

Einladung/Invitation „FEIN e.V. Colloquium“

(For Members and Guests of FEIN e.v. – Cost-free)

9th and 10th October (Day 1 9:00-16:00/Day 2 9:00-16:30)

Mathieustraße 10, Aachen

E. ON Energy Research Center

Rooms: BSZ 00.19/Seminar Room 23



Speaker:

Dr. Andrea Fioravanti

Dr. Andrea Fioravanti graduated with honors in Electrical Engineering from the University of L'Aquila, after an internship at ESIEE-Amiens, France. He completed his PhD in 2021 with a thesis on the resilience of electric systems and is currently a researcher and professor at the same university. Dr. Fioravanti teaches Electric Power Systems and contributes to courses on smart grids and power distribution. He is an editorial assistant for the "International Journal of Emerging Electric Power Systems" and the "Journal of Circuit, Systems and Computers". His research includes publications on power quality, power system resilience, and IoT applications.

„Seminar Series on HVDC Power Transmission Systems“

The seminar series is in English, followed by a get-together, and structured as follows:

FEIN e.V. – Förderer der Energie- und Informationstechnik für zukunftsfähige Netze Aachen e.V.

Chair: Univ.-Prof. Antonello Monti, PhD, Deputy Chairperson: Dipl.-Ing. Bettina Schäfer

Treasurer: Wilfried Gier, Secretary: Alexandra Bach

Headquarters: RWTH Aachen, E.ON Energy Research Center – Mathieustraße 10 – 52074 Aachen

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Day 1 - Schedule (9:00 AM – 4:00 PM)

- **9:00 – 9:15:** Introduction and Welcome
 - **Section 1: DC Power Transmission Technology** (9:15 – 11:05 in BSZ 19)
 - Evolution of HVDC Transmission
 - Comparison of HVAC and HVDC Systems
 - Typology of HVDC Transmission Systems
 - Components of HVDC Transmission Systems
 - **Section 2: Converter and HVDC System Control** (11:15 – 13:05 in BSZ 19)
 - Analysis of Simple Rectifier Circuits
 - Required Features of Rectification Circuits for HVDC Transmission
 - Analysis of HVDC Converter
 - **Section 3: HVDC System Control** (14:05 – 16:00 in Seminar Room 00.23)
 - HVDC System Control Features
 - Control Modes
 - Control Schemes
 - Control Comparisons
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Day 2 - Schedule (9:00 AM – 4:30 PM)

- **9:00 – 9:15:** Introduction for Day 2
- **Section 4: Converter Faults and Protection** (9:15 – 11:05 in Seminar Room 00.23)
 - AC Faults
 - DC Faults
 - DC Circuit Breakers
 - DC Fault Management
- **Section 5: Analysis of AC/DC Systems** (11:15 – 13:05 in Seminar Room 00.23)
 - Component Models for the Analysis of AC/DC Systems
 - Power Flow Analysis of AC-DC Systems
 - Transient Stability Analysis
 - Dynamic Stability Analysis
- **Section 6: Multi-terminal HVDC Systems** (14:05 – 16:00 in Seminar Room 00.23)
 - DC Grid
 - Advances in HVDC Transmission
 - HVDC System Application in Wind Power Generation
- **Recap, Q&A, Closing** (16:00 - 16:30)

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