xi’an Jiaotong University)

M3-TS3 408 **AN EVENT DRIVEN APPROACH FOR THE POWER SYSTEMS ENERGY STORAGE MONITORING**
Saeed Mian Qaisar (Effat University); Amani Alshaiban (Effat University)

M3-TS3 421 **PERFORMANCE OF NEURAL NETWORK BASED CONTROLLERS AND ΔΣ-BASED PID CONTROLLERS FOR NETWORKED CONTROL SYSTEMS: A COMPARATIVE INVESTIGATION**
Chathura Wanigasekara (University of Auckland); Dhafar Almakhles (Prince Sultan University); Sing Kiong Nguang (University of Auckland); Akshya Swain (University of Auckland); Umashankar Subramaniyan (Prince Sultan University); Sanjeevikumar Padmanaban (Aalborg University)

M3-TS3 108 **FREQUENCY-DEPENDENT EARTH IMPEDANCE FORMULAS BETWEEN OVERHEAD CONDUCTORS AND UNDERGROUND PIPES**
Theofilos Papadopoulos (Democritus University of Thrace); Andreas Apostolidis (Democritus University of Thrace); Andreas Chrysochos (Cablel Hellenic Cables); Georgios C Christoforidis (Western Macedonia University of Applied Sciences)
M3-TS4 136 A HIGH TRAFFIC DENSITY METRO ELECTRIFIED AT 2X25 KV 50 Hz
Alessandro Ruvio (Sapienza University of Rome); Regina Lamedica (Sapienza University of Rome); Nicola Carones (Italferr); Guido Guidi Buffarini (Italferr); Marco Laurini (Italferr); Alessandro Midili (Sapienza University of Rome)

M3-TS4 140 BEHAVIOR OF MAGNETIC FLUX DENSITY IN DYNAMIC WIRELESS CHARGING OF ELECTRIC VEHICLES
Maxim Lu (Electrical and Computer Engineering Department, Nazarbayev University); Azamat Mukhatov (Electrical and Computer Engineering Department, Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University); Alex James (Electrical and Computer Engineering Department, Nazarbayev University)

M3-TS4 188 AN INCLUSIVE STUDY AND CLASSIFICATION OF HARMONIC PHENOMENA IN ELECTRIC RAILWAY SYSTEMS
Hamed Jafari Kaleybar (Sahand University of Technology); Hossein Madadi Kojabadi (Sahand University of Technology); Morris Brenna (Politecnico di Milano); Federica Foiadelli (Politecnico di Milano); Seyed Saeed Fazel; Arefeh Rasi (Iran University of Science and Technology)

M3-TS4 475 A BIDIRECTIONAL HOME CHARGING SOLUTION FOR AN ELECTRIC VEHICLE
Jitendra Gupta (IIT Delhi); Bhim Singh (Indian Institute of Technology Delhi)

M3-TS4 229 AN OPTIMAL LOAD SCHEDULING APPROACH CONSIDERING USER PREFERENCE AND CONVENIENCE LEVEL FOR SMART HOMES
Fazida H Hashim (UKM); Leehter Yao (National Taipei U. of Tech.); Sun Sheng (National Taipei U. of Tech.)
M3-TS5 365  **SOFT-SWITCHING POWER CONVERTERS FOR EFFICIENT GRID APPLICATIONS**  
Stefano Farnesi (University of Genova); Mario Marchesoni (University of Genova);  
Massimiliano Passalacqua (University of Genova); Luis Vaccaro (Universita di Genova - DITEN)

M3-TS5 436  **PERFORMANCE EVALUATION OF SOME INDUSTRIAL LOSS OF FIELD PROTECTION SCHEMES USING A REALISTIC MODEL IN THE RTDS**  
Abbas Hasani (Shahid Beheshti University - SBU); Farhad Haghjoo (SBU);  
Claus Leth Bak (AAU); Filipe Faria da Silva (AAU)

M3-TS5 437  **A DC POWER-BASED SCHEME TO DETECT LOSS OF FIELD IN SYNCHRONOUS GENERATORS**  
Abbas Hasani (Shahid Beheshti University - SBU); Farhad Haghjoo (SBU);  
Claus Leth Bak (AAU); Filipe Faria da Silva (AAU)

M3-TS5 438  **SYNCHRONOUS GENERATOR LOF PROTECTION USING A DETAILED MODEL BASED ON IEEE STANDARD C37.102-2006**  
Abbas Hasani (Shahid Beheshti University - SBU); Farhad Haghjoo (SBU);  
Claus Leth Bak (AAU); Filipe Faria da Silva (AAU)

M3-TS5 353  **OUTPUT FEEDBACK ADAPTIVE CONTROL FOR INTER-AREA OSCILLATION DAMPING UNDER POWER SYSTEM UNCERTAINTIES**  
Abhishek Nayak (Indian Institute of Technology Delhi); Sukumar Mishra (IIT Delhi);  
M J Hossain (Macquarie University); Mohammad Sohrab Hasan Nizami (Macquarie University)

M3-TS5 482  **POWER TIME SERIES PREDICTIVE CLASSIFICATION USING DEEP NEURAL NETWORKS**  
Antonello Rosato (Sapienza, University of Rome);  
Rodolfo Araneo (Sapienza, University of Rome);  
Amedeo Andreotti (University of Naples Federico II);  
Massimo Panella (Sapienza, University of Rome)
N3-TS1 **WELCOME GREETINGS**
Marco Invernizzi (Pro-Rector for Research University of Genoa)

N3-TS1 **COORDINATOR GREETINGS**
Stefano Massucco (President AEE - University of Genoa)

N3-TS1 **SMARTGRIDS AND ENERGY COMMUNITIES**
Carlo Alberto Nucci (University of Bologna)

N3-TS1 **INNOVATION PROJECTS FOR GRID BALANCING AND EFFICIENCY INCREASE**
Enrico Pochettino (IREN Group)

N3-TS1 **HOW THE CLEAN ENERGY FOR ALL EUROPEANS PACKAGE WILL RESHAPE PLANNING AND DEVELOPMENT STRATEGIES IN POWER DISTRIBUTION**
Fabrizio Pilo (University of Cagliari)

N3-TS1 **DIGITAL SOLUTIONS FOR THE GRID EDGE**
Pietro Serra (ABB Power Grids Italy)

N3-TS1 **ENEL EXPERIENCES IN SMART DISTRIBUTION NETWORKS**
ENEL Group

N3-TS1 **DISCUSSION**
A MULTI-AGENT SYSTEM BASED RESIDENTIAL ELECTRIC VEHICLE MANAGEMENT SYSTEM FOR GRID-SUPPORT SERVICE
Mohammad Sohrab Hasan Nizami (Macquarie University; M J Hossain (Macquarie University); Sohaib Rafique (Macquarie University); Khizir Mahmud (University of New South Wales); Usama Irshad (Macquarie University); Graham Town (Macquarie University)

SMART ICT FRAMEWORK FOR THE INTELLIGENT MANAGEMENT OF DIFFERENT MODERN ENERGY SYSTEMS
Giuseppe Paternò (Engineering Ingegneria Informatica S.p.A.; Marilena Lazzaro (Engineering Ingegneria Informatica S.p.A.); Javier Valiño (Atos Research and Innovation); David Gómez Fernández (Atos Research and Innovation); Jorge Landeck (Virtual Power Solutions); Alberto Pérez-Ortiz (Sistemes Avançats d'Energia Solar Tèrmica SCCL); Óscar Cámara (Sistemes Avançats d'Energia Solar Tèrmica SCCL); Athánasis Tryferidis (Centre for Research and Technology Hellas); Paschalis Gkaidatzis (Centre for Research and Technology Hellas); Dimitrios Tzovaras (Centre for Research and Technology Hellas)

REACTIVE POWER SHARING ANALYSIS IN ISLANDED AC MICROGRIDS
Alessandro Rosini (University of Genoa); Manuela Minetti (University of Genoa); Gio Battista Denegri (University of Genoa); Marco Invernizzi (University of Genoa)

THE IMPACT OF PROTECTION SYSTEM FAILURES AND WEATHER EXPOSURE ON POWER SYSTEM RELIABILITY
Erlend S Kiel (NTNU - Norwegian University of Science and Technology); Gerd Kjolle (SINTEF)

OPTIMIZED POWER QUALITY EVENTS CLASSIFIER
Marija Markovska (Faculty of electrical engineering and information technologies, Skopje); Dimitar Taskovski (Faculty of Electrical Engineering and Information Technologies Ss Cyril and Meth); Vladimir Dimcev (Ss Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies); Bodan Velkovski (Faculty of Electrical Engineering and Information Technologies, Skopje)

AN APPROACH FOR THE SOLAR ENERGY ASSESSMENT USING WEATHER MEDIUM-RANGE FORECASTING
Isabel M Moreno-Garcia (Universidad de Córdoba); Rafael López-Luque (Universidad de Córdoba); Marta Vafó-Martínez (Universidad de Córdoba); Luis M Fernández-Ahumada (Universidad de Córdoba); José C Ramírez-Faz (Universidad de Córdoba); Francisco J Casares de la Torre (Universidad de Córdoba)

MODELLING OF THERMAL ENERGY DEMAND IN SMART BUILDINGS
Nikolaos Elkarpidis (Aristotle University of Thessaloniki); Georgios C Christoforidis (Western Macedonia University of Applied Sciences); Grigoris K Papagiannis (Aristotle University of Thessaloniki)
A HYBRID PETRI NET MODEL FOR PERFORMANCE ANALYSIS OF ELECTRIC TRANSIT SYSTEMS WITH FAST BATTERY CHARGING
Angela Di Febbraro (University of Genoa); Davide Giglio (University of Genoa); Nicola Sacco (University of Genoa)

POWER QUALITY AND VOLTAGE STABILITY IMPROVEMENT OF SHIPBOARD POWER SYSTEMS WITH NON-LINEAR LOADS.
Yacine Terriche (Aalborg University); M U Mutarraf (Aalborg University); M Mehrzadi (Aalborg University);
Chun Lien Su (National Kaohsiung University of Science and Technology);
Josep M Guerrero (University of Aalborg); Juan C Vasquez (University of Aalborg);
Djallel Kerdoun (Naim. Cherfia, Djallel. Kerdoun LGEC – Research Laboratory, Department of Electrical Engineering, Constantine 1 University)

A COST-BENEFIT ANALYSIS OF A FULLY-AUTOMATED DRIVERLESS METRO LINE IN A HIGH-DENSITY METROPOLITAN AREA IN ITALY
Ilaria Henke (University of Naples Federico II)

GREEN LIGHT OPTIMIZED SPEED ADVISORY: A C-ITS TO IMPROVE MOBILITY AND POLLUTION
Luigi Pariota (University of Naples); Luca Di Costanzo (University of Naples Federico II);
Angelo Coppola (University of Naples); Claudio D'Aniello (University of Naples);
Gennaro Nicola Bifulco (University of Naples)

A NEW PLATFORM FOR THE MANAGEMENT OF PHYSICAL AND DOCUMENTAL FLOWS AT ITALIAN AND FRENCH LIGURIAN PORTS
Marino Lupi (University of Pisa); Antonio Pratelli (University of Pisa);
Stefano Benenati (University of Pisa); Alessandro Farina (University of Pisa)

A HYBRID TRAFFIC CONTROL FRAMEWORK FOR URBAN NETWORK MANAGEMENT
Stefano De Luca (University of Salerno); Roberta Di Pace (University of Salerno);
Silvio Memoli (University of Salerno); Facundo Storani (University of Salerno)
MEASUREMENTS - 2
Session Chairs: Adam Matusiak
Wroclaw University of Technology
Thursday | June 13th 2019 | 11:30 – 13:30
Venue: TIRRENO

N3-TS4 110 SIMULATION AND ANALYSIS OF TRANSFORMER WINDING INTER-DISK AND INTER-TURN FAULTS FOR ONLINE DIAGNOSIS
Venera Nurmanova (Electrical and Computer Engineering Department, Nazarbayev University);
Kamilla Aliakhmet (Electrical and Computer Engineering Department, Nazarbayev University);
Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University);
Roya Ahmadi (Tallinn University of Technology);
Mohammad Salay Naderi (Electrical and Computer Engineering Department, Tehran North Branch, Islamic Azad University);
Toan Phung (UNSW);
Gevork B Gharehpetian (Amirkabir University of Technology (AUT))

N3-TS4 131 PREDICTING THE GLOBAL MAXIMUM POWER POINT LOCUS USING SHADING INFORMATION
Jieming Ma (Xi'an Jiaotong-Liverpool University);
Ziqiang Bi (Xi'an Jiaotong-Liverpool University);
Ka Lok Man (Xi'an Jiaotong-Liverpool University);
Hai-Ning Liang (Xi'an Jiaotong Liverpool University);
Jeremy Smith (University of Liverpool)

N3-TS4 141 DEVELOPING AN EMBEDDED POWER QUALITY SENSOR FOR SMART APPLIANCE'S SELF-DIAGNOSING
Ricardo Medina-Gracia (Universidad de Córdoba);
Aurora Gil-de-Castro (Universidad de Córdoba);
Joaquín Garrido-Zafra (Universidad de Córdoba);
Antonio Moreno-Munoz (University of Cordoba);
Eduardo Canete-Carmona (Universidad de Córdoba);
Elena Gutiérrez Ballesteros (Universidad de Córdoba)

N3-TS4 234 IS THERE A RISK FOR THE ASTRONAUTS’ HEARING IN A MICRO-GRAVITY ENVIRONMENT? THE ACOUSTIC DIAGNOSTICS EXPERIMENT ON BOARD THE ISS
Filippo Sanjust (INAIL)

N3-TS4 319 THE IMPACT OF CLOAD LOAD MODEL PARAMETERS ON DYNAMIC SIMULATION OF LARGE POWER SYSTEMS
Amir Saman Hoshevarzadeh (University of Calgary);
Hamidreza Zareipour (University of Calgary);
Ping-kwan Keung (Alberta Electric System operator);
Syed Sabbir Ahmed (Alberta Electric System Operator)

N3-TS4 256 PV PLANTS PERFORMANCE ANALYSIS UNDER MUTABLE OPERATING CONDITIONS
Alessia Cagnano (Politecnico di Bari);
Enrico De Tuglie (Politecnico di Bari);
Emilio Ghiani (Dipartimento Ingegneria Elettrica ed Elettronica)
N3-TS5 182 A COMPARATIVE ANALYSIS OF SUPPORTING POLICIES FOR SOLAR PV SYSTEMS IN THE BALTI COUNTRIES
Lubov Petrichenko (Riga Technical University); Laila Zemite (Riga Technical University); Antans Sauhats; Arturas Klementavichius (Lithuanian Energy Institute); Kirils Grīcevics (Riga Technical University)

N3-TS5 198 REAL TIME UV ERYTHEMAL PERSONAL EXPOSURE MONITORING IN OUTDOOR WORKPLACES
Luca Gugliermetti (Sapienza Università di Roma); Chiara Burattini (Sapienza University); Andrea Militello (INAIL); Massimo Borra (INAIL); Francesco Asdrubali (University of Rome 3); Giacomo Salvadori (University of Pisa - School of Engineering - Dept. of Energy); Francesco Leccese (University of Pisa); Fabio Bisegna (Università degli studi di Roma Sapienza)

N3-TS5 273 NOISE METERING VIA MOBILE PHONES: LIMITATIONS, OPPORTUNITIES AND FINDINGS IN A WORKPLACE TESTING
Francesco Frigerio (ICS Maugeri Spa)

N3-TS5 289 REDUCING ACCIDENT HAZARD IN CHEMICAL AND PETROL INDUSTRIES, THROUGH SMART SAFETY SYSTEMS
Silvia Ansaldi (INAIL); Paolo A Bragatto (INAIL)

N3-TS5 346 STUDY ON THE POSITIONING OF A SMART SENSOR FOR THE ASSESSMENT OF UV RADIATION EXPOSURE IN OUTDOOR WORKERS
Luca Gugliermetti (Sapienza, University of Rome); Chiara Burattini (Sapienza, University of Rome); Fabio Bisegna (Sapienza, University of Rome); Andrea Militello (INAIL); Massimo Borra (INAIL)

N3-TS5 447 LOW VOLTAGE DC SYSTEM FAULT DETECTION TECHNIQUE WITH PROTECTION COORDINATION LOGIC
Vibhuti Nougain (Indian Institute of Technology, Delhi); Bijaya Ketan Panigrahi (IIT, Delhi)
AFTERNOON SESSION
TECHNICAL SESSION  36 (A3-TS1)

POWER SYSTEMS: DISTRIBUTION GRIDS
COMPONENTS AND OPERATION - 2
Session Chairs: Gevork B. Gharehpetian
Amirkabir University of Technology

Thursday | June 13th 2019 | 15:00 – 17:00
Venue: MEDITERRANEO

A3-TS1 311 EXPERT SYSTEM FOR SELECTION OF REGIONS THAT REQUIRE IMPROVEMENTS IN LIGHTNING PROTECTION IN DISTRIBUTION FEEDER
Marcel Ayres Araujo (Federal Rural University of Pernambuco);
Rogério A Flauzino (University of São Paulo); Danilo H Spatti (University of São Paulo);
Ivaín N Silva (University of São Paulo)

A3-TS1 60 PSO METHODOLOGY FOR OPTIMAL MULTISTAGE PLANNING OF DISTRIBUTION SYSTEMS WITH DISTRIBUTED GENERATION
Juan G Marin (Universidad del Norte); Gustavo Espitia (Universidad del Norte);
Adriana Arango (Universidad del Norte)

A3-TS1 308 SMART DESIGN AND MANUFACTURING OF POWER TRANSFORMERS TANKS
H Mendes (Efacec); C Linhares (Efacec); S M O Tavares (Efacec); Catherine Novais (Efacec);
C Coutinho (Efacec); M Teixeira (Efacec); J P A Moura (Efacec); R Teixeira (Efacec);
A C Marques Pinho (Universidade do Minho); J F B Meireles (Universidade do Minho)

A3-TS1 310 DECISION TREES APPLIED TO FAULT LOCATIONS IN DISTRIBUTION SYSTEMS WITH SMART METERS
Marcel Ayres Araujo (Federal Rural University of Pernambuco);
Rogério A Flauzino (University of São Paulo); Lucas A Moraes (University of São Paulo);
Fabbio A S Borges (State University of Piauí); Danilo H Spatti (University of São Paulo)

A3-TS1 481 2-D CONVOLUTIONAL DEEP NEURAL NETWORK FOR MULTIVARIATE ENERGY TIME SERIES PREDICTION
Antonello Rosato (Sapienza, University of Rome); Rodolfo Araneo (Sapienza, University of Rome);
Amedeo Andreotti (University of Naples Federico II);
Massimo Panella (Sapienza, University of Rome)

A3-TS1 83 MODEL CENTRIC DEVELOPMENT OF GENETIC ALGORITHM BASED OPTIMAL LOAD SCHEDULER FOR SMART HOME
Raja Rehan Khalid (Saarland University); Martin Fontowicz (Student);
Georg Frey (Academic Researcher)
A3-TS2 15  IMPACT OF IMBALANCE NETTING COOPERATION ON FREQUENCY QUALITY AND PROVISION OF LOAD-FREQUENCY CONTROL
Marcel Topler (FERI)

A3-TS2 16  A COLLECTIVE CONDITION MONITORING ALGORITHM FOR ON-LOAD TAP-CHANGERS
Behnam Feizifar (Czech Technical University in Prague); Zdeněk Müller (Czech Technical University in Prague); Ghaeth Fandi (Czech Technical University in Prague); Omer Usta (Istanbul Technical University)

A3-TS2 93  MONITORING OF LIGHTNING STRIKES AND EVALUATION OF ENERGY INFLOW ON SUBSTATION EQUIPMENT
Goran Levačić (HOPS); Igor Ivankovic (Croatian Transmission System Operator Ltd); Alan Župan (HOPS)

A3-TS2 107  A TEMPERATURE DEPENDENT POWER FLOW MODEL CONSIDERING OVERHEAD TRANSMISSION LINE CONDUCTOR THERMAL INERTIA CHARACTERISTICS
Bonface O Ngoko (Osaka University); Hideharu Sugihara (Osaka University); Tsuyoshi Funaki (Osaka University)

A3-TS2 113  PRELIMINARY MODEL COMPARISON FOR DYNAMIC THERMAL RATING ESTIMATION
Emanuele Giovanni Ogliari (Politecnico di Milano); Alfredo Nespoli (Politecnico di Milano); Roberto Faranda (Politecnico Di Milano); Davide Poli (University of Pisa - DESTEC); Fabio Bassi (TERNA)

A3-TS2 335  ROBUST AND EFFICIENT POWER FLOW CONVERGENCE WITH G-MIN STEPPING HOMOTOPY METHOD
Marko Jereminov (Carnegie Mellon University); Athanasios Terzakis (Carnegie Mellon University); Martin R Wagner (Carnegie Mellon University); Amritanshu Pandey (Carnegie Mellon University); Larry Pileggi (Carnegie Mellon University)
AFTERNOON SESSION
TECHNICAL SESSION 38 (A3-TS3)

SS07 FREQUENCY REGULATION SERVICES BY LOADS AND RENEWABLE ENERGY SOURCES
Session Chairs: Francesco Conte
University of Genoa
Thursday | June 13th 2019 | 15:00 – 17:00
Venue: ATLANTICO

A3-TS3 18
STATISTICAL CORRELATION BETWEEN WIND PENETRATION AND GRID FREQUENCY VARIATIONS IN THE IRISH NETWORK
Muhammad Adeen (School of Electrical and Electronic Engineering - University College Dublin);
Guðrún Margrét Jónsdóttir (School of Electrical and Electronic Engineering - University College Dublin);
Federico Milano (School of Electrical and Electronic Engineering - University College Dublin)

A3-TS3 25
OPTIMAL PEAK POWER SHAVING THROUGH HOUSEHOLD APPLIANCE SCHEDULING IN OFF-GRID RENEWABLE ENERGY SYSTEM
Abderraouf Bouakkaz (University of 20 August 1955, Skikda);
Salim Haddad (University 20 aout 1955, Skikda);
Antonio J Gil Mena (Escuela Politécnica Superior de Algeciras Universidad de Cádiz)

A3-TS3 99
SYNTHETIC INERTIA AND PRIMARY FREQUENCY REGULATION SERVICES BY DOMESTIC THERMAL LOADS
Francesco Conte (University of Genova); Monica Crosa di Vergagni (University of Genova);
Stefano Massucco (University of Genova); Federico Silvestro (University of Genova);
Emanuele Giapponi (Ricerca sul Sistema Energetico – RSE S.p.A.);
Diego Cirio (Ricerca sul Sistema Energetico – RSE S.p.A.)

A3-TS3 168
ADAPTIVE LOAD FREQUENCY CONTROL OF A GRID CONNECTED SOLAR PV SYSTEM
Himanshu Grover (IIT Delhi); Jay Ojha (IIT Delhi); Ashu Verma (IIT Delhi);
T S Bhatti (Indian Institute of Technology, Delhi)

A3-TS3 189
NETWORK FREQUENCY REGULATION WITH DFIG WIND TURBINES COMPLIANT WITH ITALIAN STANDARDS
Fabio Bignucolo (University of Padova); Andrea Cervi (University of Padova);
Riccardo Stecca (University of Padova)
ELECTRICAL FAULT DETECTION USING MACHINE LEARNING ALGORITHM FOR CENTRIFUGAL WATER PUMPS
Ranganatha Chakravarthy H S (VIT Vellore); Sai Charan Bharadwaj (VIT Vellore); Umashankar Subramaniam (Prince Sultan University); Sanjeevikumar Padmanaban (Aalborg University); Nabanita Dutta (VIT University); Jens Bo Holm-Nielsen (Center for Bioenergy & Green Engg., Dep. of Energy Technology, Aalborg University)

PRACTICAL VALIDATION OF PLC-BASED SENSOR-LESS WINDER TENSION CONTROL
Hamdy Ahmed Ashour (Arab Academy for Science and Technology); Ahmed Elshenawy (Arab Academy for Science, Technology and Maritime Transport); Moaz Abd-Elraouf (Arab Academy for Science, Technology and Maritime Transport)

MATHEMATICAL MODEL OF DOUBLE STAR SHIP’S SYNCHRONOUS PROPULSION DRIVE
Nikolay F Djagarov (Nikola Vaptsarov Naval Academy); Zhivko Grozdev (Nikola Vaptsarov Naval Academy)

THE SPACE VECTOR MODULATION CONTROL EXPERIMENTAL EVALUATION OF VERY SPARSE MATRIX CONVERTER VSMC
Mohamed Med Aissani (Ecole Militaire Polytechnique)

DESIGN AND ANALYSIS OF A PERMANENT MAGNET SYNCHRONOUS MACHINE USED IN AUTOMOTIVE APPLICATION
Andreea M Nicorici (Technical University of Cluj-Napoca); Claudia Martis (Technhical University of Cluj-Napoca)

A SEVEN-LEVEL HYBRID INVERTER WITH DC-LINK AND FLYING CAPACITOR VOLTAGE BALANCING
Abhilash Tirupathi (NIT Warangal); Kiruba A (NIT Warangal); Dr. Somasekhar V T (National Institute of Technology, Warangal)
A3-TS5 17  DATA MODELING FOR RENEWABLE RESOURCES AND SMART HOME USING MONTE CARLO SIMULATIONS  
Bahman Naghibi (Curtin University)

A3-TS5 127  PEER-TO-PEER ELECTRICITY SHARING: MAXIMISING PV SELF-CONSUMPTION THROUGH BESS CONTROL STRATEGIES  
Mattia Secchi (Eurac Research, University of Trento); Grazia Barchi (Eurac Research)

A3-TS5 165  AN INTEGRATED CLUSTERING-MILP-SIMULATION APPROACH FOR DISTRIBUTED ENERGY RESOURCE SIZING  
Reynaldo Jr Guerrero (University of the Philippines); Michael Angelo Pedrasa (University of the Philippines)

A3-TS5 314  ON POWER CONTROL OF A PV-BATTERY-ULTRACAPACITOR HYBRID SYSTEM FOR REMOTE AREAS  
Mohamed Zine Zizoui (Ecole Militaire Polytechnique); Bekheira Tabache (Ecole Militaire Polytechnique); Benbouzid Mohamed (Université de Brest, France)

A3-TS5 377  A MULTIFUNCTIONAL PV-BES-UTILITY SYSTEM WITH SEAMLESS ISLANDING AND RESYNCHRONIZATION CAPABILITY  
Syed Bilal Qaiser Naqvi (Indian Institute of Technology Delhi); Shailendra Kumar (Indian Institute of Technology Delhi); Bhim Singh (Indian Institute of Technology Delhi)

A3-TS5 268  BLOCKCHAIN FOR THE ENERGY TRANSITION  
Silvano Vergura (Dept. of Electrical and Information Engineering)
M4-TS1 472 ENERGY STORAGE EMULATION IN ISLANDED LOW VOLTAGE GRID
Nora Sagatun (Norwegian University of Science and Technology); Santiago Sanchez (Norwegian University of Science and Technology); Elisabetta Tedeschi (Norwegian University of Science and Technology)

M4-TS1 130 ANALYSIS OF THE IMPACT OF THE DEVELOPMENT OF INTERMITTENT RENEWABLE ENERGY ON THE COSTS OF THE POWER SYSTEM OPERATION
Desire D. Rasolomampionona (Institute of Electrical Power Engineering); Michal Polecki (Institute of Electrical Power Engineering); Dariusz Baczynski (Institute of Electrical Power Engineering)

M4-TS1 261 DISTRIBUTED GENERATION ALLOCATION AND SIZING: A COMPARISON OF METAHEURISTICS
Carlos E Pimenta (Universidad del Norte); Luis Lopez (Universidad del Norte); Jose Doria (Universidad del Norte); Adriana Arango (Universidad del Norte)

M4-TS1 306 SUPERPOSED CONTROL STRATEGIES OF A BESS FOR POWER EXCHANGE AND MICROGRID POWER QUALITY IMPROVEMENT
Markus Ovaskainen (Merus Power Dynamics Oy); Aki Leinonen (Merus Power Dynamics Oy); Jyri Öörni (Merus Power Dynamics Oy)

M4-TS1 396 PLANNING OF SMART MICROGRIDS WITH HIGH RENEWABLE PENETRATION CONSIDERING ELECTRICITY MARKET CONDITIONS
Seyed Mehdi Hakimi (University); Hamed Bagheri Tabar (Damavand Branch Islamic Azad University); Arezoo Hasankhani (Islamic Azad University Branch of Kerman); Miadreza Shafie-Khah (UBI); Mohamed Lotfi (FEUP); João P Catalão (Faculty of Engineering of University of Porto, Porto, Portugal)

M4-TS1 403 RELIABILITY IMPROVEMENT AND ENERGY SAVING AT INTERNET DATA CENTER MICROGRIDS
Ilhan Keskin (Bahcesehir University); Gurkan Soykan (Bahcesehir University)

M4-TS1 369 ON THE INTEGRATION OF SOLAR PV AND STORAGE BATTERIES WITHIN A MICROGRID
Stefano Bracco (University of Genoa-Savona); Federico Delfino (University of Genoa-Savona); Federica Foialedi (Politecnico di Milano); Michela Longo (Politecnico di Milano)
SS12 SMART WAYS TO ENERGY MANAGEMENT OF RENEWABLE ENERGY
Session Chairs: Karan Sareen
Central Electricity Authority, Ministry of Power, Government of India
Friday | June 14th 2019 | 9:00 – 11:00
Venue: ADRIATICO

M4-TS2 100 HAMMERSTEIN ADAPTIVE FILTER BASED CONTROL TECHNIQUE FOR OPTIMUM OPERATION OF A GRID INTERFACED PV SYSTEM
Vandana Jain (IIT DELHI); Bhim Singh (IIT Delhi)

M4-TS2 212 SIZING AND OPERATION OF AN ISOLATED MICROGRID WITH BUILDING THERMAL DYNAMICS AND COLD STORAGE
Selmane Dakir (University of Liège); Ioannis Boukas (University of Liège); Vincent Lemort (University of Liège); Bertrand Cornélusse (University of Liège)

M4-TS2 309 MICROGRID DESIGN: SENSITIVITY ON MODELS AND PARAMETERS
Silvia Corigliano (Politecnico di Milano); Matteo Moncecchi (Politecnico di Milano); Mina Mirbagheri (Politecnico di Milano); Marco Merlo (Politecnico di Milano); Marta Molinas (NTNU)

M4-TS2 356 ISLANDING IN A SMART GRID ENVIRONMENT - A CASE STUDY
Bálint Hartmann (Budapest University of Technology and Economics); István Yokony (Budapest University of Technology and Economics); Istvan Taczi (Budapest University of Technology and Economics); Attila Talamon (Hungarian Academy of Science’s Centre for Energy Research)

M4-TS2 381 INFLUENCE OF RENEWABLE POWER FLUCTUATIONS ON THE LIFETIME PREDICTION OF LITHIUM-ION BATTERIES IN A MICROGRID ENVIRONMENT
Adrian Soto (Public University of Navarre); Alberto Berrueta (Public University of Navarra); Pablo Sanchis (Public University of Navarre); Alfredo Ursúa (Public University of Navarra)

M4-TS2 440 MULTI-FUNCTIONAL SMART ELECTRICITY METERING SYSTEM
Assilkhan Amankhan (Nazarbayev University); Mehdi Bagheri (Electrical and Computer Engineering Department, Nazarbayev University); Askat Zh Kural (Nazarbayev University); Islambek Temirbek (Nazarbayev University); Darkhan A Mukashov (Nazarbayev University); Kuanysh Kudaibergenov (Nazarbayev University); Azat Azamat (Nazarbayev University); Aishabibi Abukhan (Nazarbayev University)

M4-TS2 479 COMPARISON OF MODEL-BASED AND DATA-DRIVEN APPROACHES FOR MODELING ENERGY AND COMFORT MANAGEMENT SYSTEMS, WITH A CASE STUDY
Yamuna Maccarana (SIPH LAB); Angela Panza (United Consulting); Gabriele Maroni (Università degli Studi di Bergamo); Luca Sarto (Politecnico di Milano); Marco Francesco Carta (Freelance); Sandro Réggiani (Freelance)
A FLASH CHARGE SYSTEM FOR URBAN TRANSPORT
Adriano Alessandrini (DICEA); Fabio Cignini (DICEA);
Riccardo Barbieri (University of Florence - Dep. of Industrial Engineering);
Lorenzo Berzi (Dep. of Industrial Engineering);
Edoardo Locorotondo (Dept. of Industrial Engineering);
Marco Pierini (Dep. of Industrial Engineering); Luca Pugi (University of Florence);
Antonino Genovese (ENEA); Fernando Ortenzi (ENEA)

ELECTRIFICATION OF DIRECTIONAL DRILLING MACHINES FOR SUSTAINABLE TRENCHLESS EXCAVATIONS
Luca Pugi (University of Florence); Lorenzo Berzi (Dep. of Industrial Engineering);
Enrico Boni (University of Florence); Francesco Grasso (University of Florence);
Francesco Del Pero (Dep. of Industrial Engineering);
Massimo Delogu (Dep. of Industrial Engineering); Raffaele Savi (E.G.T. SRL)

APPLICATION OF REGENERATIVE BRAKING ON ELECTRIC VEHICLES
Luca Pugi (University of Florence); Tommaso Favilli (Dep. of Industrial Engineering);
Lorenzo Berzi (Dep. of Industrial Engineering);
Edoardo Locorotondo (Dep. of Industrial Engineering);
Marco Pierini (Dep. of Industrial Engineering)

OPTIMISATION OF HYBRID VEHICLES OPERATION WITH ON/OFF STRATEGY
Davide Poli (University of Pisa - DESTEC); Massimo Ceraolo (University of Pisa);
Giovanni Lutzemberger (University of Pisa); Giacomo Valenti (University of Pisa)

ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY OF LI-ION BATTERY ON-BOARD THE ELECTRIC VEHICLES BASED ON FAST NONPARAMETRIC IDENTIFICATION METHOD
Edoardo Locorotondo (Dept. of Industrial Engineering);
Lorenzo Berzi (Dept. of Industrial Engineering); Luca Pugi (University of Florence);
Marco Pierini (Dept. of Industrial Engineering); Santo Scavuzzo (Politecnico di Torino);
Alessandro Ferraris (Politecnico di Torino); Massimiliana Carello (Politecnico di Torino);
Andrea Giancarlo Airale (Politecnico di Torino)

A GENERALISED DOUBLE INTEGRAL SLIDING MODE CONTROL FOR BIDIRECTIONAL CHARGER OF LIGHT ELECTRIC VEHICLE
Utsav Sharma (IIT Delhi); Bhim Singh (Indian Institute of Technology Delhi)
**M4-TS4 50**  
**BUCK-BOOST CONVERTER MTTF ESTIMATION BASED ON THERMAL ANALYSIS**  
Mehdi Radmehr (Islamic Azad University, Sari Branch)

**M4-TS4 259**  
**OPTIMAL HYDROGEN PRODUCTION FROM DIRECT COUPLED VARIABLE SPEED WIND GENERATOR WITH A STACKED INTERLEAVED BUCK CONVERTER**  
Damien Guilbert (Université de Lorraine - GREEN); Gianpaolo Vitale (ICAR, Institute for high performance computing and networking, Italian National Research Council of Italy)

**M4-TS4 294**  
**STOP FOR DEVELOPMENT OF ONSHORE WIND ENERGY IN POLAND – CASE STUDY**  
Dolęga Waldemar (Wroclaw University of Technology)

**M4-TS4 334**  
**TRANSFORMERLESS SINGLE-PHASE GRID-TIED MICRO WIND TURBINE SYSTEM FEATURING LOW COMPONENT-COUNT**  
Nahla Ezz Eldin Zakzouk (Arab Academy for Science and Technology and Maritime Transport); Rana M Ahmed (Arab Academy for Science and Technology)

**M4-TS4 420**  
**DESIGN OF ΔΣ BASED PID CONTROLLER FOR WIND ENERGY SYSTEMS**  
Chathura Wanigasekara (University of Auckland); Dhafar Almakhles (Prince Sultan University); Ly Zhou (University of Auckland); Akshya Swain (University of Auckland); Umashankar Subramanayan (Prince Sultan University); Sanjeevikumar Padmanaban (Aalborg University)
TARGETING THE LIGHT POLLUTION: A STUDY CASE
Catalin D Galatanu (Technical University "Gh. Asachi" from IASI);
Mihai Hush (Technical University of Construction Bucharest);
Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier);
Dorin D Lucache (Technical University "Gh. Asachi" from IASI)

COLOR QUALITY MEASUREMENTS OF LED LIGHT SOURCES USING IMAGE PROCESSING
Daniel Petrisor (Technical University "Gh. Asachi" from IASI);
Catalin D Galatanu (Technical University "Gh. Asachi" from IASI);
Cristian-Gyozo Haba (Technical University of Iasi);
Liviu Breniuc (Technical University "Gh. Asachi" from IASI)

CALCULATION OF ENERGY ECONOMY BY OPTIMISING DIMMING STRATEGY
Alexandru Viorel Rusu (Technical University "Gh. Asachi" from IASI);
Dorin D Lucache (Technical University "Gh. Asachi" from IASI);
Catalin D Galatanu (Technical University "Gh. Asachi" from IASI)

MINIMIZING LIGHTING CONSUMPTION IN EXISTING TUNNELS USING A NO-COST FINE-TUNING METHOD FOR SWITCHING LIGHTING STAGES ACCORDING REVISED LUMINANCE LEVELS
Lambros Doulos (Lighting Lab. National Technical University of Athens);
Aris Tsangrassoulis (Dept. of Architecture. University of Thessaly);
Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier);
Kostantinos Faidas (Nea odos S.A. Nea Erythraia)

THE IMPACT OF ENERGY EFFICIENCY INDICATORS ON THE OFFICE LIGHTING PLANNING AND ITS IMPLICATIONS FOR OFFICE LIGHTING MARKET
Evangelos Manolis (Master of Arts in Lighting Design & Multimedia (HOU) Sales Director Capture Visualisation AB, Atlabase Ltd);
Lambros Doulos (Lighting Lab. National Technical University of Athens);
Spyros Niavis (Department of Economics Research at the Department of Planning and Regional Development, University of Thessaly);
Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier)

AGING MODEL FOR LIFE PREDICTION AND SIMULATION OF ORGANIC LIGHT-EMITTING DIODES (OLEDs)
Guirguis Zaki G Abdelmessih (University of Oviedo); J. Marcos Alonso (University of Oviedo);
Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier);
Pascal Dupuis (LAPLACE, Kawantech); Alaa Alchaddoud (LAPLACE); Georges Zissis (LAPLACE)

AGING STUDY OF REMOTE LUMINOPHORE AT AMBIENT TEMPERATURE
Eko Purwanto (PT PLN, Persero); Pascal Dupuis (Kawantech, 6 Rue Franc oise d’Eaubonne);
Ngapuli I Sinisuka (School of Electrical Engineering and Informatics, Bandung Institute of Technology);
Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier)
N4-TS1 389  **OPTIMAL SPINNING RESERVE ALLOCATION IN PRESENCE OF ELECTRICAL STORAGE AND RENEWABLE ENERGY SOURCES**  
Mohammad Sadegh Javadi Estahbanati (Islamic Azad University); Mohamed Lotfi (FEUP); Matthew Gough (FEUP); Ali Esmaeel Nezhad (Department of Electrical, Electronic, and Information Engineering, University of Bologna, Italy); Sérgio F Santos (University of Beira Interior); João Catalão (FEUP)

N4-TS1 451  **HARMONIC IMPACTS ON THE ELECTRICAL DISTRIBUTION NETWORK BY THE BROAD USAGE OF LED LAMPS**  
Abdeljelil Chammam (Prince Sattam bin Abdlaziz University - PSAU); Brahim Mrabet (PSAU); Laurent Canale (LAPLACE Lab., CNRS, Université Toulouse III - Paul Sabatier); Georges Zissis (LAPLACE)

N4-TS1 160  **COORDINATED VOLTAGE CONTROL THROUGH OPTIMAL DISPATCH OF RESPONSIVE BUILDING LOADS**  
Sumedha Sharma (IIT Delhi); Ashu Verma (IIT Delhi); Bijaya Ketan Panigrahi (IIT Delhi)

N4-TS1 216  **ECONOMIC ANALYSIS OF RESIDENTIAL PV SELF CONSUMPTION SYSTEMS WITH LI-ION BATTERIES UNDER DIFFERENT BILLING SCENARIOS**  
Carlos Galilea (Public University of Navarra); Julio Pascual (Public University of Navarra); Alberto Berrueta (Public University of Navarra); Alfredo Ursúa (Public University of Navarra); Luis Marroyo (Public University of Navarra)

N4-TS1 401  **USING MACHINE LEARNING BASED REGRESSION MODEL FOR RESIDENTIAL CUSTOMMORS FLEXIBILITY FORECAST**  
Roya Ahmadi (Tallinn University of Technology)

N4-TS1 343  **MPC-BASED ELECTRIC ENERGY STORAGE SIZING FOR A NET ZERO ENERGY FACTORY**  
Marina Santarelli (University of Rome Tor Vergata); Lorenzo Bartolucci (University of Rome Tor Vergata); Stefano Cordiner (University of Rome Tor Vergata); Vincenzo Mulone (University of Rome Tor Vergata); Pio Lombardi (Fraunhofer Institute for Factory Operation); Bartolomej Arendarski (Fraunhofer Institute for Factory Operation and Automation IFF); Przemysław Konarnicki (Magdeburg-Stendal University of Applied Sciences)

N4-TS1 101  **COMPUTING METHODS FOR RESILIENCE: EVALUATING NEW BUILDING COMPONENTS IN THE FRAME OF SECAPS**  
Fabio Bisegna (Università degli Studi di Roma Sapienza); Antonio Buggin (Università IUAV di Venezia); Giorgia Peri (Università degli Studi di Palermo); Gianfranco Rizzo (Università di Palermo - DEIM); Gianluca Scaccianoce (Università di Palermo); Massimiliano Scarpa (Università IUAV di Venezia); Luigi Schibuola (Università IUAV di Venezia); Chiara Tambani (University Iuav of Venice)

N4-TS1 94  **FOSTERING THE ENERGY EFFICIENCY THROUGH THE ENERGY SAVINGS: THE CASE OF THE UNIVERSITY OF PALERMO**  
Fabio Bisegna (Sapienza, University of Rome); Laura Cirrincione (University of Palermo); Barbara Maini Lo Casto (University of Palermo); Giorgia Peri (University of Palermo); Gianfranco Rizzo (University of Palermo); Gianluca Scaccianoce (University of Palermo); Giancarlo Sorrentino (University of Palermo)
AN AGGREGATOR-BASED-STRATEGY TO MINIMIZE THE COST OF ENERGY CONSUMPTION BY OPTIMAL UTILIZATION OF ENERGY RESOURCES IN AN APARTMENT BUILDING
Sohail Rafique (Macquarie University); Mohammad Sohrab Hasan Nizami (Macquarie University); Usama Irshad (Macquarie University); MJ Hossain (Macquarie University); Graham Town (Macquarie University) 

INTEGRATION OF ELECTRIC MOBILITY SERVICES WITHIN AN EXISTING POLYGENERATION MICROGRID
Giorgio Piazza (University of Genoa); Stefano Bracco (University of Genoa-Savona); Silvia Siri (University of Genova); Federico Delfino (University of Genoa-Savona)

ADAPTIVE DC-LINK VOLTAGE BASED BI-DIRECTIONAL CHARGER FOR ELECTRIC VEHICLES
Bhim Singh (IIT Delhi); Anjeet Verma (IIT Delhi)

V2G OPTIMAL SCHEDULING OF MULTIPLE EV AGGREGATOR BASED ON TOU ELECTRICITY PRICE
Qihang Huang (Xi'an Jiaotong University); Xiuli Wang (Xi'an Jiaotong University); Jiajie Fan (Xi'an Jiaotong University); Shixiong Qi (Xi'an Jiaotong University); Wei Zhang (Xi'an Jiaotong University, China); Chengzhi Zhu (Zhejiang Electric Power Company)

CO-SIMULATION OF IMPROVED AIMD ALGORITHM FOR DECENTRALIZED CHARGING OF ELECTRIC VEHICLES
Samy G Faddel (Florida International University); Osama Mohammed (Florida International University)

A NEW CHARGING STRATEGY FOR PHEVS BASED ON MAXIMUM EMPLOYMENT OF RENEWABLE ENERGY RESOURCES IN MICROGRID
Ehsan Fouladi (Amirkabir University of Technology); Hamid Reza Baghe (Amirkabir University of Technol); Mehdil Bagheri (Electrical and Computer Engineering Department, Nazarbayev University); Gevork B Gharehpetian (Amirkabir University of Technology (AUT))
**NOON SESSION**

**TECHNICAL SESSION 48 (N4-TS3)**

**SS15 NEW EMC CHALLENGES IN THE SMART GRID**

Session Chairs: Leonardo Sandrolini
University of Bologna

Friday | June 14th 2019 | 11:30 – 13:30
Venue: **ATLANTICO**

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**N4-TS3 455**

**ROGI WITH FSLMS BASED CONTROL TECHNIQUE FOR SOLAR PV SYSTEM UNDER WEAK GRID**

Abhishek Kumar (J.C. Bose University of Science, YMCA); Seema kewat (IIT Delhi); Bhim Singh (IIT Delhi); Rashmi Jain (J.C. Bose University of Science, YMCA)

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**N4-TS3 84**

**EVALUATION OF THE POWER GENERATION POTENTIAL FOR THE INSTALLATION OF PHOTOVOLTAIC SYSTEMS ON THE ROOFS OF THE CAMPUSES OF THE FEDERAL INSTITUTE OF GOIÁS**

Kristinne R Silva (Federal Institute of Goias); Jose Luis Domingos (Federal Institute of Goias); Aylton José Alves (Instituto Federal de Goiás)

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**N4-TS3 129**

**CHALLENGES RELATED TO POSSIBILITIES TO COVER THE CURRENT AND FUTURE POWER NEEDS THANKS TO SMART SOLUTIONS**

Mariusz Klos (Institute of Electrical Power Engineering, Warsaw University of Technology); Desire D Rasolomampionona (Institute of Electrical Power Engineering); Karol Pawlak (Institute of Electrical Power Engineering); Enrico De Tuglie (Politecnico di Bari); Alessia Cagnano (Politecnico di Bari)

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**N4-TS3 174**

**FINITE DIFFERENCE METHOD IN CALCULATING MAGNETIC FIELD WITHIN SUBSTATION ENVIRONMENT FOR EMC STUDIES**

Aine Izzati Tarmizi (UTeM)

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**N4-TS3 283**

**TECHNIQUES FOR THE ANALYSIS OF TIME-DOMAIN CONDUCTED EMISSIONS OF SMPS IN SMART GRIDS**

Andrea Mariscotti (ASTM Analysis Simulation Test Measurement); Leonardo Sandrolini (University of Bologna)
MAINTENANCE ACTIVITY, RELIABILITY ANALYSIS AND RELATED ENERGY LOSSES IN FIVE OPERATING PHOTOVOLTAIC PLANTS
Filippo Spertino (Politecnico di Torino); Alessandro Ciocia (Politecnico di Torino); Alessandro Ratcliff (Politecnico di Torino); Gabriele Malgaroli (Politecnico di Torino); Elio Chiodo (Università di Napoli)

PERMISSIONED BLOCKCHAINS AND VIRTUAL NODES FOR REINFORCING TRUST BETWEEN AGGREGATORS AND PROSUMERS IN ENERGY DEMAND RESPONSE SCENARIOS
Christos Patsonakis (CERTH/ITI); Sofia Terzi (CERTH/ITI); Ioannis Moschos (CERTH/ITI); Dimosthenis Ioannidis (Centre for Research and Technology Hellas / Information Technologies Institute); Konstantinos Votis (Centre for Research and Technology Hellas / Information Technologies Institute); Dimitrios Tzovaras (Centre for Research and Technology Hellas)

DISTRIBUTED STORAGE SYSTEM WITH SOLAR PHOTOVOLTAIC ENERGY SOURCE
Naga Venkata Kishore Akkala (Politecnico di Milano); Roberto Faranda (Politecnico Di Milano); Hossein Hafezi (University of Vaasa)

A NEW ARCHITECTURE FOR SMART CONTRACTS DEFINITION IN DEMAND RESPONSE PROGRAMS
Eleonora Riva Sanseverino (University of Palermo); Giuseppe Sciumè (Universirty of Palermo); Pierluigi Gallo (University of Palermo); Gaetano Zizzo (Università degli Studi di Palermo); Maria Luisa Di Silvestre (University of Palermo)

STUDY ON TIME DELAY EFFECT ON A PV POWER RAMP-RATE CONTROL AND A PROPOSED SOLUTION
Ahmed M Mahmoud (Helwan University); Inigo de la Parra (Public University of Navarre); Javier Marcos (Public University of Navarra); Miguel Garcia (Public University of Navarra); Alberto Berrueta (Public University of Navarra); Alfredo Ursúa (Public University of Navarra)
**N4-TS5 193**

**SHORT-TERM ENSEMBLE NWP WIND SPEED FORECASTS USING MEAN-VARIANCE PORTFOLIO OPTIMIZATION AND NEURAL NETWORKS**

Matthew Groch (Stellenbosch University); HJ Vermeulen (Stellenbosch University)

**N4-TS5 203**

**OPTIMIZING THE OPERATION OF PORT ENERGY SYSTEMS**

John Prousalidis (School of Naval Architecture and Marine Engineering National Technical University of Athens); Fotios Kanellos (School of Naval Architecture and Marine Engineering National Technical University of Athens); Dimitrios Lyridis (School of Naval Architecture and Marine Engineering National Technical University of Athens); Stefanos Dallas (School of Naval Architecture and Marine Engineering National Technical University of Athens); Dimosthenis Spathis (Protasis S.A.); Vassilis Georgiou (Protasis S.A.); Panayiotis Mitrou (Hellenic Lloyd's S.A.)

**N4-TS5 375**

**EVOLUTION OF THE TRIESTE PORT: A REAL-TIME SYSTEM FOR A COORDINATED COLD IRONING**

Marco Dalle Feste (University of Trieste); Massimiliano Chiandone (University of Trieste); Daniele Bosich (University of Trieste); Giorgio Sulligoi (University of Trieste)

**N4-TS5 457**

**SHORT-TERM LOAD FORECASTING FOR JORDAN’S POWER SYSTEM USING NEURAL NETWORK BASED DIFFERENT OPTIMIZATION TECHNIQUES**

Lina A Alhmoud (Yarmouk University); Qusay Nawafleh (National Electric Power Company Jordan)

**N4-TS5 458**

**UTILIZATION OF REGENERATIVE ENERGY BY ULTRACAPACITOR SIZING FOR PEAK SHAVING IN STS CRANE**

Mostafa Kermani (Sapienza, University of Rome); Giuseppe Parise (Sapienza, University of Rome); Luigi Martirano (Sapienza, University of Rome); Luigi Parise (Sapienza, University of Rome); Ben Chavdarian (P2SInc)
A4-TS1 115 **ANALYSIS AND DESIGN OF A SELF-CONSUMPTION COMMUNITY: A GAME-THEORETIC APPROACH**
Felipe Garrido-Lucero (Paris Dauphine); Olivier Beaude (EDF Lab Paris-Saclay); Cheng Wan (EDF Lab Paris-Saclay)

A4-TS1 178 **DEMAND RESPONSE FROM AN INTEGRATED ELECTRICITY-HYDROGEN VIRTUAL POWER PLANT**
James Naughton (University of Melbourne); Pierluigi Mancarella (University of Melbourne); Michael Cantoni (University of Melbourne)

A4-TS1 211 **INNOVATIVE TOOLS FOR DEMAND RESPONSE STRATEGIES: A REAL-LIFE EXPERIENCE**
Tommaso Bragatto (A.S.M. Terni S.p.A.); Massimo Cresta (A.S.M. Terni S.p.A.); Costas Kalogiros (AUEB); Francesca Santori (A.S.M. Terni S.p.A.); Marco Paulicci (A.S.M. Terni S.p.A.); Vladimir Scozzo Di Carlo (Engineering Ingegneria Informatica S.p.A.); Mihai Sanduleac (Universitatea Politehnica din Bucuresti)

A4-TS1 215 **LOW-COMPLEXITY CONTROL ALGORITHM FOR DECENTRALISED DEMAND RESPONSE USING THERMOSTATIC LOADS**
Simon Tindemans (TU Delft); Goran Strbac (Imperial College London, UK)

A4-TS1 227 **SCENARIO-BASED ROBUST SCHEDULING FOR ELECTRIC VEHICLE CHARGING GAMES**
Filiberto Fele (University of Oxford)

A4-TS1 402 **A BI-LEVEL OPTIMIZATION MODELING FRAMEWORK FOR INVESTIGATING THE ROLE OF FLEXIBLE DEMAND IN DEREGULATED ELECTRICITY SYSTEMS**
Dimitrios Papadaskalopoulos (Imperial College London); Yujian Ye (Imperial College London); Temitayo Oderinwale (Imperial College London); Dawei Qiu (Imperial College London)
A4-TS2 122 **HARMONICS MITIGATION IN CASCADED MULTILEVEL PV INVERTERS DURING POWER IMBALANCE BETWEEN CELLS**
Abderezak Lashab (Aalborg University); Dezso Sera (Aalborg University); Josep M Guerrero (University of Aalborg)

A4-TS2 169 **ADVANCED REACTIVE POWER CONTROL STRATEGY FOR BETTER LVRT CAPABILITY FOR DFIG-BASED WIND FARM**
Ehsan Gatavi (Western Sydney University); Ali Hellany (Western Sydney University); Mahmood Nagrial (Western Sydney University); Jamal Rizk (Western Sydney University)

A4-TS2 328 **CONTROL OF A MULTIPHASE MACHINE FED BY MULTILEVEL INVERTER BASED ON SLIDING MODE CONTROLLER**
Zaidi Elyazid (Ecole Militaire Polytechnique LCM-UER-ELT Bordj El-Bahri-16046, Algeria); Khoudir Marouani (Ecole Militaire Polytechnique - EMP); Hakim Bouadi (Ecole Militaire Polytechnique - EMP); Mohamed Med Aissani (Ecole Militaire Polytechnique); Larafi Bentouhami (Université de Bordj Bou Arreridj)
A4-TS3 173 **CONTROL OF VARIABLE SPEED WECs-PV-BES BASED MICROGRID WITH GRID SYNCHRONIZATION**
Seema Kewat (IIT Delhi); Bhim Singh (IIT Delhi)

A4-TS3 235 **POWER-TO-GAS - SOLUTION OF THE MULTI-VECTOR URBAN DISTRIBUTION SYSTEM IN THE SMART GRID FRAMEWORK?**
Jachin Gorre (University of Applied Science Rapperswil); Thomas Schellenberg (Regio Energie Solothurn); Andrew Lochbrunner (Regio Energie Solothurn)

A4-TS3 236 **REMOTE HARDWARE-IN-THE-LOOP MEASUREMENT SYSTEM FOR ELECTROLYSER CHARACTERIZATION**
Andrea Mazza (Politecnico di Torino); Abouzar Estebsari (Politecnico di Torino); Giulia Morandi (Politecnico di Torino); Ettore Bompard (Politecnico di Torino); Harm Lok (Hanze University of Applied Sciences)

A4-TS3 270 **CREATION OF REPRESENTATIVE GAS DISTRIBUTION NETWORKS FOR MULTI-VECTOR ENERGY SYSTEM STUDIES**
Andrea Mazza (Politecnico di Torino); Marco Cavana (Politecnico di Torino); Edgardo Medina (Politecnico di Torino); Gianfranco Chicco (Politecnico di Torino); Pierluigi Leone (Politecnico di Torino)

A4-TS3 302 **SCADA SYSTEM FOR OPTIMIZATION OF ENERGY EXCHANGE WITH THE BESS IN A RESIDENTIAL CASE**
Roberto Faranda (Politecnico Di Milano); Lorenzo Gozzi (Politecnico di Milano); Alessandro Bosisio (Politecnico di Milano); Naga Venkata Kishore Akkala (Politecnico di Milano)

A4-TS3 324 **NFLMS ALGORITHM FOR SOLAR PV-BATTERY BASED MICROGRID WITH SEAMLESS OPERATION**
Gaurav Modi (Indian Institute of Technology, Delhi); Shailendra Kumar (Indian Institute of Technology Delhi); Bhim Singh (Indian Institute of Technology Delhi)
AFTERNOON SESSION
TECHNICAL SESSION  54 (A4-TS4)

ICT FOR SMART GRIDS
Session Chairs: Daniele Mestriner
University of Genoa

Friday | June 14th 2019 | 15:00 – 17:00
Venue: TIRRENO

A4-TS4 38 THE IEC 61850 SAMPLED MEASURED VALUES PROTOCOL: ANALYSIS, THREAT IDENTIFICATION, AND FEASIBILITY OF USING NN FORECASTERS TO DETECT OF SPOOFED PACKETS
Mohamad E El Hariri (Florida International University); Tarek Youssef (University of West Florida); Eric Harmon (Florida International University); Hany Habib (Florida International University); Osama Mohammed (Florida International University)

A4-TS4 135 THE SMART GRID SEMANTIC PLATFORM (SGSP): SYNERGY BETWEEN IEC COMMON INFORMATION MODEL (CIM) AND BIG DATA
Enea Bionda (RSE S.p.A.); Marco Balduini (Politecnico di Milano); Fabrizio Garrone (RSE S.p.A.); Carlo Tornelli (RSE S.p.A.); Giuseppe Mauri (RSE S.p.A.); Emanuele Della Valle (Politecnico di Milano); Marco Brambilla (Politecnico di Milano); Davide Della Giustina (Unareti S.p.A.)

A4-TS4 191 A DISTRIBUTED SOFTWARE SOLUTION FOR DEMAND SIDE MANAGEMENT WITH CONSUMER HABITS PREDICTION
Luca Barbierato (Politecnico di Torino); Lorenzo Bottaccioli (Politecnico di Torino); Enrico Macii (Politecnico di Torino, Dept. of Control and Computer Engineering); Ennio Grasso (TIM); Andrea Acquaviva (Politecnico di Torino, Department of Control and Computer Engineering); Edoardo Patti (Politecnico di Torino, Department of Control and Computer Engineering)

A4-TS4 445 A MICROGRID CONTROL STRATEGY TO SAVE ENERGY AND CURB GLOBAL CARBON EMISSIONS
Francesco Muzi (University of L'Aquila); Luigi Calcara (Sapienza University of Rome); Massimo Pompili (Sapienza University of Rome); Andrea Fioravanti (University of L'Aquila, Department of Industrial and Information Engineering and Economics)
SS13 MODELLING AND MEASUREMENT OF ELECTROMAGNETIC FIELDS AND ELECTROMAGNETIC COUPLINGS IN POWER LINES
Session Chairs: Andrea Cristofolini University of Bologna
Friday | June 14th 2019 | 15:00 – 17:00
Venue: JONIO

A4-TS 5 114 LIGHTNING PROTECTION OF TRANSMISSION LINES: ANALYSIS OF LIGHTNING ACTIVITY IN ITALIAN TERRITORY
Martino Nicora (University of Genoa); Elisabetta Fiori (CIMA Foundation); Renato Procopio (University of Genoa); Massimo Brignone (University of Genoa); Mansueto Rossi (University of Genoa); Federico Delfino (University of Genoa-Savona)

A4-TS 5 149 INVERSE LAPLACE TRANSFORM OF SUNDE’S FORMULA FOR THE GROUND IMPEDANCE OF BURIED CABLES
Fabio Tossani (University of Bologna); Fabio Napolitano (University of Bologna); Alberto Borghetti (University of Bologna)

A4-TS 5 237 A NOVEL ALGORITHM FOR THE 3D CALCULATION OF THE MAGNETIC FIELD GENERATED BY COMPLEX CONFIGURATIONS OF OVERHEAD POWER LINES
Marco Landini (University of Bologna); Giovanni Mazzanti (University of Bologna); Leonardo Sandrolini (University of Bologna); Fabrizio D’Adda (University of Bologna)

A4-TS 5 266 FINITE ELEMENT ANALYSIS OF MITIGATION MEASURES FOR AC INTERFERENCE ON BURIED METALLIC PIPELINES
Arturo Popoli (University of Bologna); Leonardo Sandrolini (University of Bologna); Andrea Cristofolini (University of Bologna)
RS 243  ENERGY USE EVALUATION OF BIOGAS FROM UASB REACTORS IN GREAT GOIANIA SEWAGE TREATMENT PLANTS
Eder V Medeiros (Federal Institute of Goias); Philippe Souza (Federal Institute of Goias); Aylton José Alves (Instituto Federal de Goiás); Vinicius Carvalhaes (Instituto Federal de Goiás); Sérgio Botelho de Oliveira (IFG); Jose Luis Domingos (Federal Institute of Goias)

RS 461  ANALYSIS OF PLANT ROOT SYSTEM INFLUENCE ON ELECTRICAL PROPERTIES OF THE SOIL
Antonio M Silva Filho (UFG); Jose Rodrigo Santos Silva (Federal University of Goias); Carlos L Borges da Silva (Universidade de Brasilia); Luís Antonio Souza (UFG); Wesley Pacheco Calixto (IFG); Leonardo Brito (UFG)

RS 104  METHODOLOGY FOR VOLTAGE ADEQUACY USING PHOTOVOLTAIC DISTRIBUTED GENERATION
José Alberto Gobbes Cararo (Federal Institute of Goias - IFG)

RS 126  AUTONOMOUS WATER CONSUMPTION METER FOR EVALUATION OF SUSTAINABLE TECHNOLOGIES IN POPULAR HOUSING
LEANDRO K TSURUDA (Federal Institute of Goias); Luiza Vitor (IFG); Bethiê de Castro Furtado (SENAI); Luiz Guilherme G. B. Ferreira (Instituto Federal de Educação, Ciencia e Tecnologia de Goias); André M Martins (Instituto Federal de Goiás); Wesley Pacheco Calixto (IFG)

RS 406  MODELING, SIMULATION AND OPTIMIZATION OF PEOPLE TRAFFIC IN ELEVATORS
Clebes A Silva (PUC-Go); Danilo Silva (IFG); Luiza Vitor (IFG); Daywes Neto (IFG); Leandro K Tsuruda (Federal Institute of Goias); Wesley Pacheco Calixto (IFG)

RS 139  OPTIMIZATION OF DIRECTIONAL RELAY ADJUSTMENTS USING HEURISTIC AND DETERMINISTIC METHOD
Luis Antonio Souza (UFG)
RS 55  MACHINE LEARNING FOR AGILE AND SELF-ADAPTIVE CONGESTION MANAGEMENT IN ACTIVE DISTRIBUTION NETWORKS
Muhammad Babar (Eindhoven University of Technology);
Martijn Roos (Eindhoven University of Technology);
P H Nguyen (Eindhoven University of Technology)

RS 431  AGILE DEVELOPMENT PROCESS AND USER-CENTRIC DATA DRIVEN DESIGN FOR AN INTEGRATED ENERGY SYSTEM
Muhammad Babar (Eindhoven University of Technology);
Martijn Roos (Eindhoven University of Technology);
P H Nguyen (Eindhoven University of Technology)

RS 423  SLIDING MODE CONTROL OF GRID-CONNECTED INVERTERS USING INVERTER OUTPUT CURRENT
zakaria Afshar (Zakaria); Mahmoud Molla Yousefi Zadeh (K.N.Toosi University of Technology);
Seyed Mohammad Taghi Bathae (K.N. Toosi University of Technology)

RS 434  DECENTRALIZED MEASUREMENT OF MULTI-PHASE FLUID INTO GAS REFINERY BY SOFT SENSOR USING DIFFERENTIAL MEAN VALUE THEOREM
Abolfazl Varvani Farahani (Shahid Beheshti University)

RS 448  A COMPARATIVE REVIEW OF RENEWABLE ENERGY POTENTIAL, POLICY TARGETS, AND IMPLEMENTATION IN IRAN
Amin Ezati Alookandeh (University of Tehran); Sadegh Vaez Zadeh (University of Tehran)

RS 452  AGING ASSESSMENT OF DISTRIBUTION TRANSFORMERS BASED ON THERMAL IMAGING
Alireza Sedighi (Yazd University)
REMOTE SESSION

Session Chair: Zbigniew Leonowicz
Wrocław University of Science and Technology
From June 11th to 14th 2019 | 09:00-17:00

RS 31
MITIGATING THE IMPACT OF DISTRIBUTED GENERATION AND FAULT CURRENT LIMITER ON DIRECTIONAL OVERCURRENT RELAY COORDINATION BY ADAPTIVE PROTECTION SCHEME
Meng Yen Shih (UNAM); Arturo Conde (UANL);
Cesar Angeles-Camacho (National Autonomous University of Mexico - UNAM);
Erika Fernández (Autonomous University of Nuevo Leon - UANL);
Zbigniew M Leonowicz (Wroclaw University of Science and Technology)

RS 39
MODERN APPROACHES TO CONTROLLED STATIC VAR COMPENSATORS DESIGN
Dmitry I Panfilov (Department of Industrial Electronics Moscow Power Engineering Institute, Russia); Aleksander N Rozhkov (JSC ENIN); Michael G Astashev (G M Krzhizhanovsky Power Engineering Institute - JSC ENIN, Moscow, Russia); Ivan Zhuravlev (Dep. of Industrial Electronics Moscow Power Engineering Institute, Russia)

RS 40
AN INTELLIGENT ALGORITHM FOR NEGATIVE SEQUENCE DIRECTIONAL ELEMENT OF DFIG DURING FERRORESONANCE IN SMART GRID
Salman Rezaei (Kerman Power Generation Management co.)

RS 75
ANALYSIS OF VOLTAGE REGULATORS WITH BOOST VOLTAGE
Michail Igorevich Petrov (Dep. of Industrial Electronics Moscow Power Engineering Institute);
Dmitry I Panfilov (Dep. of Industrial Electronics Moscow Power Engineering institute, Russia);
Michail Astashev (Dep. of Industrial Electronics Moscow Power Engineering Institute, Russia)

RS 86
ADAPTIVE ALGORITHM IN DISTANCE RELAY COMPATIBLE WITH SMART GRID REQUIREMENTS DURING SUB SYNCHRONOUS RESONANCE IN TRANSMISSION LINE
Salman Rezaei (Kerman Power Generation Management co.)

RS 138
DYNAMIC STATE EVALUATION OF BESS IN MICROGRIDS
Arturo Conde (UANL); Gustavo Perez (Autonomous University of Nuevo Leon);
Guillermo Gutierrez (Technological Institute of Morelia)
A MULTI-STEP PREDICTIVE MODEL TO ESTIMATE LI-ION STATE OF CHARGE FOR HIGHER C-RATES
Asadullah Khalid (Florida International University); Aditya Sundararajan (Florida International University); Arif Sarwat (Florida International University)

MULTI-OBJECTIVE OPTIMAL PLACEMENT OF RECLOSER AND SECTIONALIZER IN ELECTRICITY DISTRIBUTION FEEDERS
Arash Zeinalzadeh (North Khorasan Electric Distribution Company); Abouzar Estebasi (Politecnico di Torino); Alireza Bahmanyar (Iran University of Science and Technology)

INTELLIGENT OVERCURRENT PROTECTION DURING FERREERSONANCE IN SMART DISTRIBUTION GRID
Salman Rezaei (Kerman Power Generation Management co.)

NON-PARAMETRIC REGRESSION MODEL FOR CONTINUOUS-TIME DAY AHEAD LOAD FORECASTING WITH BERNSTEIN POLYNOMIAL
Roya Nikjoo (KTH); Abouzar Estebasi (Politecnico di Torino); Mohammad Nazari (KTH Royal Institute of Technology)

AN ADAPTIVE PROTECTION SCHEME FOR AC MICROGRIDS USING MICRO PMU BASED TOPOLOGY PROCESSOR
Mahamad Nabab Alam (Indian Institute of Technology Kanpur); Prof. Saikat Chakrabarti (IIT Kanpur); Prof. Ankush Sharma (IIT Kanpur); SC Srivastava

MODELLING AND ASSESSMENT OF SHORT-TERM ELECTROMAGNETIC INTERFERENCE ON A RAILWAY SYSTEM FROM POLE-TO-GROUND FAULTS ON HVDC CABLE NETWORKS
Charalambos A Charalambous (University of Cyprus)
RS 430  DESIGNING OF STATIC VAR COMPENSATORS WITH VOLTAGE REGULATORS
Ivan I Zhuravlev (NRU MPEI)

RS 432  COGENT ASSESSMENT OF SAFETY PARAMETERS IN DESIGN OF MICROGRID GROUNDING SYSTEM
Krishnav Bhatia (SVNIT Surat); Pranav Darji (SVNIT Surat);
H R Jariwala (Sardar Vallabhbhai National Institute of Technology)

RS 433  EVALUATION OF DIFFERENT GROUNDING GRID DESIGNS FOR MICROGRID
Gauri S. Bendale (SVNIT Surat); Krishnav Bhatia (SVNIT Surat)

RS 441  OPTICAL PROPERTIES OF GAAS THIN FILM WITH EMBEDDED PLASMONIC NANOPARTICLES: A NOVEL ANALYTICAL MODELING
Zahra Arefinia (University of Tabriz);
Mohammad Fazel Vafadar (K.N.Toosi University of Technology)

RS 454  DEVELOPMENT OF CONTROL ALGORITHMS TO ENSURE OPTIMAL THERMAL MODES OF SEMICONDUCTOR SWITCHES IN DISTRIBUTED STATIC SYNCHRONOUS SERIES COMPENSATORS
Evgeniy Vershanskiy (National research university "MPEI");
Pavel Rashitov (Department of industrial electronics Moscow power engineering institute);
Alexander Gorchakov (National research university "MPEI")

RS 78  SHORT-TERM ELECTROMAGNETIC INTERFERENCE ON A BURIED GAS PIPELINE CAUSED BY CRITICAL FAULT EVENTS OF A WIND PARK: A REALISTIC CASE STUDY
Charalambos A Charalambous (University of Cyprus)