

7MP1.1

Topic: Power and renewable energy systems

Session Chair: Cyril Spiteri Staines

Mon, Nov 07, 14:00 – 15:30

Castille

38 Fault Response in Microgrids with Fuel Cells

Marija Čuljak (University of Zagreb)*; Ivan Grcić (University of Zagreb); Hrvoje Pandzic (University of Zagreb, Croatia); Juraj Havelka (University of Zagreb)

51 Resilience Assessment of Microgrids Transitioning to Multi-Microgrids in Rural Areas

Mohd Khairi Bin Mohd Zambri (University of Manchester)*; Eduardo A. Martínez Ceseña (University of Manchester); Mathaios Panteli (University of Cyprus); Chin Kim Gan (Universiti Teknikal Malaysia Melaka); Khaldon A Qaid (UTeM)

71 System-wide Nodal Capacity Allocation Applied to a Spanish Distribution Network

Nuno Fulgêncio (R&D Nester); Alexandre Gouveia (R&D Nester)*; Nuno Amaro (FCT-NOVA); Pablo López (CUERVA); Hans Bludszuweit (CIRCE)

74 Active Voltage Regulation for Mitigation of Voltage Issues due to Increasing PV Penetration and EV Loads

Cyril Spiteri Staines (University of Malta); John Licari (University of Malta)*; Alexander Micallef (University of Malta)

87 Rooftop Systems as a Solution to The Electric Power Shortage in Libya

Saleh M Eshtaiwi (GECOL - MEDELEC)*; Mustafa Eelayeb (Misurata University); Mohamed Shatwan (Industrial Technology Faculty of Misrata); Mustafa Aburwais (Misurata University)

90 Impacts of Corona Cage Dimension on the Corona Characteristics of HVDC Applications

Aydogan Ozdemir (Istanbul Technical University)*; Aytuğ Font (Sönmez Trafo); Fermin Espino Cortes (Instituto Politécnico Nacional)

112 Examining the Impact of Saving Rate and Subsidy Policy on PV Installations and CO2 Emissions Using System Dynamics

Abbas Al-Refaie (University of Jordan); Natalija Lepkova (Vilnius Gediminas Technical University)

115 Challenges and Solutions of Wind Power Integration to Lithuanian Power System

Mindaugas Azubalis (Kaunas University of Technology); Audrius Jonaitis (Kaunas University of Technology); Saulius Gudzius (Kaunas University of Technology); Jonas Vaicys (KTU); Gintvilė Šimkonienė (Kaunas University of Technology)*

#31 Re-thinking Var Planning to Mitigate Reactive Power Reserves Scarcity During the Energy Transition

Elnaz Davoodi (Luxembourg Institute of Science and Technology)*; Florin Capitanescu (Luxembourg Institute of Science and Technology); Nipun Popli (University of Liege); Louis Wehenkel (Universite de Liege)

7MP1.2

Topic: Hybrid systems

Session Chair: Ali Kazerooni

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Aragon

12 Long-Term Provision of Power and Water Supply, Economic and Social Security and Stability in Serbia

Vladimir M. Shiljkut (Public Enterprise Electric Power Industry of Serbia)*; Radoš Čabarkapa (Public Enterprise Electric Power Industry of Serbia); Aleksandar Latinović (Public Enterprise Electric Power Industry of Serbia); Jovan Ilić (Public Enterprise Electric Power Industry of Serbia); Dragan Surudžić (Public Enterprise Electric Power Industry of Serbia)

66 Electricity Supply of The Tourist Resort

Nikola Rajaković (University of Belgrade-School of Electrical Engineers); Tomislav D Rajić (University of Belgrade-School of Electrical Engineers)*

77 A Stand-alone Photovoltaic Microgrid Simulation Environment Using FPGA Hardware Acceleration

Mario Araya Carrillo (Costa Rica Institute of Technology); Carlos Meza (Anhalt University of Applied Sciences)*; Carlos Salazar Rodríguez (Costa Rica Institute of Technology); Alfonso Chacón Rodríguez (Costa Rica Institute of Technology)

79 Reduction of Carbon Dioxide from Combustion Gases by Methanization

Gheorghe Lazaroiu (University POLITEHNICA of Bucharest)

28 Reliable Operation of Radially Connected Large Generators under Contingency Conditions - Case Studies from Indian Power System

Aman Gautam (POSOCO); Rahul Shukl (POSOCO); Gaurab Mr Dash (Power System Operation Corporation Limited) *; Prabhankar Porwal (POSOCO); Deepak Kumar (POSOCO); Mohit Kumar Gupta (POSOCO); Vivek Pandey (POSOCO); Debasis DE (POSOCO)

111 The Smart Combination of a Novel DC Micro CHP, PVs and Various Energy Storage Possibilities to Reduce the Consumption of Fossil Fuels

Joseph Cilia (University of Malta); Neville Azzopardi (Abertax Quality Ltd)*; Andrea Brincat (Abertax); Carmel Ellul (Abertax); Matthew Schembri (University of Malta); Redeemer Axisa (Abertax); David Cilia (Abertax)

49 A Novel Inverse Multiplexer Mechanism for Photovoltaic-Powered Battery-Swapping Charging Stations

Carlos Meza (Anhalt University of Applied Sciences)*; Sebastian Dittmann (Hochschule Anhalt); Hugo Sanchez (Anhalt University of Applied Sciences); Nikhil Arora (Anhalt Univeristy of Applied Sciences)

41 Evaluating Multi-Use Applications in a Co-Simulation Environment

Florian Schmidtke (IAEW at RWTH Aachen University)*; Armin Fatemi (IAEW at RWTH Aachen University); Thomas Offergeld (IAEW at RWTH Aachen University); Immanuel Hacker (IAEW at RWTH Aachen University); Borislav Georgiev (IAEW at RWTH Aachen University); Andreas Ulbig (IAEW at RWTH Aachen University)

7MP2.1

Topic: Electricity Markets

Session Chair: Eduardo Martinez-Cesena

Mon, Nov 07, 16:00 – 17:30

Castille

1 An Injection Sensitivity-Based Game Theoretic Approach Towards Multi-Line Congestion Control in Smart Grid Using V2G

Faheem Ul Haq (IIT DHARWAD) *; Pratyasa Bhui (IITDH); Kotakonda Chakravarthi (IITDH); ABHISHEK SAINI (IIT DHARWAD); Gopal Parashari (IIT DHARWAD)

20 Market Segmentation for P2p Energy Trading Based on Power Flow Tracing

Chengwei Lou (University of Glasgow); Eduardo Vega-Fuentes (University of Las Palmas GC)*; Jin Yang (University of Glasgow); Nand K. Meena (Enzen Global Solutions UK)

23 Optimal Activation of Reserves in Regional Balancing Markets

Petar Krstevski (Ss Cyril and Methodius University)*; Aleksandra Krkoleva Mateska (Ss Cyril and Methodius University); Rubin Taleski (Ss Cyril and Methodius University); Vesna Borozan (Ss Cyril and Methodius University)

26 Day-Ahead Dispatch Rescheduling for Congestion Mitigation Under Optimal Power Flow

Georgios C. Christoforidis (Department of Electrical and Computer Engineering, University of Western Macedonia, Kozani, Greece); Aggelos S. Bouhouras (Department of Electrical and Computer Engineering, University of Western Macedonia, Kozani, Greece); Ioannis Panapakidis (University of Thessaly); Nikolaos Koltsaklis (University of Western Macedonia); Nikolaos S. Kelepouris (Department of Electrical and Computer Engineering, University of Western Macedonia, Kozani, Greece)

35 A Forecasting Model for Predicting Electricity Day-Ahead Market Prices for Scheduling Industrial Applications

Konstantinos Plakas (University of Patras)*; Ioannis Karampinis (University of Patras); Panayiotis Alefragis (University of Peloponnese); Alexios Birbas (University of Patras); Michael Birbas (University of Patras); Alex Papalexopoulos (ECCO International)

70 Power Flow Tracing Validation Based on Digital Signal Processing Techniques

Eduardo Vega-Fuentes (University of Las Palmas GC); Jin Yang (University of Glasgow)

88 Embedding Externalities in Electricity Prices – the Need of the Hour

Arif Malik (Sultan Qaboos University)

102 Comparative Analyses of Forecasting Techniques for Electricity Wholesale Price Under High Penetration of Renewable Energy Systems

Joseph Daly (Maynooth University); Min Xuan (Maynooth University); Yunxin Yang (Maynooth University); Mattia De Rosa (University of Sassari); Fabiano Pallonetto (Maynooth University)*

7MP2.2

Topic: Power systems and analysis

Session Chair: John Licari

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Aragon

10 Analysis of Cross-Sectoral Renewal Plannings with Differend Replacement Approaches and Interest Rates

Bernd B Wierzba (Institute of Power Systems Engineering, University of Wuppertal)*;

Tobias Riedlinger (University of Wuppertal); Markus Zdrallek (University of

Wuppertal); Nikolay Nowalski (NEW Netz GmbH)

14 Changing Capacitor Bank Locations for Adequate Reactive Energy Compensation

Lidija M. Korunovic (Faculty of Electronic Engineering, University of Niš)*;

Aleksandar Jovic (Elektroprivreda Srbije)

40 Analysis of the Feasibility Region of Hierarchical Flexibility Coordination Schemes

Thomas Offergeld (IAEW at RWTH Aachen University)*; Florian Klein-Helmkamp

(IAEW at RWTH Aachen University); Antigona Selimaj (IAEW at RWTH Aachen

University); Andreas Ulbig (IAEW at RWTH Aachen University)

50 A Software Tool for Impedance Based Fault Location in Power Transmission Lines

Charalampos Arsoniadis (Democritus University of Thrace); Theofilos Papadopoulos

(Democritus University of Thrace); Vassilis C Nikolaidis (Democritus University of

Thrace)*

52 Optimal Medium Voltage Grid Planning under Consideration of Dynamic Current Ratings of Underground Cables and E-Mobility

Markus Miller (University of Stuttgart)*; Paul Burkhardt (University of Stuttgart);

Krzysztof Rudion (University of Stuttgart); Haiko Nägele (Netze BW)

55 Solving Security-Constrained Transmission Switching Using Column-and-Constraint Substitution

Anton Hinneck (Skoltech); David Pozo (Skolkovo Institute of Science and

Technology)

72 Towards a Holistic Data Model for Power System Simulation and Analysis

Anton Hinneck (Skoltech); David Pozo (Skolkovo Institute of Science and

Technology)

89 Analyses of the Effects of Customer Flexibility on the Distribution Grid

Katerina Bilbiloska (Ss Cyril and Methodius University); Aleksandra Krkoleva

Mateska (Ss Cyril and Methodius University)*; Petar Krstevski (Ss Cyril and

Methodius University); Vesna Borozan (Ss Cyril and Methodius University); Rubin

Taleski (Ss Cyril and Methodius University, Faculty of Electrical Engineering and Information Technologies)

104 Conic Relaxation Method for Optimal Power Flow

Somesh Bhattacharya (UM); Cedric Caruana (University of Malta); Reiko Raute

(University of Malta); Alexander Micallef (University of Malta)

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Topic: Renewable energy systems and integration

Session Chair: Carmelo Cuschieri

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Castille

8 Identifying Vulnerable Lines Considering Uncertain Heat Electrification in Integrated Gas and Electricity Networks

Ali Ehsan (The University of Manchester); Robin Preece (Manchester)

11 Wave Loading of a Circular Array Type Offshore Structure Supporting a Wind Turbine

Thomas P Mazarakos (University of West Attica (UNIWA))

17 Optimal Virtual Synchronous Generator Control of AC/DC Matrix Converter-Based PV Grid- Connected Systems

Doaa Elsayed Eid (National Research Institute of Astronomy and Geophysics NRIAG)*

18 Towards Renewable Energy Communities - Assessing the Techno-economic and -Ecologic Potentials of a Collaborative, Decentral Multi-Energy System

Doaa Elsayed Eid (National Research Institute of Astronomy and Geophysics NRIAG)*

25 Digital Twin Modeling for Photovoltaic Systems Based on Deep Learning

Despoina Kothona (University of Western Macedonia); Ioannis Panapakidis (University of Thessaly); Georgios C. Christoforidis (Department of Electrical and Computer Engineering, University of Western Macedonia, Kozani, Greece)

27 Evaluation Model of Enhanced Geothermal System Projects Based on Multi-Criteria Decision-Making

Sara Raos (Faculty of Electrical Engineering and Computing)*; Josipa Hranić (FieldCore Service Solutions); Ivan Rajsl (University of Zagreb Faculty of Electrical Engineering and Computing)

33 Multi-Objective Optimal Allocation of Photovoltaic-Based Distributed Generators in Radial Distribution System

Stevan Rakocevic (Faculty of Electrical Engineering, the University of Montenegro); Martin P Calasan (Faculty of Electrical Engineering, University of Montenegro)*; Sasa Mujovic (Faculty of Electrical Engineering, the University of Montenegro)

109 Photovoltaics and Electrical Vehicles Mitigation on the Low-Voltage Distribution Network in Malta

Brian Azzopardi (Malta College of Arts, Science and Technology (MCAST)); Yesbol Gabdullin (Malta College of Arts, Science and Technology (MCAST)); Gintvilė Šimkonienė (Kaunas University of Technology)*

13 Advantages of the Microgrids Based on a Small-Scale Hydropower Plants

Vytautas Adomavičius (Kaunas University of Technology); Gintvilė Šimkonienė (Kaunas University of Technology)*; Brian Azzopardi (Malta College of Arts, Science and Technology)

8MP1.2

Topic: Energy Efficiency

Session Chair: Cedric Caruana

Tue, Nov 08, 09:30 – 11:00

Aragon

5 How Modern Facilities Management Technologies Can Help to Reduce Energy Consumption in Buildings

Natalija Lepkova; (VGTU)*; Emre Camlibel (Bogazici University)

9 Data Needs for Load Forecasting at Different Aggregation Levels Using LSTM Networks

Shengye Qi (The University of Manchester); Jelena Ponocko (The University of Manchester)

36 Main Measures for Adapting to the Earth's Changing Radiation Balance Causing the Climate Crisis

Apostolos Kokkosis (University Of West Attica)

53 One-way Voltaic and Energy Efficiency Analysis for Lithium-ion Batteries

Vedran Bobanac (University of Zagreb)*; Hrvoje Bašić (University of Zagreb, Faculty of Electrical Engineering and Computing); Hrvoje Pandzic (Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia)

56 Energy Savings in Elevators by Using a Particular Permanent Magnet Motor Drive

Vasileios I Vlachou (National Technical University of Athens); Theoklitos Karakatsanis (Democritus University of Thrace); Antonios Kladas (ICCS-National Technical University of Athens)*

80 Assessment of the Targeted Energy Saving Potential Through an Energy Efficiency Action Plan Adapted to the Specific Needs of a SME in Romania

Claudia Maria Muresan (Technical University of Cluj-Napoca)*; Timea Farkas (Universitatea Tehnica din Cluj-Napoca); Denisa Stet (Technical University of Cluj-Napoca); Levente Czumbil (Technical University of Cluj-Napoca); Stefan Cirstea (Universitatea Tehnica din Cluj-Napoca); Antoniu Turcu (Technical University of Cluj-Napoca); Alexis Polycarpou (Fredrick University); Dan Doru Micu (Technical University of Cluj-Napoca)

81 Dielectric Characteristics of Composite Electrical Insulating Materials for Energy Efficiency Increase

Antoniu Turcu (Technical University of Cluj-Napoca)*; Cosmin Darab (technical University of Cluj-Napoca); Paul Bere (Technical University of Cluj-Napoca); Alexis Polycarpou (Frederick University); Dan Doru Micu (Technical University of Cluj-Napoca)

94 A Comparative Assessment of the Efficiency of Conventional and Multilevel Inverters

Salvatore Foti (University of Messina)*; Haseeb H. Khan (University School Pavia); Antonio Oteri (University of Messina); Orazio Giordano (University of Messina); Antonio Testa (University of Messina)

100 Radiative Cooling for Energy Efficiency in Buildings of Tehran

N.S.Susan Mousavi (IPM)

8MP2.1

Topic: Electrical mobility, vehicles and transport

Session Chair: Kris Scicluna

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Castille

15 Analysis of Factors for Cost-effective Smart Charging on Company Parking Lot

Tom Warendorf (University of Bremen)*; Thomas Knief (University of Bremen)

30 IEC 61851 Compliant Demand Side Management Algorithm for Electric Vehicle Charging: a MILP Based Decentralized Approach

Muhandiram Arachchige Subodha Tharangi Ireshika (Vorarlberg University of Applied Sciences)*; Peter Kepplinger (Vorarlberg University of Applied Sciences)

34 Electric Vehicle Battery Pack Block Design

Mario Vrazic (University of Zagreb)

59 PCM-Integrated Module for Battery Electric Vehicles Thermal Protection

Sudirja Sudirja (BRIN); Alexander C Budiman (BRIN)*; Muhammad Arjuna P. Perdana (BRIN); Brian Azzopardi (MCAST); Febriani Sekar Hadiastuti (Institut Teknologi Sepuluh September); Bagus Hasyim (Institut Teknologi Sepuluh September); Sunarto Kaleg (BRIN); Amin Amin (BRIN); Rina Ristiana (Indonesian Institute of Sciences); Aam Muharam (BRIN); Abdul Hapid (BRIN)

60 Optimal Scheduling of Electric Vehicle Charging with Deep Reinforcement Learning Considering End Users Flexibility

Christoforos Menos Aikateriniadis (NTUA)*; Stavros Sykiotis (National Technical University of Athens); Pavlos Georgilakis (NTUA)

64 Comparative Study of Machine Learning Techniques for the State of Health Estimation of Li-Ion Batteries

Panagiotis Eleftheriadis (Politecnico di Milano)*; Sonia Leva (Politecnico di Milano); Alberto Valdes Rey (Politecnico di Milano); Manfredi Gangi (Polimi); Emanuele Groppo (Politecnico di Milano); Lorenzo Grande (f2m-esolutions)

92 Electric Vehicle Battery Supply Chain and Critical Materials: a Brief Survey of State of the Art

Pranjal Barman (Electronics & ICT Academy IIT Guwahati)*; Lachit Dutta (Gauhati University); Brian Azzopardi (Malta College of Arts, Science and Technology)

113 A Multi-Agent Framework for Scheduling Fully Electrified Public Transport

Satish Sharma (MNIT Jaipur); Somesh Bhattacharya (UM)*; Deep Kiran (IIT Roorkee); Brian Azzopardi (Malta College of Arts, Science and Technology (MCAST)); Matthias Prandtstetter (AIT Austrian Institute of Technology); Bin Hu (Austrian Institute of Technology)

114 NEEMO - Networking for Excellence in Electric Mobility Operations: Collaboration Plans Malta-Cyprus

Eleftherios Loizou (ANEL); Brian Azzopardi (MCAST); Andy Bugeja (MCAST)*

8MP2.2

Topic: Renewable energy systems and integration

Session Chair: Carlos Meza

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Aragon

62 Considerations of the Limitations of Renewable Energy Sources Hosting Capacity at the Transmission Substations Level – the Case Study of Crete

Alexandros Paspatis (NTUA/HMU)*; George Milionis (NTUA); Emmanuel Karapidakis (Hellenic Mediterranean University); Aris Dimeas (NTUA); Nikos Hatziaargyriou (National Technical University of Athens)

63 Remedial Action Scheme for Wind Power Injection Considering Power System Inertia

Anuj Rao (Indian Institute of Technology Mandi); Pratim Kundu (IIT Mandi)

65 Increasing RES Penetration in the Cyprus Power System: Current and Future Challenges

Phivos Therapontos (Electricity Authority of Cyprus (DSO))*; Rogiros Tapakis (Transmission System Operator of Cyprus); Alexandros Nikolaidis (Transmission System Operator of Cyprus); Petros Aristidou (Cyprus University of Technology)

67 Customer Voltage Sensitivity Analysis to Facilitate Reliability and PV Hosting Capacity in LV Networks

Mikka Kisuule (Makerere University)*; Ignacio Hernando-Gil (ESTIA Institute of Technology); Mike Brian Ndawula (University of Bath); Chenghong Gu (University of Bath)

76 Smart Bi-Directional Inverter Control and PV-ESS Integration for Net Zero Energy Residential Buildings

Sandipan Patra (Tyndall National Institute); Mohamed Bahloul (Tyndall National Institute)*; Rohit Trivedi (International Energy Research Centre); Shafiuzzaman K Khadem (International Energy Research Centre)

78 Hydrokinetic Turbines in Microgrids Based on Small Hydroelectric Plants

Vytautas Adomavičius (Kaunas University of Technology); Gintvilė Šimkonienė (Kaunas University of Technology)*

108 Impacts of Electric Vehicles on Low-Voltage Distribution Networks in Malta

Brian Azzopardi (Malta College of Arts, Science and Technology (MCAST)); Yesbol Gabdullin (Malta College of Arts, Science and Technology (MCAST)); Gintvilė Šimkonienė (Kaunas University of Technology)*

103 Oceanic Water Pressure Electricity

Serif Zukic

#116 Investigation of Wave Energy Harvesting in Malta

Nicole Grech (Malta College of Arts, Science and Technology), Brian Azzopardi (Malta College of Arts, Science and Technology), Gintvilė Šimkonienė (Kaunas University of Technology)*

8MP3.1

Topic: Power system dynamics, stability and control

Session Chair: Somesh Bhattacharya

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Castille

99 Repair Time Factor Estimation of the Distribution Network and the Value of Reliability Indexes Analysis

Gintvilė Šimkonienė (Kaunas University of Technology)*, Audrius Jonaitis (Kaunas University of Technology), Saulius Gudžius (Kaunas University of Technology), Brian Azzopardi (The Foundation for Innovation and Research - Malta).

6 A Novel Primary Frequency Control Framework for Multi-Area Power Systems Containing Battery Energy Storage Systems

Tomislav Baškarad (University of Zagreb); Ninoslav Holjevac (University of Zagreb); Igor Kuzle (University of Zagreb); Hrvoje Pandzic (University of Zagreb)

7 Effects of Inertia Distribution on Regional Frequency Heterogeneity

Zaichun Zhang (The University of Manchester)

84 Assessing Optimal Energy Mix and Stability in the Island of Favignana

Eleonora Riva Sanseverino (University of Palermo)*; Domenico Curto (University of Palermo); Vincenzo Franzitta (University of Palermo); Antony Vasile (Università degli studi di Palermo); Gaetano Zizzo (DEIM University of Palermo); Andrea Guercio (University of Palermo)

43 Decentralized Voltage Control in Active Distribution Systems Combining on-Load Tap Changers and Demand Response

Vassilis C Nikolaidis (Democritus University of Thrace)*; Michael Maropoulos (Democritus University of Thrace); Charalambos Konstantinou (King Abdullah University of Science and Technology)

46 Failure Causes and Operational Life of Measuring Transformers Installed in 150kv Transmission Network

Dimitrios Barkas (University of West Attica); Savvas Katemliadis (Independent Power Transmission Operator of Greece); George Tarousinof (Independent Power Transmission Operator of Greece); Konstantinos Kalkanis (University of West Attica); Constantinos S Psomopoulos (University of West Attica)*

48 Transformer Energization Using Grid Forming Converter

Imran Maqbool (Lund University)*; Olof Samuelsson (Lund University); Jörgen svensson (Lund University); Morten Hemmingsson (Lund University)

105 A Real-Time Monitoring and Condition-Based Maintenance System for Electrical Machines

Clive Seguna (Malta College of Arts, Science and Technology (MCAST)); Kris Scicluna (University of Malta / MCAST)*; Samuel Bugeja (Malta College of Arts, Science and Technology (MCAST))

69 ML-Assistant for Human Operators to Solve Faults and Classify Events Complexity in Electrical Grids

Vasco Campos (INESC TEC); José R. Andrade (INESC TEC)*; Ricardo J. Bessa (INESC TEC); Clara Gouveia (INESC TEC)

8MP3.2

Topic: Energy communities

Session Chair: Alexis Polycarpou

Tue, Nov 08, 16:00 – 17:30

Aragon

4 Integration of Renewal Planning Results in an Automated Strategic Power Grid Planning

Tobias Riedlinger (University of Wuppertal)*; Bernd B Wierzba (Institute of Power Systems Engineering, University of Wuppertal); Markus Zdrallek (University of Wuppertal); Lars Lohrberg (Stadtwerke Service Meerbusch Willich GmbH & Co. KG); Daniel Wolter (Stadtwerke Service Meerbusch Willich GmbH & Co. KG)

44 Economic Benefits Redistribution Methodology for Renewable Energy Communities

Riccardo Trevisan (Università degli Studi di Cagliari); Emilio Ghiani (Dipartimento Ingegneria Elettrica ed Elettronica); Fabrizio Pilo (University of Cagliari)

68 Collective Self-Consumption for Energy Communities in Ireland: a Blockchain Based Application

AZIZ UN NUR IBN SAIF (International Energy Research Centre, Cork, Ireland)*; Shafiuzzaman K Khadem (International Energy Research Centre); Emanuele Rossi (FlexiDAO); Michael Conlon (Technological University Dublin); Brian Norton (International Energy Research Centre)

75 Simulation of a Single Phase Active Voltage Regulation System for Residential Applications

Cyril Spiteri Staines (University of Malta); John Licari (University of Malta); Alexander Micallef (University of Malta)

93 Non-Mutually Exclusive Business Models for Les: a Quantitative Assessment

Nikolaos Chrysanthopoulos (Imperial College London)*; Dimitrios Papadaskalopoulos (Imperial College London); Goran Strbac (Imperial College London, UK)

98 A Methodology for Maturity Quantification and Evaluation of R&I Needs of the Smart Grid

Venizelos Efthymiou (FOSS)*; Kyriaki Psara (FOSS); Christina Papadimitriou (Eindhoven University of Technology)

110 Energy and CO2 Abatement Costs Potentials in Maltese Households

Brian Azzopardi (Malta College of Arts, Science and Technology (MCAST)); Matthew Zammit (Malta College of Arts, Science and Technology (MCAST)); Gintvilė Šimkonienė (Kaunas University of Technology)*

9MP1.1

Topic: ICT for future electricity grids, smart grids and cities

Session Chair: Alexander Christantho Budiman

Wed, Nov 09, 09:30 – 11:00

Castille

29 The Use of Conventional Measurements for the Identification of Bad PMU Measurements

Markos Asprou (University of Cyprus); Christos Panayiotou (KIOS Research Center for Intelligent Systems and Networks, University of Cyprus)

32 Innovative Flexibility Management Framework for Distributed Energy Resources Participating in Local Markets

Efstratios Papoutsis (ICCS)*

39 Data-Driven Cyber-Attack Detection in Community Microgrid Using ML Techniques

Rohit Trivedi (International Energy Research Centre); Sandipan Patra (Tyndall National Institute); Shafiuzzaman Khadem (International Energy Research Centre)*

42 Supervised Machine Learning for False Data Injection Detection: Accuracy Sensitivity

Monica Alonso (Universidad Carlos III de Madrid)*; Jaime Turanzas (Universidad Carlos III de Madrid); Hortensia Amaris (Universidad Carlos III de Madrid); Josue Gutierrez (Universidad Carlos III de Madrid); Sergio Pastrana (Universidad Carlos III de Madrid)

61 Hybrid Power Plants Facilitating the Realization of Onshore Power Supply at Seaport Microgrids

Alexandros Paspatis (NTUA/HMU)*; George Konstantinidis (HMU); Emmanuel Karapidakis (Hellenic Mediterranean University); Fotis Georgakis (BMG Marine); Dimitris Georgakis (BMG Marine); Minas Seimenis (Port of Heraklion); Minas Papadakis (Port of Heraklion); Giannis Moraitakis (Wartsila Greece); Emmanouil Nikolaidis (Premium Consulting)

85 A Co-Simulation Environment to Evaluate Cyber Resilience in Active Distribution Grids Utilising Behind-the-Meter Assets

Immanuel Hacker (Fraunhofer FIT)

86 Integrating Industry 4.0 Technologies for Smart Energy Management in the Industrial Sector: Trends and Challenges

Nikolaos Kyrtsilas (University of West Attica); Eleni Symeonaki (University of West Attica)*; Christos Drosos (University of West Attica); Michail Papoutsidakis (Agricultural University of Athens, University of West Attica)

91 The Role of Electrical Commissioning Tests on Power Plant Electrical Asset Reliability

Aydogan Ozdemir (Istanbul Technical University)*; Hamza Muhammed Fadil (Hitachi Zosen Inova Company)

22 Block Order Bids Prediction for Day-Ahead Market

Kyriakos P Andresakis (ICCS), Efstratios Papoutsis (ICCS)*

9MP1.2

Topic: Renewable energy systems and integration

Session Chair: Mathaios Panteli

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Aragon

107 Analysis and Optimisation of Battery Storage Systems for mitigation of the effect of PV and EV on the Maltese Islands Electrical Network

Cyril Spiteri Staines (University of Malta)*; Alexander Micallef (University of Malta); Ryan Xuereb (University of Malta)

106 Evaluating Urban Solar Resources Using Drones and Installed PV Performance

Steve Zerafa (MCAST); Brian Azzopardi (Malta College of Arts, Science and Technology (MCAST))

2 Controlling Long-Term Overvoltages in Lightly Loaded Transmission Systems

Panagiotis Mandoulidis (National Technical University of Athens)*; Vasileios Lampropoulos (National Technical University of Athens); Costas Vournas (NTUA); Michalis Karystianos (IPTO); Georgios Christoforidis (IPTO); Aristomenis Neris (IPTO); Yannis Kabouris (IPTO)

16 Optimal Load Management of A Prosumer With PV Power Plant and Battery Storage

Zvonimir Šimić (J.J. Strossmayer University of Osijek)*; Zvonimir Klaić (J.J. Strossmayer University of Osijek); Goran Knežević (J.J. Strossmayer University of Osijek,); Danijel Topić (J.J. Strossmayer University of Osijek)

47 Operational Model of a RES Plant Coupled with Battery Storage Considering the Imbalance Settlement

Petra Miljan (University of Zagreb); Nikolina Čović (University of Zagreb); Ivan Pavic (University of Zagreb); Hrvoje Pandzic (University of Zagreb)

73 Whole-System Value of Electrified District Heating Networks in Decarbonising Heat Sector in the UK

Shahab Dehghan (Imperial College London)*; Marko Aunedi (Imperial College London); Hossein Ameli (Imperial College London); Goran Strbac (Imperial College London, UK)

95 An Isolated Resonant DC Link Inverter for single-phase PV generators

Salvatore Foti (University of Messina)*; Tommaso Scimone (University of Catania); Antonio Testa (University of MESSINA)

101 Fossil Fuel Reduction Potential Using Renewables: the Case of the Spanish Electricity System

Alejandro Gonzalez-Moreno (Public University of Navarra (UPNA))*; Javier Marcos (Public University of Navarra); Inigo de la Parra (Public University of Navarre); Luis Marroyo (Public University of Navarra)

83 Photovoltaic Grid-Forming Control Strategy Investigation Using Hardware-in-the-Loop Experiments

Somesh Bhattacharya (UM)*; Chrysanthos Charalambous (UCY)