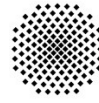




Heidelberg Institute for
Theoretical Studies



UNIVERSITÄT
HEIDELBERG
ZUKUNFT
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University of Stuttgart
Germany

2nd International Symposium on Energy System Optimization – IESO 2018

Bridging the Gap between Mathematical Modelling and Policy Support

www.iseso.org

Karlsruhe Institute of Technology, Karlsruhe, Germany

October 10th-11th 2018

Call for Papers

Scope

The ongoing transformation of the energy system with an emphasis on low-carbon generation, decentralized renewable energy sources (RES) and the diffusion of smart grid technologies challenges today's systems and mechanisms. The rapid expansion of RES requires a structural rearrangement of the system to maintain the current level of supply security in future.

The power system plays a key role in this context. While today's power system and grid infrastructure have been designed for centralized and controllable power production in conventional power plants, the RES expansion leads to an increasingly uncertain, volatile and decentralized supply. To manage the system safely under these changing conditions, new technological and institutional innovations will be required. Moreover, methods are needed to ensure a dependable operation of existing power grids, but also to support long-term power system planning and design robust future power grids, both on a regional scale supporting microgrid design and on a global scale supporting national and continental transmission planning. Providing efficient optimization methods to support analysis in these different contexts is a major challenge.

Different disciplines, including mathematics, economics and electrical engineering, need to cooperate in order to support power system planning, ensuring an affordable, secure and environmentally friendly power supply. IESO 2018 therefore seeks to foster interdisciplinary discussions and especially welcomes submissions with an integrative perspective. Topics to be covered include, but are not limited to:

- Mathematical modelling of power grids on all voltage levels
- Power grid optimization under uncertainty
- Efficient algorithms for OPF analyses
- Economic, environmental and reliability aspects of energy system and grid management
- Combined generation and transmission expansion planning
- New strategies for power grid operation and optimization under uncertainty
- Energy system integration (e.g., analysing the impact of power-to-heat or power-to-gas) and DSM
- Case studies on
 - o power grid operation and expansion
 - o energy system optimization
 - o deriving policy implications from energy system models



Keynotes

The symposium will offer a mix of Keynote presentations and submitted papers with ample time for discussion and reflection. We are happy to announce the following Keynote presentation at ISESO 2018:

Mark O'Malley, Chief Scientist, National Renewable Energy Laboratory (USA): "Modelling Challenges for Energy Systems Integration – The Good, the Bad and the Ugly"

Further Keynote speakers will be announced on the symposium website in due time.

Submission of contributions

We welcome submissions in the form of full papers of up to 8 pages or extended abstracts of up to 2 pages. Extended abstracts should be structured as follows: 1) overview, 2) methods and data, 3) results, 4) conclusions. For abstracts as well as full papers, the templates provided on the symposium website (www.iseso.org) must be used. Submissions should be sent by email to iseso@h-its.org.

Post-Symposium Proceedings

Accepted full papers will be published in symposium proceedings. To see the Proceedings of the first International Symposium on Energy System Optimization, please follow this link:

<http://www.springer.com/gp/book/9783319517940>.

Important Dates

- **Extended paper and abstract submission:** 15.06.2018
- Notification of acceptance: 13.07.2018
- Final paper submission and author's registration: 10.08.2018
- Registration deadline for all other participants: 07.09.2018
- Symposium date: October 10th-11th 2018

Registration fees (covering conference material, refreshment and lunch/dinner)

- (PhD) Student registration: 200,00 €
- Regular registration: 300,00 €

Conference Venue

The symposium takes place in the historic Höpfner Castle, which is located in the eastern part of Karlsruhe, next to the main campus of Karlsruhe Institute of Technology.

Accommodation

Recommendations for accommodation will be provided on the conference website.

Organising Committee

- Wolf Fichtner, Armin Ardone, Viktor Slednev: Institute for Industrial Production (IIP), Karlsruhe Institute of Technology (KIT)
- Vincent Heuveline, Nils Schween: Heidelberg University, Interdisciplinary Center for Scientific Computing (IWR)
- Thomas Leibfried, Michael R. Suriyah, Nico Meyer-Hübner: Institute of Electric Energy Systems and High-Voltage Technology (IEH), KIT
- Valentin Bertsch, ESRI and Trinity College Dublin, as of 01/08/2018: German Aerospace Center (DLR) and University of Stuttgart