CALL FOR PAPERS

10th Doctoral Workshop Energy Informatics 2019

September 24th / 25th, Salzburg, Austria

For the 10th time, the doctoral workshop Energy Informatics discusses the role of ICT and computer science in future energy systems. The energy transition (Energiewende) – a politically supervised and accelerated shift in direction from nuclear and fossil fuels to sustainable sources of energy – yields drastic changes in the operation of existing energy supply and demand systems and requires a paradigm shift in both their planning and operation. The technological aspects as well as the involvement of consumers play a crucial role in the necessary transformation process. Hence, not only the development, evaluation and application of new technologies and methods but also the complex interactions between them and with their users have to be investigated. These challenges are not limited to the domain of electric power and include electricity, mobility, gas, and heat supply systems.

The workshop Energy Informatics 2019 invites doctoral / PhD students whose research focuses on the intersection of informatics, power engineering, and energy economics. This workshop presents an opportunity for PhD students to discuss their current work – ranging from preliminary ideas to project/thesis results – with researchers from within the same community. Hence, long papers, project descriptions, and progress reports in the form of short papers are welcome. Former participants of the workshop may be accepted for presentation of significant progress in their PhD project and should state clearly the progress compared to earlier submissions.

The aim of this workshop is to support doctoral / PhD students in their research and in creating a basis for a high quality submission to a signature conference or journal. Relevant topics include, but are not restricted to:

Algorithms

- Coordination of decentralized producers and consumers, e.g. demand response and demand side management
- Multi-agent systems, autonomous systems, distributed artificial intelligence, self-organization
- Multi-domain approaches in power system optimization (e.g. power-2-gas, hybrid networks, etc.)
- Data analytics in energy data

Software and system architectures

- Information technology for the integration of distributed energy systems
- Standards, data and information models, reference architectures
- Service architectures for energy data life cycles
- Communication technologies

Economic aspects and sustainability

- Energy market design for renewable energy
- Grid investments, regulation and pricing
- Valuation of demand side flexibility and storage capacities
- Innovative business models and service design
- Incentives and pricing mechanisms for demand side management

Dependability, safety and resilience

- Collection and use of energy data
- Security and privacy issues in energy management systems
- Aspects of quality of service (QoS) in power supply (power quality issues, requirements engineering regarding resilience, robustness, and real-time constraints)

Modeling, simulation, and validation

- Modeling of components and (sub-)systems of power and energy systems
- (Co-) simulation approaches for the assessment of planning and control approaches
- Advanced validation and testing approaches for smart grid systems and components
- Development of system level validation procedures and benchmark criteria
- Real-time simulation and hardware-in-the-loop (HIL) based assessment methods for smart grids

Specific applications

- IT, control concepts, and services for electric mobility / intermodal mobility systems / battery charging of electric vehicles
- Automation Systems
- Industrial Load Management
- Energy management for industrial processes (Industry 4.0)
- Multi-commodity / multi-modal control approaches in energy systems

English language papers describing the doctoral research topic are to be submitted in PDF format directly in the Easy Chair system at: https://easychair.org/conferences/?conf=phd-eninf19**.** The submissions should detail the research questions and the methodology chosen for answering them. Long papers (including results) with a maximum of 12 pages and short papers with a maximum of 6 pages will be accepted. Contributions exceeding this limit will not be accepted. Submissions must reflect the structure as given in the template provided at: https://fg-wi-eins.gi.de/phd-workshop-energy-informatics/

Information about the format of the workshop

Numbers of authors: Single-authorship of doctoral / PhD students is expected. A mention of the supervising professor(s) is required to avoid conflicts in the reviewing process.

Shepherding process: An intensive and interactive reviewing process begins with the acceptance of a paper to the shepherding process. The process is designed to support the submitter in clearly defining her/his doctoral project. The accepted papers will be assigned to an individual member of the program committee called “shepherd” who supports the author in an iterative process sharpening the presentation of the project and ending up in a high-quality publication. By submitting a contribution to the doctoral workshop, the author agrees to participate in this process.

Language and length of presentation: English language contributions are mandatory; the presentations and discussions of the work are also in English. This is to ensure that all invited domain experts (students and committee members) are able to participate in constructive discussions. The time slot for presentation is 30 minutes for long papers and 15 min for short contributions followed by 30 min for intensive discussions. Guidelines for the presentations will be provided.

Publication format: The aim of the workshop is to support participants in their progress towards a doctoral degree and creating a quality submission. All accepted contributions will be presented within a poster session at the conference DACH+ Conference on Energy Informatics (see below) and included in the conference proceedings published at the SpringerOpen Journal Energy Informatics as poster abstracts (no fee). A subsequent publication as a journal paper in the same journal is supported for best papers.

Cooperation with DACH+ Conference on Energy Informatics: The workshop is organized in cooperation with the DACH+ Conference on Energy Informatics. All presenters at the doctoral workshop are automatically registered for this conference. A joint poster session provides the opportunity to present and discuss the work with a broader audience.

Details on the schedule of submission and the workshop (a.k.a. important dates):

April, 12th, 2019:	Submission of papers
May, 24th, 2019:	Decision acceptance (assignment of shepherds) / rejection
May, 24th - August, 23th, 2019:	Incremental revision process between author and shepherd
July, 8th, 2019:	Delivery of abstracts for conference proceedings
September, 24th/25th, 2019:	10th Doctoral Workshop Energy Informatics
September, 26th/27th, 2019:	8th DACH+ Conference on Energy Informatics

Organizing committee

- Astrid Nieße, Group Energy Informatics, Leibniz Universität Hannover, niesse@ie.uni-hannover.de
- Dominik Engel, Center for Secure Energy Informatics, FH Salzburg, dominik.engel@en-trust.at
- Sebastian Lehnhoff, OFFIS – Institute for Information Technology, lehnhoff@offis.de
- Eric Veith, OFFIS – Institute for Information Technology, eric.veith@offis.de

This workshop is organized by the Leibniz University of Hannover in cooperation with the Center for Secure Energy Informatics, Salzburg and supported by the German Informatics Society's (Gesellschaft für Informatik (GI)) Special Interest Group "Energy Informatics (Energieinformatik)" (GI WI-EINS).

This year's edition of the workshop is also supported by the Austrian Computer Society.

For further questions please contact us at: phd-eninf19@offis.de

Program committee

The workshop's program committee is updated regularly based on active trends in energy informatics. It currently consists of about 30 experts and scientists from Austria, Germany, Great Britain, Norway, the Netherlands, and Switzerland. The final list of scientists joining the program committee is published on: https://fg-wi-eins.gi.de/phd-workshop-energy-informatics/

Vlad Coroama, ETH Zürich, Switzerland
Clemens van Dinther, HS Reutlingen, Germany
Wilfried Elmenreich, AAU Klagenfurt, Austria
Dominik Engel, Salzburg University of Applied Sciences, Austria
Christoph Flath, University of Würzburg, Germany
Reinhard German, University of Erlangen – Nürnberg, Germany
Johannes Gärttner, KIT, Germany
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