



## Wednesday, 25 November

- 8:30am **Technical Support (if needed)**  
*Welcome desk*
- 8:50am **Opening Speech**  
*Colosseum Room*
- 9am **Plenary Session 1**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 9am **Toward a two-sided energy market**  
» [Dr. Mohsen Khorasany](#)
- 9:45am **TBD**  
» [Prof. Yi Ding](#)
- 10:30am **Break & Networking**  
*Networking & Break Area*
- 10:50am **Plenary Session 2**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 10:50am **New technologies in electric systems for transportation for a better future**  
» [Prof. Dario Zaninelli](#)
- 11:35am **TBD**  
» [Prof. Reza Ghorbani](#)
- 12:20pm **Lunch & Networking**  
*Networking & Break Area*

- 1:50pm **Plenary Session 3**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 1:50pm **Distributed Parallel Optimization for a Large-Scale Aggregation of Prosumers with Residential PV-Battery Systems**  
» [Prof. Mohammad Dolatabadi](#)
- 2:35pm **TBD**  
» [Prof. Guangya Yang](#)
- 3:20pm **User-Driven Electricity Market**  
» [Prof. Miadreza Shafie-khah](#)
- 4:05pm **Break & Networking**  
*Networking & Break Area*
- 4:25pm **Plenary Session 4**  
*Colosseum Room*  
Chaired by: Dr. Hassan Haes Alhelou
- 4:25pm **Energy Communities, Sharing Economic and Local Trading Concepts in Modern Distribution Systems**  
» [Dr. Vahid Hosseinnzhad](#)
- 5:10pm **Hybrid power systems**  
» [Dr. Erkan Dursun](#)
- 5:55pm **Networking**  
*Networking & Break Area*

## Thursday, 26 November

- 8:45am **Technical Support (if needed)**  
*Welcome desk*



Continued from **Thursday, 26 November**

- 9am **Plenary Session 1**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 9am **Modeling and Simulation of Cyber-Physical Power Systems**  
» [Prof. Peter Palensky](#)
- 9:45am **Estimation of Grid Harmonics in the Presence of Renewable Energy Sources**  
» [Prof. Sri Niwas Singh](#)
- 10:30am **Break & Networking**  
*Networking & Break Area*
- 10:50am **Plenary Session 2**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 10:50am **Low carbon technologies in a circular economy**  
» [Prof. Catalina Spataru](#)
- 11:35am **IoT-based submetering for DSM-DR applications in Energy Smart Appliances**  
» [Prof. Antonio Moreno-Munoz](#)
- 12:20pm **Lunch & Networking**  
*Networking & Break Area*
- 1:50pm **Plenary Session 3**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 1:50pm **Nonlinear control and state estimation in electric power systems**  
» [Dr. Gerasimos Rigatos](#)

- 2:35pm **Modern Power Systems based on Power Electronic Interfaced Renewable Energy Sources**  
» [Prof. Zhe Chen](#)
- 3:20pm **From the vision to the implementation of sustainable energy solutions: technology, business and people**  
» [Prof. Zita Vale](#)
- 4:05pm **Break & Networking**  
*Networking & Break Area*
- 4:25pm **Plenary Session 4**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 4:25pm **Renewable energy communities: planning and scheduling**  
» [Prof. Alberto Borghetti](#)
- 5:10pm **Application of AI in Security and Monitoring of Smart Grids**  
» [Prof. Hadis Karimipour](#)
- 5:55pm **Networking**  
*Networking & Break Area*

**Friday, 27 November**

- 8:45am **Technical Support (if needed)**  
*Welcome desk*
- 9am **Plenary Session 1**  
*Colosseum Room*  
Chaired by: Dr. Hassan Haes Alhelou
- 9am **Managing service ecosystems dynamics for a better future**  
» [Prof. Debora Sarno](#)



Continued from **Friday, 27 November**

- 9:45am **Control of Thermostatically Controlled Loads for Providing Regulation Services in Power Systems**  
» [Dr. Hongxun Hui](#)
- 10:30am **Break & Networking**  
*Networking & Break Area*
- 10:50am **Oral Session 1A**  
*Colosseum Room*
- 10:50am **Optimization of Load Shifting in the Context of Demand Response Programs with Different Tariffs**  
» Ms. Mahsa Khorram, [Dr. Pedro Faria](#), Prof. Zita Vale
- 11:05am **Predicting energy yield of outdoor Si-based PV installations for Belgium and Vietnam regions at arbitrary tilt and orientation**  
» [Mr. Nguyen Dang Phuc Nguyen](#), Prof. Johan Lauwaert
- 11:20am **Hybrid DC-AC homes with Roof Top Solar power**  
» [Mr. Madhu M.C.](#), Mr. K. Badari Narayana, Mr. J. Krishna Kishore
- 11:35am **Optimization of Grid Connected Solar Power System Capability by Using Hybrid Algorithms of Bat and Bee Colony**  
» [Mr. ABDURAZAQ ELBAZ](#), Prof. Muhammet Tahir Guneser
- 11:50am **Fault diagnosis in DC microgrids using nonlinear Kalman Filtering**  
» [Dr. Gerasimos Rigatos](#), Dr. Nikolaos Zervos, Dr. Masoud Abbaszadeh, Dr. Pierluigi Siano, Mr. Vassilios Siadimas, Dr. Dimitrios Serpanos
- 12:05pm **Development of a Computer-Assisted Personal Interviewing (CAPI) Methodology to Assist the Photovoltaic Design Process**  
» Mr. Samuel Moraes, [Dr. João Murta Pina](#), Mr. Miguel Santos, Mr. Tiago Pereira, Mr. Fernando Monteiro, Mr. Ricardo Matos, Mr. Filipe Matos, Mr. Diogo Pinto, Mr. Francisco Oliveira, Ms. Sofia Correia, Prof. André Mora

- 10:50am **Oral Session 2A**  
*Trevi Room*  
Chaired by: Prof. Miadreza Shafie-khah
- 10:50am **Sustainability assessment of photovoltaic energy technologies in sub-assembly level**  
» [Dr. A Rashedi](#), Dr. Taslima Khanam, Mr. Margub Hamed
- 11:05am **Renewable energy in a resource-based economy – the case of Algeria**  
» [Mr. Maximilian Banning](#), Dr. Ulrike Lehr, Ms. Lisa Becker, Dr. Christian Lutz
- 11:20am **The social impact of mine closure in the Jiu Valley**  
» [Ms. Izabella Kovacs](#), Dr. Sorin Simion, Dr. Alin Irimia, Ms. Ligia Ioana Tuhut, Mr. Daniel Florea
- 11:35am **Emerging Photovoltaics Levelized Cost of Energy: Impact of Initial Efficiency, Degradation and Module Cost**  
» [Mr. Balder A Nieto Diaz](#), Dr. Andrew Crossland, Dr. Christopher Groves
- 11:50am **Multiagent Simulation of Demand Flexibility Integration in Local Energy Markets**  
» [Dr. Tiago Pinto](#), Ms. Nathalia Boeno, Prof. Zita Vale, Dr. Everthon Sica
- 12:05pm **Demand Response Programs Management in an Energy Community with Diversity of Appliances**  
» Mr. Ruben Barreto, [Dr. Pedro Faria](#), Prof. Zita Vale
- 10:50am **Oral Session 3A**  
*Medici Room*  
Chaired by: Dr. Hassan Haes Alhelou
- 10:50am **Performance Evaluation of Heat Exchangers at Different Flow Rates for Low-Temperature Applications.**  
» [Mr. yongyoot taingaoson](#), Dr. Parin Khongkrapan



Continued from Friday, 27 November

- 11:05am **Design and Development of Air diffuser for Drying System**  
» [Mr. Piboon Srikham](#), Dr. Parin Khongkrapan
- 11:20am **Green Hydrogen-Oxygen Co-production plant Financial Evaluation**  
» [Mr. Gaetano Squadrito](#), Mr. Gaetano Maggio, Dr. Antonio P.F. Andaloro, Dr. Monica Musolino, Mr. Agatino Nicita
- 11:35am **Use of bio-engineering technologies in the construction and upgrade of complex installations for obtaining energy from three renewable sources. Complex installations for flowing waters**  
» Dr. George Poteras, Dr. György Deák, [Ms. Iasmina-Florina BURLACU](#), Mrs. Simona Natalia Raischi, Dr. Violeta-Monica Radu
- 11:50am **AN ANALYSIS ON THE CONCEPT OF "SUSTAINABILITY" WITHIN THE SCOPE OF URBAN PARKS**  
» [Dr. Özlem hergül](#), Dr. PARISA GÖKER
- 12:05pm **An Optimization Based Community Model of Consumers and Prosumers: A Real-Time Simulation and Emulation Approach**  
» Mr. Omid Abrishambaf, [Ms. Catia Silva](#), Dr. Pedro Faria, Prof. Zita Vale
- 12:20pm **Lunch & Networking**  
*Networking & Break Area*
- 1:30pm **Oral Session 1B**  
*Colosseum Room*  
Chaired by: Dr. Neelu Nagpal
- 1:30pm **An integrated blockchain-based energy management platform with bilateral trading for microgrid communities**  
» Mr. Gijs van Leeuwen, [Dr. Tarek ALSkaif](#), Prof. Wilfried van Sark
- 1:45pm **Innovative self-consumption and aggregation concepts for prosumers**  
» [Prof. Wilfried van Sark](#)

- 2pm **Agent-based modeling of a rule-based community energy sharing concept**  
» [Mr. Charitha Buddhika Heendeniya](#)
- 2:15pm **A Comparative Feasibility Study of Stand-Alone and Grid-Connected PV System for Residential Load: A Case Study in Iran**  
» Mr. Navid Hadifar, [Mr. amirreza ayanlou](#)
- 2:30pm **Energy Consumption Prediction in a Novel Automated Photovoltaic Design Application**  
» [Mr. Tiago Pereira](#), Dr. João Murta Pina, Prof. Rui Amaral Lopes, Mr. Fernando Monteiro, Mr. Samuel Moraes, Mr. Francisco Oliveira
- 2:45pm **Optimisation for Coalitions Formation Considering the Fairness in Flexibility Market Participation**  
» [Mr. Ricardo Faia](#), Dr. Tiago Pinto, Dr. Fernando Lezama, Prof. Zita Vale, Dr. Juan Manuel Corchado
- 1:30pm **Oral Session 2B**  
*Trevi Room*  
Chaired by: Prof. Mohammad Dolatabadi
- 1:30pm **Dealing with pest infested wood in the pelleting process**  
» [Dr. Holger Streetz](#)
- 1:45pm **Analysis of pyrolysis products from wood chips at varying biomass input rates**  
» [Mr. Rene Nussbaumer](#), Mr. Felix Lechleitner, Mr. Benjamin Hupfaut, Ms. Angela Hofmann
- 2pm **Experimental analysis of a bubbling fluidized bed gasification plant fed by biomass: Design, implementation and validation of the control system**  
» [Dr. Carlos Vargas-Salgado](#), Dr. Lina Montuori, Dr. Manuel Ortega
- 2:15pm **The estimation of thermal waters temperature at the circulation depth and mixing degree with groundwater, Sikhote-Alin (Russia)**  
» [Dr. Elena Zippa](#), Dr. Ivan Bragin, Dr. George Chelnokov, Dr. Natalia Kharitonova



Continued from **Friday, 27 November**

- 2:30pm **Assessment of Solar Energy Potential and Development in Afghanistan**  
» [Mr. Ahmad Tamim Mehrad](#)
- 2:45pm **Changes in mobile ions contributions to electrical properties of double cation solar cells with NiOx HTL produced by changing the type of ETL and by Cl doping**  
» [Dr. Ali Sehtar Shikoh](#), Prof. Alexander Y. Polyakov, Mr. Pavel Gostischev, Mr. Danila Saranin, Mr. Ivan V. Shchemerov, Dr. Sergey Didenko, Prof. Aldo Di Carlo
- 1:30pm **Oral Session 3B**  
*Medici Room*
- 1:30pm **Improved recycling approaches for Lithium-ion batteries**  
» [Dr. Jean Marshall](#), Dr. Dominika Gastol, Dr. Roberto Sommerville, Dr. Beth Middleton, Dr. Vanessa Goodship, Prof. Emma Kendrick
- 1:45pm **Experimental investigation of a low cost and environmental-friendly H<sub>2</sub>-Fe redox flow battery**  
» [Ms. Seo Yeon Cho](#), Mr. Chris Janis, Mr. Christopher Inc, Dr. Kyu Taek Cho
- 2pm **Electricity price forecasting on electricity spot market: a case study based on the Brazilian Difference Settlement Price**  
» Mr. Tiago Silveira Gontijo, Dr. Marcelo Azevedo Costa, [Mr. Rodrigo Barbosa De Santis](#)
- 2:15pm **Maintenance and operation profile of small hydro-electrics: identifying the causes of unavailability in power generation**  
» [Mr. Rodrigo Barbosa De Santis](#), Mr. Tiago Silveira Gontijo, Mr. Aulus Vinicius Ferreira Minardi, Mr. Marcos Felipe Fonseca, Dr. Marcelo Azevedo Costa
- 2:30pm **BESS based Microgrid Real Time Modelling and HIL (Hardware -in -Loop) Validation of Control Capabilities**  
» Mr. Matteo Filippone, [Mrs. Kalpana Shanmugam](#)

3pm **Break & Networking**  
*Networking & Break Area*

3:10pm **Flash Session 1A**  
*Colosseum Room*  
Chaired by: Prof. Ersan Kabalci

**Microwave-Assisted Chemical Synthesis of Lithium Manganese Oxide - MXene Composite for Lithium-Ion Batteries**

» [Mr. Hanan Tariq](#), Dr. Abdul Shakoor, Ms. Aisha Abdul Quddus, Mr. Jeffin James, Dr. Siham Alqaradawi

**CARBENE DIMERS - THINKER TOYS FOR DESIGNING SINGLET FISSION MATERIALS FOR EFFICIENT ORGANIC SOLAR CELLS**

» [Ms. Gergana Kostadinova](#), Dr. Rumen Lyapchev, Prof. Alia Tadjer, Mr. Ilia Kichev, [Dr. Julia Romanova](#)

**CHEMICAL FUNCTIONALIZATION AND TOPOLOGY: A NEW STRATEGY FOR HIGH-PERFORMANCE ORGANIC PHOTOVOLTAIC MATERIALS**

» [Ms. Joanna Stoycheva](#), Prof. Alia Tadjer, Dr. Artur Nenov, Dr. Julia Romanova

**Effects of Electrospinning Parameters on Morphological and Electrochemical Properties of Nickel Oxide Nanofibers for Flexible Supercapacitors**

» Dr. Nuha Alhebshi, [Mrs. Reziwanguli Aihemaituoheti](#)

**Electrophoretic deposition of Al-CuOx thermite materials for microenergetic applications**

» [Ms. Larisa Sorokina](#), Mr. Egor Lebedev, Mr. Roman Ryazanov, Mr. Artem Syta, Prof. Dmitry Gromov

**Modelling of ion-solvent complexes for hybrid metal-ion batteries**

» [Mr. Hristo Rasheev](#), Prof. Radostina Stoyanova, Prof. Alia Tadjer

3:10pm **Flash Session 2A**  
*Trevi Room*  
Chaired by: Dr. Neelu Nagpal



Continued from Friday, 27 November

**Photovoltaic Panels Tilt Angle Optimization**

» [Mr. Khari Sado](#), Dr. LOKMAN HASSAN

**Optimal Reactive Power Control in Renewable Energy Sources: Comparing a metaheuristic versus a deterministic method**

» Mr. Athanasios Kotsaras, Mr. Nikolaos-Antonios Livanos, Mr. Georgios Stravopodis, [Mr. Argyris Hadjipanteli](#)

**Reliability Design of Mechanical Systems Subjected to Repetitive Stresses**

» [Dr. seongwoo woo](#)

**Optimization of a Microgrid Integrated with Renewable Energies with PSO**

» [Mr. Navid Salehi](#), Dr. Herminio Martinez-Garcia, Dr. Guillermo Velasco-Quesada, Dr. Encarna García-Vílchez

**Use of a 2-layer thermoelectric generator structure for photovoltaics cells cooling and energy recovery**

» [Mr. Sławomir Wnuk](#), Dr. George Loumakis, Dr. Roberto Ramirez Iniguez

**High Performance Solar Thermoelectric Generator Using Asymmetrical Variable Leg Geometries**

» [Mr. Chika Maduabuchi](#), Mr. Kevwe Ejenakevwe, Mr. Agwu Ndukwe, Dr. Chigbo Mgbemene

3:10pm

**Flash Session 3A**

*Medici Room*

Chaired by: Dr. Erkan Dursun

**Comparison of simulation methodologies for the design of hydraulic turbines**

» [Mr. Johan Betancour Osorio](#), Ms. Laura Isabel Velásquez, Mr. Edwin Chica Arrieta

**Solar Power Generation System for the Canadian Space Agency STRATOS Program**

» [Mr. Mohamed Amine Doulfikar](#), Mr. Ian Cabales, Mr. Akash Hossan, Dr. Jeff Bloemink, Prof. Pooya Taheri

**Breakwater Integrated Wave-based Electric Generator (BIWEG) and Its Distribution System To Fulfill the Energy Demand of Tunda Island, Indonesia**

» [Mr. Mikail Athallah](#), Mr. Hanif Muhammad, [Mr. Andrew Nugroho](#)

**Effects of heat accompanied by high UV on the lifetime of c-Si PV**

» [Mr. Mohammed YOUNES](#), Dr. Nabil KAHOUL, Prof. Djamel LABED

**Testing of classical MPPT techniques using Proteus model of PV system**

» [Mr. Belhadj Chekal Affari](#), Dr. Nabil KAHOUL, Prof. Rachid Chenni

**Thermal performance of a simple pass solar air heater: mathematical model and solution procedure**

» [Mrs. FATIMA CHANAA](#), Prof. Said Bounouar, Dr. Rachid Bendaoud, Prof. Elhadi Baghaz, Prof. Houssam Amiry, Prof. Bouchaib Zohal, Prof. Charaf Hajjaj, Prof. said yadir, Mr. Hassan Ezzaki, Prof. Mohammadi Benhmida

3:35pm

**Flash Sesion 1B**

*Colosseum Room*

Chaired by: Prof. Ersan Kabalci

**Modification of carbon electrodes using anthraquinone with lithium ions for a hybrid battery /supercapacitor**

» [Ms. Sarah Alshehri](#), Prof. Gregory G.Wildgoose, Dr. John Fielden

**Experimental investigation of convective heat transfer using ethylene glycol based nano-fluid**

» [Mr. Muhammad Shoaib Rafiq](#), Dr. Muhammad Ali Hafiz, Dr. Amir Sultan



Continued from **Friday, 27 November**

**THE DECLINE OF THE ROMANIAN COAL INDUSTRY AND THE ROLE OF COAL IN THE ENERGY TRANSITION**

» [Dr. Cristian Tomescu](#), Dr. DORU CIOCLEA, Dr. NICOLAE IANC, Dr. EMERIC CHIUZAN, Mr. LAURENTIU MUNTEANU

**Nano-Structural Innovation for Future Nano- Architecture**

» [Dr. Selale Elcin SUNGUR](#)

**PRESCREENING MODEL FOR EFFICIENT ORGANIC PHOTOVOLTAIC CHROMOPHORES BASED ON THEIR DIRADICAL CHARACTER**

» Mr. Lyuben Borislavov, [Ms. Joanna Stoycheva](#), Prof. Miroslava Nedyalkova, [Ms. Gergana Kostadinova](#), Prof. Alia Tadjer, [Dr. Julia Romanova](#)

3:35pm

**Flash Session 2B**

*Trevi Room*

Chaired by: Dr. Neelu Nagpal

**Trends in off-grid hybrid electrical generation systems for remote communities**

» Mr. William López-Castrillón, [Dr. Hector Sepulveda](#), Dr. Cristian Mattar

**Short-Term Electricity Demand Prediction Using Modified Hidden Markov Model**

» Dr. Neelu Nagpal, Dr. Pierluigi Siano, Mr. Poras Khetarpal, Ms. Simran Kaur, [Mr. Hardik Nagpal](#)

**Socio-economic impacts of energy and demand growth, call for energy mix in Uganda**

» [Mr. DERRICK CHERIBERI](#), Prof. Eric Yee

**Electric shared mobility during COVID-19 pandemics - development and recession factors**

» [Ms. Katarzyna Turoń](#), Dr. Andrzej Kubik

**Supporting the development of electric shared mobility using UX and virtual reality**

» [Ms. Katarzyna Turoń](#), [Dr. Andrzej Kubik](#)

3:35pm

**Flash Session 3B**

*Medici Room*

Chaired by: Dr. Erkan Dursun

**Analysis of Cascade Failure and DG placement for its Mitigation**

» [Mr. Vikram Yadav](#), Mr. Garvit Singla, Mr. Mridul Verma, Dr. Neelu Nagpal, Mr. Ravi Sharma

**Application of IoT (Internet of things) and Big data technology in smart grid and renewable energy integration**

» [Mr. Poras Khetarpal](#), Dr. Neelu Nagpal, Mr. Rahul Narang, Mr. Lakshaya Jaggi, Ms. Sarita Yadav

**Mathematical analysis of Fuel cell system for application to the unmanned aerial vehicles**

» [Ms. Seo Yeon Cho](#), Dr. Kyu Taek Cho

**Use of hydrogen as a source of clean energy**

» [Dr. Danut Grecea](#), Ms. Gabriela Pupazan, Dr. Marius Darie, Dr. Mihaela Paraian, Dr. Cosmin Colda

**H2-free catalytic deoxygenation of PFAD over activated carbon-supported Co-Ag catalyst for green diesel production**

» [Mrs. Safa Gamal Nasser Mohammed](#)

3:55pm

**Break & Networking**

*Networking & Break Area*

4pm

**Plenary Session 2**

*Colosseum Room*

Chaired by: Dr. Pierluigi Siano



Continued from **Friday, 27 November**

- 4pm **Recent Inverter Topologies and Control Methods in Residential PV Power Conversion**  
» [Prof. Ersan Kabalci](#)
- 4:45pm **Security concerns in islands with high renewables penetration**  
» [Prof. Nikos Hatziargyriou](#)
- 5:30pm **Networking**  
*Networking & Break Area*

**Monday, 30 November**

- 9:45am **Technical Support (if needed)**  
*Welcome desk*
- 10am **Plenary Session 1**  
*Colosseum Room*  
Chaired by: Dr. Vahid Hosseinnezhad
- 10am **TBD**  
» [Prof. Fei Wang](#)
- 10:45am **Challenges Impact the Transition Towards the Smart Grids: Stability and Security Issues**  
» [Dr. Hassan Haes Alhelou](#)
- 11:30am **Optimal Placement of Electric Vehicle Charging Stations**  
» [Prof. Alireza Zakariazadeh](#)
- 12:15pm **Lunch & Networking**  
*Networking & Break Area*

- 1:45pm **Plenary Session 2**  
*Colosseum Room*  
Chaired by: Dr. Pierluigi Siano
- 1:45pm **Solving Uncertain Optimal Power Flow Problems by Affine Arithmetic**  
» [Prof. Alfredo Vaccaro](#)
- 2:30pm **ENABLING NEW FLEXIBILITY RESOURCES TO SUPPORT THE FUTURE POWER GRID**  
» [Prof. Massimo La Scala](#)
- 3:15pm **Closing Ceremony**  
*Colosseum Room*