

POWER AND ENERGY STUDENT SUMMIT 2021

25 - 26 November 2021, Online Conference

DAY 1



Session
Chair

8:30 Welcome & Opening Speech

Universität Kassel & Fraunhofer IEE, Martin Braun, Axel Bangert

9:00 Keynote Session I

System operation challenges on our common journey towards a green power system

50Hertz, Anne-Katrin Marten

Martin
Braun

9:30 Interactive Presentation

Thinking energy transition on a European level

50Hertz, David Schönheit, Timo Breithaupt

10:00 BREAK

10:15 Paper Session I

Grid Planning and Energy management - Power Quality, Power Distribution System, Storage

10:15 ID 9 Parameters of Rapid Voltage Changes and Their Effects on Power Quality

Till Garn, Cornelius Biedermann and Bernd Engel | TU Braunschweig

10:35 ID 11 Transfer of automated grid planning methods from power to gas distribution grids

Christoph Klaassen and Tanja Kneiske | Fraunhofer IEE

10:55 ID 26 Harmonic Fingerprint Measurement for Characterization of LED Street Lighting

Farhad Safargholi | Chemnitz University of Technology

11:15 ID 10 Analysis of user behavior for modeling an electric vehicle loading profile generator

Fynn Liegmann, Alen Murtovi, Michael Kelker & Jens Haubrock | FH Bielefeld

11:35 ID 22 Hierarchical Online-Optimization for the Control of Flexible Loads and Generators in Distribution Grids

Benjamin Fritz, Hanko Ipach and Christian Becker | Hamburg University of Technology

Lars
Lauen

12:00 BREAK

13:00 Keynote Session II

New Tasks for Grid Calculations in Distribution Systems

EAM Netz, Kai Boldt

Sebastian
Stock

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13:30 Paper Session II

Grid Operation I - Operation, Converter and Control

- 13:30 ID 6 Potentials of a cost-optimized application of regulated distribution transformers in urban low-voltage grid planning with a high share of charging infrastructure, heat pumps and photovoltaic systems
Fabian Göbelsmann, Patrick Wintzek, Shawki Ali, Markus Zdrallek, Julian Monscheidt, Ben Gemsjäger & Adam Slupinski | University of Wuppertal
- 13:50 ID 7 Operational Strategies for Battery Energy Storage Systems for Corrective Congestion Management
Julian Richter and Johannis Porst | FAU Erlangen-Nürnberg
- 14:10 ID 14 Design of LCL Filter for DC Converter by Using Analytical Equations
Jianfeng Wei, Uwe Rädcl & Jürgen Petzoldt | Technical University Ilmenau
- 14:30 ID 12 Optimization of market- and grid-related measures in transmission system congestion management with an AC power flow formulation
Moritz Blunck, Yannic Harms and Denis Mende | Fraunhofer IEE
- 14:50 ID 23 From a distributing to a generating network: Assessing PV hosting capacity under uncertainty in distribution grids
Steffen Kortmann, Xuejiao Han, Marius Schwarz and Gabriela Hug | ETH Zurich

Sebastian
Stock

15:15 BREAK

15:30 Virtual Visit

EAM Control Center
EAM Netz, Timm Eberwein

Gourab
Banerjee

16:00 Socializing I

Work adventure tour with Young Energy Net

17:00 Official end of first day and possibility to socialize further

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DAY 2



Session
Chair

9:00 Keynote Session III

Smart Infrastructure in 2030 - Planning Urban Energy System

SIEMENS, Ben Gemsjäger

Edwin
Camilo
Mora
Gil

9:30 Paper Session III

Grid Operation IIa - Restoration, Short-circuit/Fault and Protection

9:30 ID 15 Application of graph theory for automatic restoration distribution networks

Artem Kashtanov, Martin Wolter and Eric Glende | Otto von Guericke
University Magdeburg

9:50 ID 17 Higher harmonics influence on stability of arcing single phase to earth
faults in 6-10 kV networks with arc-suppression coil

Yuri D. Kutumov, Tatyana Yu. Shadrilkova & Vladimir A. Shuin | Ivanovo
State Power Engineering University

10:10 ID 20 Calculation of Damping Coil Parameters to Limit the Short Circuit Current
in Rectifier Stations

Sohel Ahmad | Elpro GmbH

Sebastian
Wende-
von Berg

10:30 BREAK

10:45 Paper Session III

Grid Operation IIb - Restoration, Short-circuit/Fault and Protection

10:45 ID 24 Investigating and Mitigating Harmonic Load in Island Operation Mode

Kevin Karp, Felix Heider, Marc Florian Meyer & Detlef Schulz |
Helmut-Schmidt-Universität

11:05 ID 25 Adaptive and Automated Protection Settings for Over-Current Relays in
Radial Grid Configuration

Pawel Lytaev, Gourab Banerjee and Jonas Haack | Hitachi ABB Power Grids,
University of Kassel

Sebastian
Wende-
von Berg

11:30 Socializing II

SIEMENS Break Out Sessions

SIEMENS, Ben Gemsjäger, Andreas Luxa, Sebastian Schreck

Andrea
Schön

12:00 BREAK

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DAY 2



Session
Chair

13:00 Paper Session IV

High Voltage Engineering & Cross-Cutting - Modelling and Simulation

- 13:00 ID 8 **Towards Low-Carbon Multi-Energy Systems: The Hessian Energy Transition**
Sizhang Feng, Leon Floeer, Felix Görzel, Dennis Michael Jöckel, Julia Barbosa and Florian Steinke | Technical University of Darmstadt
- 13:20 ID 13 **Research on Power System Network Equivalent with Different Methods**
Jianfeng Wei, Hui Cai, Teng Jiang & Dirk Westermann | Technical University Ilmenau
- 13:40 ID 16 **State-based modeling of controllable power system components via stochastic activity networks**
Alicia Schneiders and Jonas Haack | University of Kassel
- 14:00 ID 18 **Approximation of nose curves with conic sections**
Normen Lüttge and Martin Wolter | Otto-von-Guericke University Magdeburg
- 14:20 ID 19 **Implementation of a Line Search Algorithm to determine the optimal Trade-off between Grid Operation and Grid Expansion in the German Transmission Grid**
Nicolai Damm, Yannic Harms, David Sebastian Stock and Martin Braun | Fraunhofer IEE

Maryam
Majidi

14:45 BREAK

15:00 Highlights Fraunhofer

Fraunhofer IEE

- 15:00 **EnDaSpace**
Fraunhofer IEE, Volker Berkhout
- 15:10 **KI Spotlight Probabilistic Grid State Estimation**
Fraunhofer IEE, Sebastian Wende-von Berg
- 15:20 **Fraunhofer Spin-Offs: From Science to Application**
Fraunhofer IEE, Leon Thurner

Andrea
Schön

15:30 Award Ceremony & Closing Speech

Young Energy Net & Universität Kassel

Martin
Braun

16:00 End of the conference and possibility to socialize further

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