



Sunday, 23 June

8am **Registration Desk and Welcome Coffee**
Room Europe B-C

9am **T1 -
Tutorial 1 - RESEARCH-ORIENTED - Next-generation battery management system for e-mobility and energy storage**
Room Schengen 1

Next-generation battery management system for e-mobility and energy storage
» Changfu Zou / Yizhou Zhang / Abhijit Kulkarni

9am **T2 -
Tutorial 2 - RESEARCH-ORIENTED - Grid forming power converters: from fundamentals to advanced topics**
Room Fischbach

Grid forming power converters: from fundamentals to advanced topics
» Xiongfei Wang / Heng Wu

9am **T3 -
Tutorial 3 - RESEARCH-ORIENTED - Power electronics and electrolyzer technologies for highest efficient Hydrogen production**
Room Diekirch-Echternach

Power electronics and electrolyzer technologies for highest efficient Hydrogen production
» Stig Munk-Nielsen / Thomas Ebel

9am **T4 -
Tutorial 4 - RESEARCH-ORIENTED - Microgrid-forming: Autonomous Control and System Stability**
Room Schengen 2

Microgrid-forming: Autonomous Control and System Stability
» Jinjun Liu / Zeng Liu

12pm **Lunch Break**

1pm **T5 -
Tutorial 5 - HANDS-ON-ORIENTED - Digital Control of Grid-Tied Converters: From Theory to Practice using Typhoon HIL**
Room Schengen 1

Digital Control of Grid-Tied Converters: From Theory to Practice using Typhoon HIL
» Fernanda de Moraes Carnielutti / Caio Osório

1pm **T6 -
Tutorial 6 - HANDS-ON-ORIENTED - Digital Real Time Simulation through OPAL-RT as Enabler of Novel Energy Technologies**
Room Fischbach

Digital Real Time Simulation through OPAL-RT as Enabler of Novel Energy Technologies
» Sebastian Hubschneider / Marija Stevic / Giovanni de Carne

1pm **T7 -
Tutorial 7 - HANDS-ON-ORIENTED - New Automation Technology by Beckhoff for Energy Production and Distribution**
Room Diekirch-Echternach

New Automation Technology by Beckhoff for Energy Production and Distribution
» Dirk Kordtomeikel / Fabian Assion / Nils Johannsen/ Karl Stapelfeldt

1pm **T8 -
Tutorial 8 - HANDS-ON-ORIENTED - Model-Based Control Design and Testing with Embedded Code Generation Using the PLECS Toolchain**
Room Schengen 2



Continued from **Sunday, 23 June**

Model-Based Control Design and Testing with Embedded Code Generation Using the PLECS Toolchain

» Niklaus Felderer / Christopher Ranisch / Christian Weiner

Monday, 24 June

8am **Registration Desk and Welcome Coffee**
Room Europe B-C

8:45am **Opening Ceremony**
Room Europe A - Plenary

Welcome to IEEE PEDG 2024
» Pedro Rodriguez - Local Chair

9am **KN1 - Keynote Speech 1 - Prof. Hirofumi Akagi, Tokyo Institute of Technology (Japan)**
Room Europe A - Plenary

The Instantaneous Power Theory in Three-Phase Circuits: Why and How did it Emerge in 1983?
» Prof. Hirofumi Akagi

9:45am **KN2 - Keynote Speech 2 - Prof. Rik de Doncker, RWTH Aachen University (Germany)**
Room Europe A - Plenary

DC Technology for Flexible Electrical Grids enabling Sector Coupling - Can Technology Accelerate Innovation?
» Prof. Rik de Doncker

10:30am **Coffee Break**
Room Europe B-C

11am **PS1 - Panel Session 1 - Future Perspectives on Solid-State Transformers in Distribution Grids**
Room Schengen 1

11am **A Systematic Review of Solid-State Transformer for Large Ships and Their Shore Power Supply**
» [Dr. Muhammad Umair Mutarraf](#), Dr. QIAN XUN, Dr. Marius Langwasser, Prof. Marco Liserre

11:15am **Last Developments and New Technologies in Solid-State Transformer**
» Prof. Marco Liserre, [Dr. Levy Ferreira Costa](#), Dr. Zhicheng Guo, Dr. Davide D'amato, Dr. Samuel Queiroz, Prof. Alex Q. Huang

11am **TS1 - Technical Session 1 - Power Converters for Distributed Applications (1)**
Room Schengen 2

11am **Multi-time Scale and Electro-thermal Model Based Reliability and Efficiency Evaluations for Resonant Converter**
» [Mr. Yanjie He](#), Mr. Ziang Li, Mr. Shuo Zhang, Prof. Yuqi Wei

11:20am **The Matrix Hybrid Solid State Transformer : Leveraging Three Phase Systems for Enhanced Grid Capabilities**
» [Mr. Sanjay Rajendran](#), Prof. Alex Q. Huang

11:40am **Comparative Analysis of Bond Wire Degradation in Power Modules during DC and AC Power Cycling**
» [Mr. Kaichen Zhang](#), Prof. Francesco Iannuzzo, Prof. Frede Blaabjerg



Continued from **Monday, 24 June**

12pm **Efficiency-Driven Design of a Reconfigurable Asymmetric LLC Converter with Ultrawide Output Voltage Range for EV Charging Applications**
 » [Mr. Sergio Fernandez Rojas](#), Dr. Dongsheng Yang, Dr. Krzysztof Puczko

11am **TS2 - Technical Session 2 - Advanced Control of Power Converters (1)**
Room Diekirch-Echternach

11am **A Robust Phase-Lock-Loop for Grid-Following Converters**
 » [Mr. Gengning Ying](#), Prof. Jun Zeng, Dr. Jie Song, Mr. Ni Liu, Mr. Minhui Wu, Prof. Eduardo Prieto Araujo, Prof. Junfeng Liu

11:20am **Synchronisation, dispatch and droop of VSCs: revisiting functionality in various coordinate systems**
 » [Prof. Sjur Føyen](#), Mr. Chirag Ramgopal Shah, Prof. Chen Zhang, Prof. Marta Molinas

11:40am **A Hybrid Dead-time Control for Totem Pole Bridgeless PFC**
 » [Mr. Tianyi Huang](#), Prof. Li Peng, Mr. Shuang Lu

12pm **Universal Interoperable Control Framework for Inverter-Based-Resources**
 » [Mr. Pranjal M. Gajare](#), Dr. Joseph Benzaquen, Prof. Deepak Divan

11am **TS3 - Technical Session 3 - Operation and Control of Distributed Power Grids (1)**
Room Fischbach

11am **Discussion on Voltage Regulation Alternatives in Distribution Networks with Massive Distributed Generation**
 » [Dr. Silvangela Barcelos](#), Ms. Jakelini Soeiro, Dr. Edson Hirokazu Watanabe

11:20am **Automation Framework for Blockchain-Based Coordination Of Distributed Energy Resources**
 » Mr. Cesar Casal, [Ms. Su Mon Tun](#), Mr. Irtaza Waheed, Mr. Manuel Pitz, Mr. Yoga Kannan, Mr. Thanakorn Penthong, Prof. Ferdinanda Ponci, Prof. Antonello Monti

11:40am **Testing the local stability of a multi-machine power system with constant power loads**
 » Prof. Yoash Levron, Mr. Alan Valadez, [Prof. George Weiss](#)

12pm **Comparison analysis of short circuit ratio variants on the indication of power system voltage stability**
 » [Dr. Jianyu Zhou](#), Prof. fangzhou zhao, Prof. heng wu, Prof. xiongfei wang

12:30pm **Lunch Break**
Room Europe B-C

12:30pm **PTS1 - Poster Session 1 - Power Converters in Distributed Power Systems**
Room Europe B-C

An Active Power Decoupling Strategy to Reduce the Capacitor Size of a Cascaded H-Bridge Converter in a Solid State Transformer
 » [Mr. Sachin Yadav](#), Dr. Zian Qin, Prof. Pavol Bauer

Modeling and Validation of Input Impedance for Three-Phase PWM Rectifier for Aviation Applications
 » Ms. ZIXIAO XU, Mr. Hongwei Zhao, [Ms. Siyang Liang](#), Ms. Zixuan Guo, Mr. Yufeng Wang, Prof. Weilin Li, Prof. Yang Qi

IoT-enabled Rapid Global Maximum Power Point Tracking for Multiple Photovoltaic Inverters
 » [Mr. Kangjia Zhou](#), Prof. Gao Feng, Ms. Caiyun Qin, Mr. Xiangjian Meng

Reactive Current Injection Strategy under Faults for Grid-Forming Converters based on the Virtual-Flux Orientation
 » [Mr. Juan Dolado](#), Dr. Santiago Arnaltes Gomez, Dr. Joaquín Eloy-García, Dr. Jose Luis Rodríguez Amenedo



Continued from **Monday, 24 June**

Development of GaN-based three phase inverter grid-tie inverter

» [Dr. Orkhan Karimzada](#), Prof. Giulio DeDonato

Development of a Two-Level, Four-Leg Smart Inverter for Microgrid Applications

» Mr. Buck Brown, Mr. Jan Westman, [Dr. Johan Enslin](#), Dr. Zheyu Zhang

A Novel Regulated High-Frequency DC Transformer for Intermediate Bus Architecture Application

» [Ms. Jinru Qian](#)

The Study on EMI Characteristics under Various Operational Conditions in DC-DC Converter for Electric Vehicle

» [Ms. Jisu Yu](#), Mr. Kilho Lee, Mr. Junho Cho, Dr. Beomjin Choi

Exploring Non-Convexity Characteristics of Active Trap Filter Based on Local Optimal Control

» [Mr. Boyuan Cui](#), Mr. Chao Gao, Mr. Liang Huang, Prof. Wenlong Ding, Prof. Poh Chiang Loh

Efficiency and Loss Analysis of a GaN HEMT based Synchronous Buck Converter at 123 K - 298 K

» [Mr. Zilong Chen](#), Prof. Yuqi Wei, Mr. Yanjie He, Dr. Peng Sun

Parallel Modular Multilevel Converter Employing Open-Ended Winding Transformers

» [Dr. Abdullrahman Al-Shammaa](#), Dr. Hassan Farh

Transient Stability Analysis for LCL-filtered VSCs based on Nonlinear Decoupling

» [Dr. pc yang](#)

Intelligent Junction Temperature Estimation of an IGBT Using Machine Learning and Vce Measurement

» [Mr. Venkata Yoganand KONDA](#), Dr. Junhyung Jung, Prof. Marco Liserre

A Brain Emotional Learning - Based Speed Control Strategy for DC Motors

» Mr. Ashkan Safari, [Dr. Hoda Sorouri](#), Dr. Arman Oshnoei, Prof. Frede Blaabjerg

A Remote Voltage Supply Method Based on Sinusoidal-Excitation Cable Impedance Detection

» [Ms. Mingzhu Fang](#), Prof. Donglai Zhang, Dr. Xianbin Qi, Mr. Jun Wu, Mr. Zhihao Wang

1:30pm

IS1 -

Industry Session 1 - OPAL-RT, Beckhoff - Showcase Project in Distributed Energy Systems Utilizing Digital Real-time Simulation Tools and Advanced Automation Solutions

Room Europe A - Plenary

2:30pm

PS2 -

Panel Session 2 - Does a future IBR dominated grid represent a different paradigm? (Part 1)

Room Schengen 1

Current strategies for grid integration of IBRs — A power system view

» Deepak Ramasubramanian, EPRI – US. / Mark O'Malley, Imperial College London – UK. / Ben Kroposki, NREL – US. / Julian Leslie, National Grid – UK.

2:30pm

TS4 -

Technical Session 4 - Power Converters for Distributed Applications (2)

Room Schengen 2

2:30pm

Multiport Y-Converter for Three-Phase AC Grid Integration with DC Systems

» [Mr. Ahmed Yahia Farag Abdelfattah](#), Dr. Davide Biadene, Dr. Tommaso Caldognetto, Prof. Paolo Mattavelli



Continued from **Monday, 24 June**

2:50pm **Application of Statistical Model Checking for Robustness Comparison of Power Electronics Controllers**
 » [Dr. Mateja Novak](#), Dr. Iwona Grobelna, Dr. Ulrik Nyman, Prof. Frede Blaabjerg

3:10pm **High-Frequency Effects on Magnetics and Converter Performance: Implications for Power Electronic Converter Design**
 » Mr. David Porras, Mr. Roderick Gomez, Mr. Ahmed Rahouma, [Dr. Juan Carlos Balda](#)

3:30pm **An Extendable High Step-up DC-DC Converter with Quasi-Parabolic Voltage Gain**
 » Mr. Kavian Kamalinejad, Mr. Seyed Hossein Aleyasin, Mr. Mehdi Abbasi, [Dr. Hossein Imaneini](#)

2:30pm **TS5 - Technical Session 5 - Advanced Control of Power Converters (2)**
Room Diekirch-Echternach

2:30pm **Seamless Dual Mode Control Scheme for Dual Active Bridge Converter to achieve full load range Soft Switching and Minimum current stress**
 » [Mr. Karthik Parihar](#), Dr. Mukesh Kumar Pathak

2:50pm **Harmonic Distortion Analysis of an eGPU-fed Aircraft EPDS with Phase-Shifted Carrier PWM**
 » Mr. Qilin Peng, [Mr. Jiaqin Sun](#), Dr. Jiajun Yang, Prof. Giampaolo Buticchi, Dr. Sandro Guenter, Dr. Nadia Tan, Prof. Patrick Wheeler

3:10pm **Reactive Power-Voltage Droop Design of Dispatchable Virtual Oscillator Control of Single-Phase Inverters**
 » [Ms. Xiaomeng Shen](#), Mr. Hao Luo, Prof. Yongheng Yang

3:30pm **Dynamic Modeling of Differential DC-DC Converters Using Thévenin Equivalent Circuit**
 » Dr. Marcos Antônio Salvador, Mr. Tailan Orlando, [Dr. Denizar Cruz Martins](#), Dr. Marcelo Lobo Heldwein, Dr. Telles Brunelli Lazzarin, Dr. André Luís Kirsten, Dr. Roberto Francisco Coelho

2:30pm **TS6 - Technical Session 6 - Operation and Control of Distributed Power Grids (2)**
Room Fischbach

2:30pm **Optimal Re-dispatch and Reactive Power Management in the Fuerteventura-Lanzarote Grid using Real-time Optimization in the Loop**
 » [Ms. Carolina Maria Martin Santos](#), Dr. Francisco Arredondo, Dr. Santiago Arnaltes Gomez, Dr. Jaime Manuel Alonso, Dr. Jose Luis Rodríguez Amenedo

2:50pm **Asymmetric Operation of Power Lines by Using E-STATCOM and Internal Model Controllers**
 » [Mr. Ansar Berdygozhin](#), Mr. Benjamin Pepper, Dr. David Campos-Gaona

3:10pm **Active and Reactive Power Management of Hybrid Energy Systems for Reactive Power Support in Distribution Network**
 » [Dr. Hamed Bizhani](#), Mrs. Fatemeh Rezayof Tatari, Dr. Grzegorz Iwanski

4pm **Coffee Break**
Room Europe B-C

4:30pm **PS3 - Panel Session 3 - Does a future IBR dominated grid represent a different paradigm? (Part 2)**
Room Schengen 1



Continued from **Monday, 24 June**

Does a future IBR dominated grid represent a different paradigm?

» Dr. Deepak Divan, Georgia Tech – US. / Dominic Gross, UW-Madison – US. / Xiongfei Wang, KTH – Sweden. / Julia Matevosyan, ESIG/GPS – US.

4:30pm **TS7 - Technical Session 7 - Power Converters for Distributed Applications (3)**
Room Schengen 2

4:30pm **Current Sharing Control of Multiphase Interleaving Single Inductor Four Switch Buck-Boost Converter for Energy Storage System**
» [Mr. AQEEL UR RAHMAN](#), Dr. Filippo PELLITTERI, Dr. Nicola Campagna, Prof. Antonino Oscar DI TOMMASO, Prof. Rosario Miceli

4:50pm **Application of Hybrid GaN-IGBT Device Combination for Switched-Capacitor Based Multilevel Inverter Topology with Uniform Power Losses**
» Dr. Marif Daula Siddique, Dr. Prasanth Sundararajan, Mrs. Dharani Kolantla, [Dr. Mrutyunjaya Sahani](#), Dr. Rahul Sadanand Bhujade, Dr. Sanjib Kumar Panda

5:10pm **Comparative Analysis of Models Applicable to the Dual Active Bridge Converter**
» [Mr. Francisco Salazar](#)

5:30pm **A New Transformerless High Voltage Gain EV Onboard Charger with Optimal Power Components**
» [Dr. phani kumar chamarthi](#), Dr. Greg Baltas, Dr. Shailendra Singh, Dr. Jun Cao, Prof. Pedro Rodriguez

4:30pm **TS8 - Technical Session 8 - Operation and Control of Distributed Power Grids (3)**
Room Diekirch-Echternach

4:30pm **A Low Cost Phase Estimation Device for PMU Phase Validation**
» [Mr. Manuel Pitz](#), Mr. Sriram Karthik Gurumurthy, Mr. Matthias Nowak, Dr. Stefan Lankes, Prof. Ferdinanda Ponci, Prof. Antonello Monti

4:50pm **Re-evaluating Rural Electrification Options for the Energy Transition**
» [Mr. Kiswendsida Elias Ouedraogo](#), Dr. Pinar Ekim, Dr. Erhan Demirok

5:10pm **A Novel Approach for Removing Decaying DC Offset from Fault Current Signals Using Cumulative Sum – Fast Moving Average (CumSum-FMA) Hybrid Algorithm**
» [Mr. Philip Abel](#), Mr. Friedrich Wiegel, Dr. Michael Kyesswa, Dr. Simon Waczowicz, Prof. Veit Hagenmeyer

5:30pm **A Non-Parametric Approach to Harmonic Instability Mitigation for Renewable-Based Power Plants**
» [Mr. Sriram Karthik Gurumurthy](#), Prof. Antonello Monti

4:30pm **TS9 - Technical Session 9 - Distributed Power Applications Driven by Artificial Intelligence**
Room Fischbach

4:30pm **Graph Neural Network Based Deep Reinforcement Learning for Volt-Var Control in Distribution Grids**
» [Mr. Aoxiang MA](#), Dr. Jun Cao, Prof. Pedro Rodriguez

4:45pm **Machine Learning-based Condition Monitoring of DC-link Capacitors in Drive Inverters using Case Temperature**
» Dr. Prasanth Sundararajan, Dr. Marif Daula Siddique, [Dr. Mrutyunjaya Sahani](#), Dr. Jaydeep Saha, Dr. Sanjib Kumar Panda

5pm **Efficient Communication for Decentralized Federated Learning: An Energy Disaggregation Case Study**
» [Mr. Yusen Zhang](#), Prof. Gao Feng, Mr. Kangjia Zhou



Continued from **Monday, 24 June**

5:15pm **A Novel SeqGAN-LSTM Load Forecasting Framework for Electric Vehicle Charging Stations with Missing Data**
 » [Mr. Xiaohai Ge](#), Prof. Xin Zhang, Prof. Dehong Xu

6:30pm **Welcome Reception**
 Room Europe B-C

7:30pm **Students & Young Professional Social Event**
 Room Wiltz

Tuesday, 25 June

8am **Registration Desk and Welcome Coffee**
 Room Europe B-C

9am **KN3 - Keynote Speech 3 - Prof. Ulrike Grossner, ETH Zürich (Switzerland)**
 Room Europe A - Plenary

Advanced Power Semiconductors for Decarbonized Energy Systems
 » Prof. Ulrike Grossner

9:45am **KN4 - Keynote Speech 4 - Prof. Frede Blaabjerg, Aalborg University (Denmark)**
 Room Europe A - Plenary

Power Electronics Technology - Towards a Carbon Neutral Society
 » Prof. Frede Blaabjerg

10:30am **Coffee Break**
 Room Europe B-C

11am **PS4 - Panel Session 4 - MMC topology, control and testing for MV grid application**
 Room Schengen 1

MMC topology, control and testing for MV grid application
 » Hui Li – Florida State University – US / Kenichiro Sano - Tokyo Institute of Technology – Japan. / Karl Schoder – Florida State University-CAPS – US. / Biao Zhao – Tsinghua University – China.

11am **TS10 - Technical Session 10 - Grid Forming Power Converters (1)**
 Room Schengen 2

11am **Hybrid Control for Integrating Grid-Forming and Grid-Following Capabilities in a Single VSI: An Efficiency-Driven Approach**
 » [Mr. Iman Lorzadeh](#), Dr. Omid Lorzadeh, Dr. Dimitar Bozalakov, Prof. Luc Dupre', Prof. Lieven Vandeveld

11:20am **Selective Virtual Impedance for Overcurrent Limitation in Grid-Forming Inverters under Asymmetrical Faults**
 » [Mr. Alvaro Morales-Munoz](#), Dr. Francisco D. Freijedo, Dr. Sante Pugliese, Prof. Marco Liserre

11:40am **Robust tuning of current controllers for grid forming inverters depending on the grid impedance**
 » Mr. Florian Reissner, [Mr. Yossef Melamed](#), Prof. George Weiss

12pm **Impedance-Based Stability Analysis of Grid-Forming Inverters with Virtual Impedance or Angle Droop for Improved Robustness**
 » [Mr. Robin Strunk](#), Mr. Pieris Sourkounis, Prof. Axel Mertens

11am **TS11 - Technical Session 11 - Advanced Control of Power Converters (3)**
 Room Diekirch-Echternach



Continued from **Tuesday, 25 June**

11am **A Current-Limiting Direct Voltage Model Predictive Control for DC-DC Boost Converter**

» Mrs. Fatemeh Rezayof Tatari, [Dr. Hamed Bizhani](#), Dr. Grzegorz Iwanski

11:20am **Predictive Encoderless Control with EKF for PMSG-Based Wind Energy Conversion System**

» [Mr. Shichang Zhou](#), Prof. Zhen Li, Dr. Haitao Li, Dr. Yuanxiang Sun, Ms. Qi Wang, Prof. Zhenbin Zhang

11:40am **Enhanced Soft Start-up Strategy of Dual Active Bridge Converter with Constant Current Stress and Dynamically Balanced Flux Linkage**

» Mr. Yao Huang, [Prof. Jingxin Hu](#), Mr. jingyuan wang, Prof. Yuying He, Dr. Fei Liu, Prof. Xinbo Ruan

11am **TS12 - Technical Session 12 - Energy Storage in Distributed Power Systems (1)**

Room Fischbach

11am **Synchronization Circuit Design for Battery Energy Storage Integration in DFIM-Based Hydro Power Systems**

» [Dr. Vishal Undre](#), Dr. Vijay Mohale, Prof. Thanga Raj Chelliah, Prof. Yogesh Hote

11:15am **Overview of Various Carbon Neutral Energy Storage Solutions, Supporting Grid Stability**

» Mr. Yogesh Bornarkar, [Dr. Vijay Mohale](#), Dr. James Amankwah Adu

11:30am **Emerging Trends and Challenges in Smart Power Distribution for Marine Transportation**

» [Mr. Sunny Sonandkar](#), Prof. Thanga Raj Chelliah

12:30pm **Lunch Break**

Room Europe B-C

12:30pm

PTS2 -

Poster Session 2 - Analysis, Simulation and Control of Distributed Power Grids

Room Europe B-C

Adaptive Control for Enhanced Performance in Grid-Connected Agricultural Machines

» [Mr. Pedro dos Santos](#), Mr. Marcel Wingert, Mr. Marco Guerreiro, Prof. Steven Liu

Reliable Decentralized Control Scheme of DC Microgrid Using Transition Operations under DC-link Voltage Sensor Faults

» Mr. Dat Thanh Tran, Mr. Muhammad Alif Miraj Jabbar, Mr. Seong-Bae Jo, Mr. Sung Dong Kim, [Prof. Kyeong-Hwa Kim](#), Dr. Myungbok Kim

A Dominant Oscillatory Nodes Localization Method for Multi-Converter-Fed Power Systems

» [Dr. Donghui Zhang](#), Prof. xin chen, Dr. fan Yang

Analysis of Power Quality Improvement Techniques Applied to Grid-connected Wind Power Plants

» [Mr. Mohib Ullah](#), Prof. Yajuan Guan, Prof. Juan C. Vasquez, Prof. Josep M. Guerrero

New Symmetrical Power-Flow Controllers for Universal Application in Meshed DC Grids

» [Mr. Sreedhar Kammana](#), Prof. Rainer Marquardt, Prof. Thomas Brückner

Adaptive Inertia Estimation Based on Projection Identification Algorithm Applied to Unbalance Systems with VSM

» [Ms. Ana Marin](#), Dr. Andrés Escobar-Mejía, Prof. Alfonso Alzate

Cyber Secure-oriented Communication Network Design for Microgrids

» [Dr. Junjie Xiao](#), Dr. Lu Wang, Prof. Pavol Bauer, Dr. Zian Qin



Continued from **Tuesday, 25 June**

A Decentralized Secondary Voltage Control and Voltage Unbalance Compensation Method in Islanded Microgrids

» [Mr. Yidong Shi](#), Prof. Zeng Liu, Prof. Jinjun Liu, Mr. Wenchen Wang

η - ρ Pareto Design of a Balancing Converter for Bipolar DC Grids

» [Mr. Sachin Yadav](#), Dr. Zian Qin, Prof. Pavol Bauer

Comparing STATCOM Direct and Indirect Control Algorithms: A Laboratory Investigation

» [Mr. Zaid Ali](#), Mr. Bence Sütő, Mr. Tamás Guth, Dr. David Raisz

A Robust Model Predictive Control for PLL-Based Grid-Connected Converter Under Weak Grids

» [Mr. Shuai Yuan](#), Prof. Zhixiang Zou, Prof. Fujin Deng, Prof. Marco Liserre

Real-Time Challenges of Co-Simulation Framework for Integrated Grid Operations System

» Mr. Abdul Shafae Mohammed, [Dr. Johan Enslin](#), Mr. Zachary Smith

The Information Technology (IT) and Operational Technology (OT) Convergence in Industrial World

» [Dr. Montri Wiboonrat](#), Mr. Sawatsakorn Chaiyasoonthorn, Prof. Somsak Mitatha, Prof. Surapong Siripongdee, Mr. Theeraporn Sriudomsilp

A Unified DC-Link Switching Ripple Suppression Modulation Method for Modular Multilevel Converters including Step-Down Mode

» [Dr. Zhifeng Deng](#), Prof. Jinjun Liu, Prof. Sixing Du, Dr. Jun Zhang, Dr. Ning Guo, Prof. Zeng Liu

Discussion on Voltage Regulation Alternatives in Distribution Networks with Massive Distributed Generation

» [Dr. Silvangela Lima Barcelos](#), Ms. Jakelini Soeiro, Dr. Edson Watanabe

An Optimized Electric Power and Reserves Economic Dispatch Algorithm for Isolated Systems Considering Water Inflow Management

» Mr. Darío Ferreira-Martínez, Mr. Filipe Oliveira, [Dr. Filipe Soares](#), Dr. Carlos Moreira, Mr. Rui Martins

Predicting Hydro Reservoir Inflows with AI Techniques Using Radar Data and a Numerical Weather Prediction Model

» Ms. M. Francisca Almeida, [Dr. Filipe Soares](#), Mr. Filipe Oliveira, Prof. João Saraiva, Mr. Rui Pereira

1:30pm

IS2 -

Industry Session 2 - Fuji Electric, Mitsubishi Electric - Showcase Project in Distributed Energy Systems Utilizing Cutting-Edge Industrial Power Processing and Control Solutions

Room Europe A - Plenary

2:30pm

PS5 -

Panel Session 5 - Intelligent Energy Routers for Flexible and Renewable-based Electrical Networks (Part 1)

Room Schengen 1

Intelligent Energy Routers for Flexible and Renewable-based Electrical Networks (Part I)

» Rik W. De Doncker, RWTH Aachen University, E.ON Energy Center – Germany / Antonello Monti, RWTH Aachen University, E.ON Energy Center – Germany / Marco Liserre, Kiel University/Fraunhofer ISIT – Germany / Federico Cecati, Kiel University/Fraunhofer ISIT – Germany

2:30pm

PS6 -

Panel Session 6 - Empower a Billion Lives - EBL

Room Schengen 2

Empower a Billion Lives - EBL

» Jelena Popovic, Twente University – The Netherlands / Issa Bataresh, University of Central Florida – US / Sanjib Kumar Panda, National University of Singapore – Singapore / Deepak Divan, Georgia Tech – US



Continued from **Tuesday, 25 June**

2:30pm **TS13 -
Technical Session 13 - Grid Forming Power Converters (2)**

Room Diekirch-Echternach

Chaired by: Dr. Denizar Cruz Martins

2:30pm **Grid-Forming Photovoltaic Generators Operating During Power System Transients**

» [Dr. Javier Roldán Pérez](#), Dr. Milan Prodanovic, Dr. Justino Rodrigues, Dr. Carlos Moreira

2:50pm **Grid-Forming Converter with Improved Dynamic and Disturbance Rejection Capability**

» [Mr. Amiron Serra](#), Dr. Luiz Antonio Ribeiro, Dr. Mehdi Savaghebi

3:10pm **Evaluation of the Grid-Forming Inertial Response for Power Reference and Grid-Supporting Functionalities**

» Dr. Joan Rocabert, Mr. Borja Garcia, [Mr. Juan Villon](#), Dr. J.I. Candela, Prof. Pedro Rodriguez

3:30pm **A Methodology for Analysis and Design of Dispatchable Virtual Oscillator Grid-Forming Control Methods**

» [Mr. Armando Jose Gomes Abrantes-Ferreira](#), Dr. Alexandre Cunha Oliveira, Dr. Antonio Marcus Nogueira Lima

2:30pm **TS14 -
Technical Session 14 - Advanced Control of Power Converters (4)**

Room Fischbach

Chaired by: Mr. Sriram Karthik Gurumurthy

2:30pm **Modified Sorting Algorithm for Fault-Tolerant Operation of Hybrid MMC With Hot Reserve Submodules**

» [Mr. Mahyar Hassanifar](#), Ms. Simona Ventura, Dr. Marius Langwasser, Dr. Davide D'Amato, Dr. Vito Giuseppe Monopoli, Prof. Marco Liserre

2:50pm **Fault Tolerant Control for Medium Voltage Hybrid MMC With Cold Reserve Submodules**

» [Mr. Mahyar Hassanifar](#), Ms. Simona Ventura, Dr. Marius Langwasser, Dr. Davide D'Amato, Dr. Vito Giuseppe Monopoli, Prof. Marco Liserre

3:10pm **Investigation of the Influence of the Dead-Time on the Performance of an LLC Resonant Converter for High-Power Application**

» [Dr. Samuel Queiroz](#), Dr. Levy Ferreira Costa

3:30pm **ANN-Based Real-Time Optimal Voltage Control In Islanded AC Microgrids**

» [Mr. Abd Alelah Derbas](#), Prof. Chiara Bordin, Prof. Sambheet Mishra, Prof. Frede Blaabjerg

4pm **Coffee Break**

Room Europe B-C

4:30pm **PS7 -
Panel Session 7 - Intelligent Energy Routers for Flexible and Renewable-based Electrical Networks (Part 2)**

Room Schengen 1

Intelligent Energy Routers for Flexible and Renewable-based Electrical Networks (Part II)

» Drazen Dujic, EPFL – Switzerland / Giovanni De Carne, Karlsruhe Institute of Technology – Germany / Xinbo Ruan, Nanjing University of Aeronautics and Astronautics – China / Jingxin Hu, Nanjing University of Aeronautics and Astronautics – China

4:30pm **TS15 -
Technical Session 15 - Grid Forming Power Converters (3)**

Room Schengen 2

4:30pm **A Comprehensive Strategy for Grid Forming Control in DC Coupled Photovoltaic and Battery Energy Storage Inverters**

» Mr. Houshang Salimian Rizi, Mr. Zibo Chen, [Prof. Alex Q. Huang](#), Prof. Pedro Rodriguez



Continued from **Tuesday, 25 June**

4:45pm **Comparative Analysis of Grid-Forming Control of Energy Storage for Black Start**

» Ms. Lingjun Yao, Ms. Yunuo Yuan, Prof. Yongheng Yang, Mr. Yin Zhang Peng, Mr. Qi Zhao, Mr. Lu Zhang

5pm **Impedance Estimation for Transient Stability Enhancement of Virtual Synchronous Machines**

» Mr. Benjamin Pepper, Dr. David Campos-Gaona

5:15pm **Stability Analysis of a Grid-Forming Converter without an Inner Current Control**

» Mr. Werner Fritsche, Mr. Tayssir Hassan, Prof. Sibylle Dieckerhoff

4:30pm **TS16 - Technical Session 16 - Operation and Control of Distributed Power Grids (4)**

Room Diekirch-Echternach

4:30pm **A Simple Global Maximum Power Point Tracking Scheme With Region Segmentation for Partially Shaded PV Modules**

» Dr. Yinxiao Zhu, Prof. Yongheng Yang, Prof. Frede Blaabjerg, Mr. Runze Lv

4:50pm **A Communication-Free Decentralized Control System for Series-Connected Grid-Integrated Photovoltaic Inverters**

» Mr. Saleh Farzamkia, Prof. Alex Q. Huang

5:10pm **Partial Inertial Support for PV MPPT Systems Connected to Grid Using the IPLL Control Strategy**

» Dr. Andres Tarraso, Mr. Pablo A. Moreno, Mr. Juan Villon, Dr. J.I. Candela, Dr. Joan Rocabert, Dr. Pedro Rodriguez

5:30pm **A Bumpless Transition Strategy for Efficient Partial Shading Detection in PV Systems**

» Mr. Afaq Hussain, Dr. Jahangir Hossain, Dr. Ricardo Aguilera Echeverria, Mr. Rodrigo Cuzmar Leiva

4:30pm **TS17 - Technical Session 17 - Energy Storage in Distributed Power Systems (2)**

Room Fischbach

4:30pm **S.A.P.I.EN.T.E. hybrid system: an experimental test facility focused on energy generation and hybrid storage for self-consumption strategies**

» Dr. Alessandro Lorenzo Palma, Dr. Luca La Notte, Dr. Biagio Di Pietra, Mr. Ruggero Nissim

4:50pm **Power Plant Control with Configurable Reserves for Grid-Forming Solar Power Plants with Hybrid Storage**

» Mr. Juan Diego Rios Peñaloza, Mr. Gabriel García Gutiérrez, Dr. Milan Prodanovic, Dr. Javier Roldán Pérez

5:10pm **Hybrid Energy Storage Enhanced STATCOMs**

» Dr. Aleksandr Viatkin, Dr. Shih-Feng Chou, Dr. Tim Augustin, Dr. Akif Zia Khan, Dr. Ali Tayyebi, Dr. Haofeng Bai, Prof. Jan R. Svensson

5:30pm **Power Fluctuation Suppression in Energy Storage for PV-Battery GFM Systems**

» Mr. Kai Yin, Mr. Yi Xiao, Prof. Yongheng Yang, Mr. Yin Zhang Peng, Mr. Lu Zhang, Mr. Qi Zhao

7pm **Gala Dinner (Award and Handover to PEDG 2025)**

Room Europe B-C

Wednesday, 26 June

8am **Registration Desk and Welcome Coffee**

Room Europe B-C



Continued from **Wednesday, 26 June**

9am **KN5 -
Keynote Speech 5 - Prof. Deepakraj M Divan, Georgia Institute of
Technology, Atlanta (USA)**
Room Europe A - Plenary

The Power Grid as a Clean Ecosystem
» Prof. Deepakraj M Divan

9:45am **KN6 -
Keynote Speech 6 - Dr. Jessica Bian, Grid-X Partners (USA)**
Room Europe A - Plenary

Regulatory Aspects of Implementing Advanced Technology
» Dr. Jessica Bian

10:30am **Coffee Break**
Room Europe B-C

11am **PS8 -
Panel Session 8 - European Flagship Projects on Modern Energy
Systems**
Room Schengen 1

European Flagship Projects on Modern Energy Systems
» Nikos Bilidis - i-STENTORE – EU / Giovanni de Carne - Research Facility
2.0 – EU / Speaker to be confirmed – AGISTIN – EU / Pedro Rodriguez –
WeForming – EU

11am **PS9 -
Panel Session 9 - Women in Engineering – Leading Modern Energy
Systems**
Room Schengen 2

Women in Engineering – Leading Modern Energy Systems

» Annette Mütze, TU Graz – Austria / Leila Manshaei, Hitachi Energy –
Sweden / Ulrike Grossner, ETH – Switzerland / Qianwen Xu, KTH –
Sweden

11am **TS18 -
Technical Session 18 - Microgrids for Distributed Generation Systems**
Room Diekirch-Echternach

11am **Challenges of Microgrid Stability Assessment in the Presence of
Inverter-Based Resources**
» Ms. Qing Lin, [Dr. Rolando Burgos](#)

11:15am **Decoupled Robust Back-stepping Control of Multi-phase
Interleaving Converters for Power-to-Hydrogen Systems in DC
Microgrid**
» [Mr. AQEEL UR RAHMAN](#), Dr. Filippo PELLITTERI, Dr. Nicola Campagna,
Prof. Antonino Oscar DI TOMMASO, Prof. Rosario Miceli

11:30am **Advanced Photovoltaic Flexible Power Control Method for Stand-
alone DC Microgrid under Fast Changing Irradiance**
» [Dr. Qiang Bi](#), Prof. Kai Sun

11:45am **Implementation of a Droop and Synchronization Control for Grid-
Forming Fictitious Synchronous Generator controlled Power
Converters in Microgrids**
» [Mr. FLORIAN REDMANN](#), Mr. Alexander Ernst, Prof. Amir Ebrahimi,
Prof. Bernd Orlik

11am **TS19 -
Technical Session 19 - Real-Time Simulation of Power Converter-
Driven Applications**
Room Fischbach

11am **Power Hardware-in-the-Loop Test Bench for DC Grid and Battery
Emulation**
» [Mr. Fabian Herzog](#), Mr. Benedict Mortimer, Prof. Rik W. De Doncker



Continued from **Wednesday, 26 June**

11:20am **Realization of real-time simulation of power electronics systems in applications - A review of requirements and methods**

» Mr. Julian Saele, [Mr. Ian OBryan](#)

11:40am **Real-Time Cosimulation of Power Systems: Integration of eMEGASIM and ePHASORSIM Using OPAL-RT Simulators**

» [Mr. Daniel de Rivero Peña](#), Dr. Shailendra Singh, Prof. Pedro Rodriguez, Prof. Pablo Garcia Fernandez

12pm **Mission Profile Emulator for Sub-modules in CHB-BESS of Frequency Support Applications**

» Mr. Moxi Wang, Mr. Lingqi Tan, [Prof. Ke Ma](#)

12:30pm **Lunch Break**

Room Europe B-C

12:30pm **PTS3 -**

Poster Session 3 - Energy Sotrage and Artificial Intelligence in Distributed Power Systems

Room Europe B-C

A Power Allocation Strategy for Hybrid Energy Storage System with Virtual Inertia Support

» [Mr. Jialei Su](#), Prof. Kang Li, Mrs. Wei Zuo

Open Battery Platform: Open-Source Power Electronic Devices for Renewable Generation and Energy Storage Technology

» [Mr. Peter Teske](#), Mr. Marius Gentejohann, Ms. Dorothea Wiemann, Mr. Lars Krüger, Prof. Julia Kowal, Prof. Sibylle Dieckerhoff

An Improved Distributed Economic Control Strategy in Combination with Unitized Regenerative Fuel Cell Stack

» [Mr. jinyu yu](#), Dr. Lidan Zhou, Dr. gang yao, Mr. tianyou yu

An Optimal Power-Splitting Strategy for Hybrid Storage Systems

» [Dr. Adolfo Anta](#), Dr. Catalin Gavrilita, Mr. Denis Vettoretti, Dr. David Cabezuelo Romero, Dr. Eneko Unamuno

Emulation of a battery-sourced Black Start through Grid-forming Control of a Converter Test Bench

» [Mr. ANTONIO MIELACH](#), Mr. FLORIAN REDMANN, Mr. Alexander Ernst, Prof. Amir Ebrahimi, Dr. Holger Raffel

Operation Maps for Hybrid Electrolyser and Battery Systems - A Luxembourgish Case Study

» [Dr. Ángel Paredes Parrilla](#), Prof. Jose Aguado, Mr. Philipp Fisch, Mr. Patrick Witte, Mr. Sebastian Theissen, Prof. Pedro Rodriguez

Enhancing Grid Stability: A Frequency Regulation Control Strategy for BESS in Grid-Connected

» [Mr. Juan Villon](#), Dr. Joan Rocabert, Dr. J.I. Candela, Dr. Pedro Rodriguez

Integration of modular energy storage solutions in the distribution grid

» Mr. Miguel Crespo, Mr. Carlos Gómez-Aleixandre, Mr. Gleisson Balen, [Mr. Daniel de Rivero Peña](#), Mr. Ángel Navarro-Rodríguez, Dr. Cristian Blanco, Prof. Pablo Garcia Fernandez

Spatial-Temporal Prediction of Schedulable Capacity of Electric Vehicles based on Graph Convolutional Network with Spatial-Attention

» [Prof. Meiqin Mao](#), Mr. JiXun Wu, Dr. Yang Cheng, Ms. Yuanyue Wang, Prof. Yan Du, Mr. MingLei Zhu, Mr. Zhang Wei, Prof. Liuchen Zhang

Harmonic Forecasting in Power Electronics: AI-Driven Machine Learning modeling Approach for Voltage Source Converters

» [Mr. Ahmed Abdelsamd](#)

Forecasting hybrid renewable power generation in Luxembourg: a comparative study of convolutional neural network's application

» [Dr. Vahid Arabzadeh](#), Prof. Raphael Frank



Continued from **Wednesday, 26 June**

Virtual Energy Storage Staking in Day-Ahead and mFRR markets - A Spanish Case Study

» Dr. Ángel Paredes Parrilla, Prof. Jose Aguado, Prof. Pedro Rodriguez

1:30pm

IS3 -

Industry Session 3 - Modeling Tech, dSPACE - Showcase Project in Distributed Energy Systems Utilizing Advanced Real-time Simulation Platforms with Hardware-in-the-Loop Capabilities

Room Europe A - Plenary

2:30pm

CKN -

Closing Keynote Speech - Prof. Dushan Boroyevich, Virginia Tech (USA)

Room Europe A - Plenary

Future Systems for Transmission and Distribution of Electrical Energy?

» Prof. Dushan Boroyevich

3:30pm

Closing Ceremony

Room Europe A - Plenary