



PESS 2024 Program

Monday, 21th October

From 14:00 o clock Registration

15:00 – 15:10 Opening ceremony, Presentation TU Dresden
Prof. Dr.-Ing. Peter Schegner – TU Dresden

15:10 – 15:30 Presentation IEEE PES German Chapter
Dr.-Ing. Anne-Katrin Marten – 50Hertz Transmission GmbH / Member of the IEEE PES German Chapter

15:30 – 16:00 Developments in Power Systems
Prof. Dr.-Ing. habil. Martin Wolter – OVGU Magdeburg / Vice-Chairman of the IEEE PES German Chapter

16:00 – 16:30 Coffee break

16:30 – 18:00 Special-Session: Current developments in electrical energy supply - insights from the field
Dr.-Ing. Sebastian Palm - DigSilent GmbH
Prof. Dr.-Ing. Matthias Hable – Sachsen Energie
Liya Ma – GE Vernova
Dr.-Ing. Karsten Wenzlaff – Schneider Electric GmbH

18:00 – 22:30 Get Together Party

22:30 Close of day one



PESS 2024 Program

Tuesday, 22th October

08:30 – 09:00 Registration and Coffee

09:00 – 10:30 Session 1: Grid Modelling

Cornelius Heck – 50Hertz Transmission GmbH

Session opening

Quantitative comparison of power system operation using angle-based control versus frequency-based Control

Shahriar Sheybani, Hassan Alhomsy, Dirk Westermann – TU Ilmenau

Inertia Assessment of Interconnected Power Systems Based on Frequency and Tie-line Power Flow Measurements

Adrian Terstege, Dominik Frauenknecht, Ilya Burlakin, Matthias Luther, Chris Heyde, Jan Henzgen – FAU Erlangen/ Siemens AG

Efficient method for calculating the reactive power supply by applying analytical load flow calculations

Wendelin Angermann, Robert Schürhuber – TU Graz

Modular Synthesis of DC Grids through Ordinary Differential Equations

Anton Wichmann, Robert Annuth, Christian Becker – TU Hamburg

10:30 – 11:00 Coffee break

11:00 – 12:30 Session 2: Inverter based grids (1)

Prof. Dr.-Ing. Steffen Bernet – TU Dresden

Session opening

Evaluating Grid-forming Converter Performance: Insights from Power Hardware-in-the-Loop Testing

Gregor Schöpf, Philipp Hackl, Ziqian Zhang, Robert Schuerhuber – TU Graz

Employing a Reduced Component Count Inverter Fed by Multiple Sources for Grid Support

Gabriel Maier Cocco, João Pedro Scherer Cipriani, Christoph Sauer, Martin Wolter, Fábio Ecke Bisogno, Humberto Pinheiro - OVGU Magdeburg

Virtual impedance concept for voltage angle-based operation in converter-dominated grids

Kiarash Ghanbariadi, Hassan Alhomsy, Dirk Westermann – TU Ilmenau

Using a Doubly Fed Induction Machine (DFIM) in an Active Filter for Grid Commutated Rectifiers - A Feasibility Study

Ludwig Jostes, Simon Puteanus – TU Dresden

12:30 – 13:30 **Lunch break**

13:30 – 15:00 **Session 3: Inverter based grids (2)**

Prof. Dr.-Ing. habil. Martin Wolter – OVGU Magdeburg

Session opening

Hysteresis Current Control for the Three-Phase PFC-Rectifier with two AC side Transistors
BIrectifier P2S6

Simon Peter, Liska Steenbock, Karl Stephan Stille, Jan Boris Loesenbeck – Bielefeld University of Applied Sciences and Arts

Open-Circuit Fault Detection and Localization in Modular Multilevel Converters Based on Transformer Neural Networks

Navid Rajabi, Alireza Pourfaraj, Ahmad Kalhor, Hossein Imaneini – CAU Kiel/ University of Teheran

An Extendable High Step-up DC-DC Converter with Quasi-Parabolic Voltage Gain

Kavian Kamalinejad, Seyed Hossein Aleyasin, Mehdi Abbasi Ghadi, Alireza Pourfaraj, Hossein Imaneini - CAU Kiel/ University of Teheran

Comparison of different grid modeling structures for fault ride through analysis

Darko Brankovic, Robert Schürhuber, Herwig Renner – TU Graz

15:00 – 15:15 **Coffee break**

Excursion HIGHVOLT Prüftechnik GmbH

15:15 – 16:00 **Approach**

16:00 – 18:00 **Guide through the production halls**

18:00 – 18:45 **Return**

20:00 – 23:00 **Conference dinner**

23:00 **Close of day two**



PESS 2024 Program

Wednesday, 23. October

08:30 – 09:00 Registration and coffee

09:00 – 10:30 **Session 4: Electricity Market**
Martin Lieberwirth – TU Dresden

Session opening

Impact of Locational Marginal Electricity Pricing on future Industrial Energy Systems in Germany

Felix Flatter, Lisa Reis, Stefan Goetz - University of Kaiserslautern-Landau

Optimized Sizing of Battery Energy Storage Systems in the Energy Arbitrage Business for Industrial Customers

Luis van Sandbergen, Diego Hidalgo Rodríguez, Michael Römmich - Ruhr West University of Applied Sciences

Analysis of the Spatial Distribution of Electricity Theft: Case Study for Delimiting the Inspection Area

Natalia Bastos de Sousa, Leonardo Silva, Vinicius J. Garcia, Kamila Stromm, Daniel P. Bernardon, Martin Wolter, Otacílio O. Carneiro Filho - OVGU Magdeburg

Smart Contracts and Transactive Energy in Microgrid Energy Management – A Review

Renata Rodrigues Lautert, Martin Wolter, Luciane Neves Canha, Daniel Pinheiro Bernardon, Mauro dos Santos Ortiz – OVGU Magdeburg

10:30 – 11:00 Coffee break

11:00 – 12:30 **Session 5: DER Integration/ Smart Grid**
David Riebesel – FAU Erlangen

Session opening

Reassessing the real world simultaneity factors for solar and wind feed-in for a medium-voltage grid

Dennis Weispfennig, Pawel Lytaev - University Kassel

Analysis of low voltage grid state estimation with limited measurement devices

Jonas Giebeler, Thomas Engelmann, Jens Haubrock - Bielefeld University of Applied Sciences and Arts

Potential of battery energy storage systems to avoid grid expansion in the low-voltage grid

Julius Dresselhaus, Katrin Schulte, Katrin Handel Jan Arens - University Bielefeld

Scenario Modelling and Analysis of Burgwedel's Energy System for Sustainable Grid Infrastructure

Abhishek Verma, Devanand Yadav, Ines Hauer – TU Clausthal

12:30 – 13:30 Lunch break

Session 6: Sector coupling, Protection and Diagnostic of grid componnts

Dr.-Ing. Thomas Werner – DNV GmbH

Session opening

Design approach for a low carbon energy supply in buildings by combining green hydrogen with thermal and electrical components

Farhang Ebrahimnezhad, Ralf Benger, Ines Hauer – TU Clausthal

Design and Planning Renewable Energy Based Hydrogen Refueling Station for Trains

Amine Drissi, Mohammed Ouassaid - Mohammed V University in Rabat, Morocco

Evaluation of Effect of Submarine Cable Models on Distance Protection Performance

Muhammad Zeeshan Khattak, Thanakorn Penthong, Mirko Ginocchi, Nisai Fuengwarodsakul, Ferdinanda Ponci, Antonello Monti - KMUTNB, Bangkok, Thailand/ RWTH Aachen

Employment of Thermal Cable Reserves for Curative Congestion Management

Carsten Thomas Gatermann, Franz Linke, Dirk Westermann – TU Ilmenau

15:00 – 15:30 Kaffeepause

15:30 – 16:00 Closing ceremony

Prof. Dr.-Ing. Peter Schegner – TU Dresden

15:15 – 16:00 End of the event
