International Workshop on

Demand Modeling and Quantitative Analysis of Future Generation Energy Networks and Energy Efficient Systems

FGENET 2014

Call for Papers

March 19, 2014
Bamberg, Germany

hhttp://www.mmb2014.de/index.php/workshops/fgenet2014/

General Information

Globally increasing energy demands arising from growing mobility, Internet traffic, industrial and private emissions and the steadily increasing depletion of fossil resources generate a great challenge in engineering and science.

The workshop FGENET 2014 at MMB & DFT 2014 will focus on modeling, analysis, and management of future generation energy networks, their components, attached energy-efficient systems and their monitoring, demand and planning methods. The related scientific concepts are arising from various scientific fields including economics, physics, electrical engineering and computer science. They incorporate a variety of methods.

Techniques developed by network and performance engineers in recent decades may be applied to improve the analysis and design of future smart energy networks and their attached energy-efficient systems consuming the disseminated energy flows. The focus of the workshop will be related engineering techniques arising from performance, dependability and reliability analysis. In particular the application of future smart energy networks and attached energy-efficient systems constitutes a very important, rapidly growing area in modern interconnected information societies.

The workshop will cover all aspects of modeling, analysis, and management of smart energy networks and the applied methodologies arising from the theory of performance analysis of distributed systems and dependable, fault-tolerant and highly available distributed systems. It ranges from purely theoretical achievements to practical applications regarding the structural inference, modeling, analysis, simulation, and control.

The objective is to provide a forum for researchers and practitioners to present innovative theoretical results and new research ideas that illustrate recent developments w.r.t. modeling and analysis of highly interdependent energy networks and attached systems. Fresh ideas will be exchanged and new directions will be discussed in a cross-disciplinary setting.

The workshop is co-located with the 17th International GI/ITG Conference on "Measurement, Modelling and Evaluation of Computing Systems" and "Dependability and Fault-Tolerance" (MMB & DFT 2014).

Topics

FGENET 2014 solicits novel unpublished material on modeling, analysis and control of energy networks, their management and control systems, and important energy-efficient systems attached to these networks. It includes the following topics:

- **Modeling, Analysis, and Simulation of Future Energy Networks Including their Management and Control Systems**
    - quantitative analysis of network models
    - characterization, inference and evolution of new network topologies
    - robustness and vulnerability of network infrastructures
    - failure spreading in energy networks
    - dependability analysis of energy networks
    - fault immunization strategies
    - fault tolerance in energy networks
    - quantitative analysis of resilience strategies

- **Modeling and Analysis of Energy Efficiency**
    - energy-efficient networking and protocols
    - energy-efficient communications management
    - energy-efficiency in wired networks
    - energy-efficiency in data centers
    - energy-efficiency in content delivery networks
    - performance modeling techniques for energy-efficient systems

- **Measurement and Inference of Energy Consumption**
    - measurement and profiling of energy consumption
    - wide-area monitoring
    - statistical methods for advanced metering infrastructure and smart metering
    - performance of data gathering strategies
    - data anonymization strategies

- **Demand Modeling and Planning**
    - characterization and inference of demand profiles
    - energy analytics
    - structural inference and analysis of the user behavior in energy networks
    - load and community modeling by stochastic processes
    - big data techniques for energy networks
    - tools supporting analysis, inference and prediction of consumption

- **Complex Network Methodologies for Energy Networks**
    - emergence properties of real networks
    - component synchronization in energy networks
    - performance of signaling and distributed control protocols

Submissions and Formats

Authors are encouraged to submit a PDF version of their original contribution either as extended abstract of 4 pages or as short paper not exceeding 6 pages. All submissions must adhere to a single-column LNCS conference format with a font size not smaller than 10 points.

The paper must be submitted electronically before the deadline via Easychair at URL:

http://www.easychair.org/conferences/?conf=fgenet2014

Notification of acceptance will be sent to the authors not later than December 5, 2013. In case of acceptance the final PDF version of the full paper is due by December 20, 2013. All accepted contributions will appear in the workshop proceedings. Registration of at least one co-author as workshop or conference participant is required before the deadline.

Important Dates

- **Submission deadline (extended): October 25, 2013**
- Acceptance notification: December 5, 2013
- Camera-ready version (extended): January 5, 2014
- **Authors' registration deadline:** *February 15, 2014*
- **Workshop: March 19, 2014**

Organizing Committee

General Chairs

- Thorsten Staake, University of Bamberg, Germany
- Udo Krieger, University of Bamberg, Germany

Local Arrangement Co-Chairs

- Cornelia Schecher, University of Bamberg, Germany
- Marcel Großmann, University of Bamberg, Germany

Technical Program Committee

- Reinhard German, University of Erlangen-Nuremberg, Germany
- Hermann de Meer, University of Passau, Germany
- Udo Krieger, University of Bamberg, Germany
- Paul Kühn, University of Stuttgart, Germany
- Michael Menth, University of Tübingen, Germany
- Johannes Riedl, Siemens AG Munich, Germany
- Thorsten Staake, University of Bamberg, Germany

Further Information

Regarding further details on the venue, travel information and registration process please check the web page of 17th MMB & DFT2014 at URL: http://www.mmb2014.de/