

WORKSHOP

ADVANCED LABORATORY TESTING METHODS FOR MODERN POWER SYSTEMS

DATE

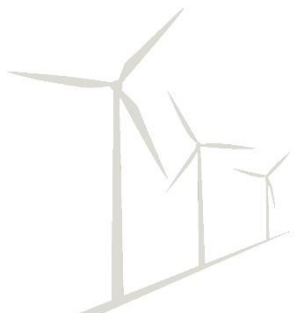
May 8th – 10th 2023

LOCATION

**TU Dortmund University
Germany**

**AIST • AIT • DTU • Fraunhofer IWES • Fraunhofer IEE •
H&S Hard- & Software Technologies • Sandia National Labs
• TU Dortmund • University of Strathclyde • VTT Finland**

**Electric Energy Systems University Enterprise
Training Partnership**



tu technische universität
dortmund



Schedule

MONDAY, 8TH MAY 2023

10:00 – 10:30

Registration

10:30 – 10:45

Opening Session

10:45 – 12:00 🇬🇧

Advanced Laboratory Testing Methods Supporting Grid Transition at Pace • Mazheruddin Syed • University of Strathclyde

• **Lunch break** •

13:30 – 14:30 🇫🇮

Wireless 5G for Smart Grid Protection Communication • Petra Raussi • VTT Finland

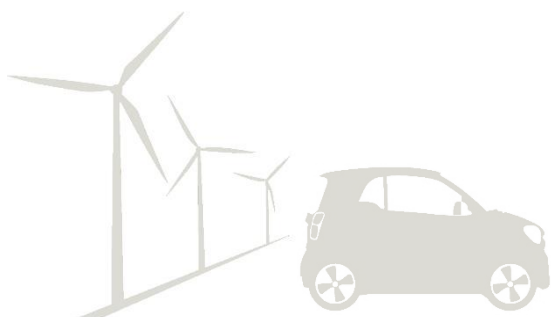
14:45 – 16:00 🇺🇸

Cybersecurity and Protection of DERs • Summer Ferreira • Sandia National Labs

• **Coffee break** •

16:30 – 17:30 🇩🇪

HIL Testing of Multi-MW Wind Turbines • Florian Hans • Fraunhofer IWES



Schedule

TUESDAY, 9TH MAY 2023

09:00 – 10:00 

HiL Testing of grid-following and forming inverters • Hiroshi Kikusato • AIST

10:00 – 11:00 

Rapid inverter control prototyping system for comprehensive HIL testing • Tobias Erckrath • Fraunhofer IEE

• **Coffee break** •

11:15 – 12:15 

Automated Testing of control cabinets and protection devices • Jan Arph • H&S Hard- and Software Technologies

• **Lunch break** •

14:00 – 15:00 

PHIL Validation of hardware-independent control algorithms • Rajkumar Palaniappan • TU Dortmund

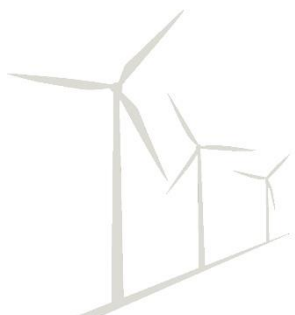
• **Coffee break** •

15:15 – 17:00 

Technical Visit to the Smart Grid Technology Lab • Alfio Spina • TU Dortmund

Evening

• **Dinner** •



Schedule

WEDNESDAY, 10TH MAY 2023

09:00 – 10:00 

Challenges and learnings from advanced testing systems in H2020 ERIGrid project • **Thomas Strasser, Calin Mihai • AIT**

10:00 – 11:00 

System testing for multi-domain energy systems: methodology, use cases and platforms • **Kai Heussen • DTU**

• **Coffee break** •

11:30 – 12:30  

Case study of CHIL with geographically distributed power systems • **Oliver Pohl – Oliver Gehrke • TU Dortmund, DTU***

• **Lunch break** •

14:00 – 15:30 

Hands-on testing with real-time simulators, TU Dortmund

15:30 – 16:00

Final discussion

16:00 – 16:30

Test for ECTS credits

* Live demo subject to laboratory availability during renovation



Contents & objectives

The main focus is on **advanced laboratory testing methods** for modern power systems. The workshop will bring together experts around Europe to discuss topics such as:

- Extensive view of the laboratory testing methods
- Validation with CHIL and PHIL approaches
- Co-simulation with geographically distributed laboratories
- Testing of multi-domain energy systems
- ICT integration to power systems
- Cybersecurity and Protection
- Relevant use cases

The workshop serves as a meeting point between specialists from the industry and research to **exchange ideas** on this emerging field. Numerous **real-life experiences** and examples ranging from early research to daily operations will be discussed.

TARGET AUDIENCE

The workshop is oriented toward professionals from utilities, energy companies, manufacturing companies, universities and other research and development organisations.

FOR DOCTORAL STUDENTS

Participation counts as 2 ECTS



Course fees

MEMBERS OF THE EES-UETP

367.50€

UNIVERSITY NON-MEMBERS OF THE EES-UETP

900€

INDUSTRY NON-MEMBERS OF THE EES-UETP

1500€

Includes: Participation, material, coffee, lunch and (Tuesday) dinner

REGISTRATION

powersystemtesting.etit@tu-dortmund.de

FURTHER INFORMATION

Rajkumar Palaniappan

Rajkumar.palaniappan@tu-dortmund.de

+49 231 755 2548

Alfio Spina

alfio.spina@tu-dortmund.de

+49 231 755 7546

Ulf Häger

ulf.haeger@tu-dortmund.de

+49 231 755 2394

