

Accommodation

Hotels near City Center:

Radisson BLU Limfjord, Phønix Hotel, Cablnn Hotel, First Hotel, Comwell Hvide Hus, etc.

Hotel near Aalborg University:

Scandic Aalborg Øst

More information can be found at **Visit Aalborg:**

<https://www.visitaalborg.com/In-int/danmark/hotels/hotels-aalborg>



Bus Information:

Bus No. 2 to AAU Kantinen, then walk for 2 minutes to Pontoppidanstræde 111.

Bus No. 12 to Willy Brandts Vej, then walk for 8 minutes to Pontoppidanstræde 111.

Cash in DKK only on buses.

Taxi Information:

Dantaxi 4x48, Tel: +45 98101010

Registration

The registration is **free**. The deadline for the registration is **28 November 2018**. For the registration please fill out the registration form which is available from the QR code:



Organization

Organizer IEEE PELS TC1 Power & Control Core Technologies
Department of Energy Technology
Aalborg University

Chairmen Prof. Xiongfei Wang
Aalborg University, Denmark
Dr. Łukasz Kocewiak
Ørsted, Denmark

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Venue Room 1.177, Pontoppidanstræde 111
Department of Energy Technology
Aalborg University, Aalborg, Denmark



IEEE Workshop on Representations of Power Electronics for Grid Dynamic Studies

5 December, 2018

Aalborg University, Denmark



DEPARTMENT OF ENERGY TECHNOLOGY
AALBORG UNIVERSITY

Representations of Power Electronics for Grid Dynamic Studies

It is our pleasure to invite you to the Workshop on Representations of Power Electronics for Grid Dynamic Studies, to be held in Aalborg, Denmark, on 5 December 2018. The workshop is sponsored by the IEEE Power Electronics Society (PELS).

Power electronics devices have been widely used with renewable power generation, energy-efficient power transmission, distribution and consumption. The full controllability of power electronics devices enables to modernize the electric power grid with more flexibility, yet it also poses new challenges to the dynamic operations of power systems.

This workshop intends to bring together the power electronics and power system engineers to share the recent research and industry practices on the modeling and dynamic studies of power electronic based power systems. There will be a number of invited presentations given by the leading experts from both the industry and academia, and a panel discussion on the challenges for dynamics and control of the future 100% converter-based power systems.

All presentations and discussions in the workshop will be in English, and the workshop registration is free of charge.

We look forward to meeting you in Aalborg.

Xiongfei Wang, Aalborg University, Denmark

Łukasz Kocewiak, Ørsted, Denmark

Programme

08:00 Welcome Coffee

08:30 Welcome and Opening

Harmonic Stability in Power Electronic based Power Systems

Xiongfei Wang, Aalborg University, Denmark

09:00 Small-signal Stability Studies in Offshore Wind Power Plants

Łukasz Kocewiak, Ørsted, Denmark

09:30 System Modelling for Offshore Wind Power Plants within TenneT

Christoph Buchhagen, TenneT, Germany

10:00 Grid Impacts and Technical Challenges for the Bulk Power System Integrating with Large Renewable Energy

Yongning Chi, China EPRI, China

10:30 Coffee Break

11:00 Energinet's Experience for the Power Electronics Converter Related Transient Studies

Jun Bum Kwon, Energinet, Denmark

11:30 A Practical Sub-synchronous Oscillation in an Offshore Wind Power Plant: Modelling, Eigenvalue-based Analysis Approach and Validation

Lei Shuai, Siemens Gamesa, Denmark

12:00 Impedance Based Analysis of Interconnected Power Electronics Systems: the Impedance Operator and Partition Points

Marta Molinas, NTNU, Norway

12:30 Lunch

13:00 AAU Lab Tour

13:30 Grid-forming Power Electronics Systems: Control Implementation and Stability Challenges

Lennart Harnefors, ABB/KTH, Sweden

14:00 Modeling and Simulation of Complex Converters

Min Luo, PLECS, Switzerland

14:30 Impact of VSC on Power System Voltage Small-Signal Stability

Yin Sun, DNV GL Energy, Netherlands

15:00 Coffee Break

15:30 Online Measurement and PHIL Emulation of Power System Impedance to Test Adaptively Controlled Inverters

Tuomas Messo, Tampere University of Technology, Finland

16:00 Challenges in Real-time Simulation of Power Electronics Enabled Power Systems

Murillo Almeida, Typhoon HIL, USA

16:30 Panel Discussion: Challenges on Dynamic Analysis of 100% Converter-Based Power Systems

17:30 End of Workshop