



# MONITORING OF POWER SYSTEMS AND THEIR ASSETS

Manchester Conference Centre

Manchester M1 3BB

2 November 2018

## PROGRAMME

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# Programme

08:30 – 09:00 **Registration, tea and coffee**

09:00 – 09:10 **Welcome**

09:10 – 10:00 **Opening Address**

*Prof. Joseph Spencer, The University of Liverpool*

## **10:00 – 11:30 Oral Session 1**

10:00 – 10:30 **Key Note Talk: Applying Data Analysis Techniques to Make Optimal Investment Decisions**

*Ms. Rachel Hodges, TNEI Services*

10:30 – 10:50 **Presentation 1.1: Identification of Outliers in On-shore and Off-shore Wind Farm Monitoring Applications**

*Mingzhe Zou, The University of Edinburgh*

10:50 – 11:10 **Presentation 1.2: Analysis of the Variables Influencing Inter-area Oscillations in the Future Great Britain Power System**

*Surat Asvapoositkul, The University of Manchester*

11:10 – 11:30 **Presentation 1.3: A Wide Area Monitoring and Control System for Fast Frequency Response**

*Mingyu Sun, Rasoul Azizipanah-Abarghooee, The University of Manchester*

11:30 – 11:50 **Networking, tea and coffee**

## **11:50 – 12:45 Panel Session**

*Dr. Sasa Djokic, Reader in Energy Systems, The University of Edinburgh*

*Ms. Sarah Belghiti, Data Scientist, Valtech*

*Mr. Marius Marinoiu, Product Manger, Weidmann*

## **12:45 – 13:30 Lunch**

## **13:30 – 15:00 Poster Session**

**Poster 1: DFIG Control in Off-the-grid Applications**

*Inaki Erazo-Damian, The University of Manchester*

**Poster 2: Acoustic Noise Emitted from Overhead Line Conductors with Superhydrophobic Coatings**

*Xu Zhang, The University of Manchester*

**Poster 3: Understanding Solid Insulation Degradation Using Chemical Analysis**

*Harry McDonald, The University of Manchester*

**Poster 4: Thermal Evaluation of Railway Transformer used in Autotransformer Feeding Systems**

*Mingyu Han, The University of Manchester*

**Poster 5: An Affine Arithmetic-Based Method for Optimal Control of Active Distribution Networks with High Wind Penetration**

*Duo Fang, The University of Edinburgh*

**Poster 6: Monitoring Wind Power Data to Optimally Value Battery Storage**

*Angeliki Loukatou, The University of Manchester*

15:00 – 15:10

**Networking, tea and coffee**

**15:10 – 17:00**

## **Oral Session 2**

15:10 – 15:40

**Key Note Talk: Continuous On-line Monitoring of High Voltage Electricity Supply Cables**

*Mr. Graham Earp, EA Technology*

15:40 – 16:00

**Presentation 2.1: Condition Monitoring of Transformer Assets via Insulation Materials**

*Zong Yan, The University of Manchester*

16:00 – 16:20

**Presentation 2.2: Transformer Modelling for Frequency Response Analysis (FRA) Diagnosis**

*Bozhi Cheng, The University of Manchester*

16:20 – 16:40

**Presentation 2.3: Superhydrophobic and Icephobic Surface Treatments on Overhead Line Conductors**

*Chengxing Lian, The University of Manchester*

16:40 – 17:00

**Presentation 2.4: Faraday Exchanger: Real-time Monitoring and Control in Distribution Networks**

*Alex Kleidas, Faraday Grid*

**17:00 – 17:30**

**Awards Session & Closing Remarks**

## Keynote Speakers

### Joseph Spencer, Professor, The University of Liverpool

Joe Spencer is a Professor of Electrical Engineering, Director for the Centre of Intelligent Monitoring Systems, the University of Liverpool's Academic lead Sensor City Liverpool Ltd. He gained his B.Eng(Hons) and Ph.D. degrees in Electrical Engineering from the University of Liverpool. After spending years working in the industrial sector related to high voltage and high current engineering, he became an academic staff member in 1989 at the University of Liverpool. His research is in electrical power equipment and intelligent monitoring systems. He is a member of the International Scientific Committee for the State Key Laboratory in Xian Jiaotong University China.

### Rachel Hodges, Managing Director, TNEI Services

Rachel Hodges is the Managing Director of TNEI, a specialist energy consultancy. Rachel is responsible for the strategic direction of the company and provides technical direction and input to key projects. Rachel has considerable experience of power system modelling and planning, including reliability studies. She is a member of the CIGRE working group on availability of HVDC Grids and provides training to Ofgem, Utilities and Finance Groups on the electricity market and technical issues associated with it. Rachel has over 20 years of experience in industry, mostly in the energy sector.

### Graham Earp, Principal Consultant Engineer, EA Technology

Graham Earp is a Principal Consultant Engineer with EA Technology, based in the United Kingdom. He joined EA Technology in 1991 and is currently responsible for evaluating and implementing innovative technologies for the detection of Partial Discharge (PD) in High Voltage plant and equipment. He holds a degree in Electronic Engineering from the University of Liverpool and is a Chartered Engineer with the IET.

## Prizes

The prizes will be judged by a panel made up of academics and engineers from industry and are as follows:

- **£150** for the best oral presentation
- **£100** for the best poster
-  **£100** for the Faraday Grid Award for Research for Industry

## Organising Committee

James Hill

Siwei Liu

Harry McDonald

Mingyu Han

Angeliki Loukatou

Anita Aliu

Yushi Chen

Melike Selcen Ayaz

Shuhang Shen

Loizos Loizou

Zong Yan


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