

2nd International Symposium on Energy System Optimization

Program Overview (*Preliminary*)

Day 1

10th of October, 2018

10:00 Opening & welcome coffee

10:30 Keynote:

Modelling societal and governance drivers within an techno-economic energy systems context

Professor Neil Strachan, Director of the University College London UCL Energy Institute

1st Session: Planning and operation of distribution grids

11:30 **Cost optimal design of ZENs energy system**

Dimitri Pinel, NTNU Trondheim

12:00 **Dimensioning of battery storage as temporary equipment during grid reinforcement caused by electric vehicles**

Lukas Held, Karlsruhe Institute of Technology (IHK)

12:30 **Lunch break & networking**

2nd Session: Demand response

13:30 **A discussion of mixed integer linear programming models of thermostatic loads in demand response**

Carlos Henggeler Antunes, University of Coimbra

14:00 **Modelling interactions between market power and demand response**

Mel Devine, University College Dublin

14:30 **Weighted fair queuing as a scheduling algorithm for deferrable loads in smart grids improving distress distribution over a greedy strategy**

Tuncer Haslak, FAU Erlangen

15:00 **Coffee break**

3rd Session: Optimal power flow 1

15:30 **Policy optimization for optimal power flow under uncertainty**

Tillmann Mühlfpfordt, Karlsruhe Institute of Technology (IAI)

16:00 **Distributed optimal power flow – feasibility vs. optimality**

Alexander Engelman, Karlsruhe Institute of Technology (IAI)

16:30 **ADMM based decoupling techniques for unit commitment problems considering grid restrictions**

Viktor Slednev, Karlsruhe Institute of Technology (IIP)

17:00 **End of the first conference day**

18:30 **Dinner & networking**

4th Session: Energy system integration
08:30 A green copper concept: on the design of a full-renewable energy supply for its production <i>Simón Moreno Leiva, Stuttgart University</i>
09:00 Effects of power changes on the gas network / Optimal control of coupled power and gas networks <i>Eike Fokken, Mannheim University</i>
09:30 Coffee break
10:00 Keynote: Modelling challenges for energy systems integration – the good, the bad and the ugly <i>Mark O'Malley, Chief Scientist, Energy Systems Integration and Senior Research Fellow at the National Renewable Energy Laboratory, USA.</i>
5th Session: Optimal power flow 2 (AC/DC)
11:00 Security analysis for embedded HVDC in transmission grids <i>Susanne Schmitt, ABB Ladenburg</i>
11:30 Decentralized optimal power flow in hybrid AC-DC grids <i>Nico Meyer-Hübner, Karlsruhe Institute of Technology (IHK)</i>
12:00 Lunch break & networking
13:00 Panel discussion Bridging the gap between mathematical modelling and policy support
14:00 Coffee break
6th Session: Transmission and generation expansion
14:30 The cost-benefit of transmission expansion in a sector-coupled, highly-renewable European energy scenario <i>Tom Brown, Karlsruhe Institute of Technology (IHK)</i>
15:00 The performance of planning reserve constraints to deal with demand uncertainty in long-term planning models <i>Tim Mertens, KU Leuven</i>
15:30 Generation and transmission expansion in Uganda: The cost of minimising sub-national energy inequalities <i>Philipp Andrew Trotter, University of Bath</i>
16:00 Summary & closing