

RISK Day

5 MARCH 2019

Supergen Energy Networks Hub Risk Day 2019

Peterhouse Theatre
The University of Cambridge, UK

Programme Overview

09:00	Registration and refreshments
09:30	Welcome and kick-off
09:35	Keynote 1 Prof Bert Zwart (TU Eindhoven and Centrum Wiskunde & Informatica) The stylized facts of cascading failures - a mathematicians perspective
10:15	Oral session 1 Stochastic control and optimisation
11:00	Poster Introduction Session (speed round)
11:15	Poster session and refreshments
11:45	Oral session 2 Integrating more renewables
12:30	Lunch and posters
13:30	Keynote 2 Andrew J. T. Smith (The Centre for Digital Built Britain) Bytes and Mortar: the potential for digital to transform the construction and infrastructure sectors
14:10	Oral session 3 Improving reliability analysis
15:10	Poster session and refreshments
15:40	Oral session 4 The value of risk
16:25	Closing remarks
16:30	Drinks reception in the Peterhouse Theatre
17:30	

09:30 – 09:35	Welcome and kick-off
09:35 – 10:15	Keynote 1 Prof Bert Zwart (TU Eindhoven and Centrum Wiskunde & Informatica)
The stylized facts of cascading failures - a mathematicians perspective	
10:15 – 11:00	Oral session 1 Stochastic control and optimisation
O1.1	Stochastic optimization of electric vehicle charging with solar generation <i>Constance Crozier, Dimitra Apostolopoulou, Malcolm McCulloch (University of Oxford, UK)</i>
O1.2	Optimal energy controllers of energy storage systems based on load forecasting for RTG crane networks <i>Feras Alasali (University of Reading, UK), Stephen Haben (University of Oxford, UK), William Holderbaum (University of Reading & Manchester Metropolitan University, UK)</i>
O1.3	Stochastic defence against complex grid attacks <i>Daniel Bienstock, Mauro Escobar (Columbia University, USA)</i>
11:00 – 11:15	Poster Introduction Session (speed round)
P1	Stochastic hosting capacity in LV distribution networks <i>M. Deakin, C. Crozier, T. Morstyn (University of Oxford, UK), D. Apostolopoulou (City, University of London, UK), M. McCulloch (University of Oxford, UK)</i>
P2	Impact of optimising operational reliability in a microgrid <i>Christopher Challen, Spyros Skarvelis-Kazakos (University of Sussex, UK)</i>
P3	Assessing the effect of preventive islanding on power grid resilience <i>Matthias Noebels, Mathaios Panteli (The University of Manchester, UK)</i>
P4	Two-stage vs. multi-stage robust power system planning using binary and linear decision rules: a critical review <i>Shahab Dehghan, Petros Aristidou (University of Leeds, UK)</i>
P5	Assessing the impact of VSC-HVDC on the interdependency of power system dynamic performance in uncertain mixed AC/DC systems <i>Rian Fatah Mochamad, Robin Preece (The University of Manchester, UK)</i>
P6	Data driven uncertainty quantification of large-scale wind farms output and whole system wide risk mitigation <i>Wei Sun, Mingzhe Zou, Gareth Harrison, Sasa Djokic (University of Edinburgh, UK)</i>
P7	Evaluation of customer-oriented power supply risk with distributed PV-storage energy systems <i>Mike Brian Ndawula, Ignacio Hernandez Gil, Antonio De Paola (University of Bath, UK)</i>
P8	Reliable operation of hybrid AC/DC power systems in different time frames under uncertainty <i>Vaishally Bhardwaj, Hakan Ergun, Dirk Van Hertem (KU Leuven, Belgium)</i>
P9	Identifying high-impact contingencies for security constrained optimal power flow <i>Y. Ding, A. Leonard, A. Ahsan, C. Crozier, M. Deakin, M. McCulloch (University of Oxford, UK)</i>
P10	Stochastic modelling of wind derivatives in energy markets <i>Lavagnini Silvia, Fred Espen Benth (University of Oslo, Norway), Luca Di Persio (University of Verona, Italy)</i>
11:15 – 11:45	Poster session and refreshments
11:45 – 12:30	Oral session 2 Integrating more renewables
O2.1	Assessing uncertainties towards an optimal 100% renewable electricity mix in France <i>Behrang Shirzadeh, Philippe Quirion, Quentin Perrier (International Research Center in Environment and Development, CIRED, France)</i>
O2.2	Generalized additive models for short-term electricity demand forecasting <i>Matteo Fasiolo, Yannig Goude, Simon N. Wood (University of Bristol, UK, & Électricité de France S.A. R&D, France)</i>
O2.3	Synthetic Inertia Provision from Wind Turbines under Uncertain Wind Condition <i>Zhongda Chu, Fei Teng (Imperial College London, UK)</i>
12:30 – 13:30	Lunch and posters
13:30 – 14:10	Keynote 2 Andrew J. T. Smith (The Centre for Digital Built Britain)
Bytes and Mortar: the potential for digital to transform the construction and infrastructure sectors	
14:10 – 15:10	Oral session 3 Improving reliability analysis
O3.1	Reliability analysis of offshore grids <i>Bart W. Tuinema, José L. Rueda Torres (TU Delft, Netherlands), Mart A.M.M. van der Meijden (TU Delft & TenneT TSO B.V., Netherlands)</i>
O3.2	Emulation of the availability of an offshore windfarm <i>Jack Kennedy, Kevin Wilson, Daniel Henderson (Newcastle University, UK)</i>
O3.3	A multi-dimensional analysis of reliability criteria: from deterministic N-1 to a probabilistic approach <i>Evelyn Heylen, Marten Ovaere, Stef Proost, Geert Deconinck, Dirk Van Hertem (KU Leuven, Belgium)</i>
O3.4	Elicitation of structured expert judgment to estimate the probability of a major power system unreliability event <i>Tim Bedford, Keith Bell, Abigail Colson (University of Strathclyde, UK), Martine Barons, Simon French (University of Warwick)</i>
15:10 – 15:40	Poster session and refreshments
15:40 – 16:25	Oral session 4 The value of risk
O4.1	A New Approach for Risk Management in Electrical Energy Markets: Risk Sharing Contracts <i>Leontina Pinto, Alexandre Lafranque, Gabriel Torres (Engenho, Brazil)</i>
O4.2	Capacity value of interconnection: what it is, how to compute it and how to use it <i>Simon Tindemans (TU Delft, Netherlands), Matt Woolf, Goran Strbac (Imperial College London, UK)</i>
O4.3	Generation capacity expansion planning model with risk-averse investors <i>Kris Poncelet, Steffen Kaminski, Hanspeter Höschele, Gwen Willeghems, Hakan Ergun, Dirk Van Hertem, Erik Delarue (KU Leuven, Belgium)</i>
16:25 – 16:30	Closing remarks
16:30 – 15:30	Drinks reception in the Peterhouse Theatre