

SE4SG 2013

ICSE 2013 International Workshop on Software Engineering Challenges for the Smart Grid

ICSE 2013

May 18 – 26, 2013

San Francisco • California, USA

35th International Conference on Software Engineering

<http://2013.icse-conferences.org>

<http://se4sg.ipd.kit.edu>

Call for Papers

This 2nd workshop will focus on understanding and identifying the unique challenges and opportunities for SE to contribute to and enhance the design and development of the smart grid. In smart grids, the geographical scale, requirements on real-time performance and reliability, and diversity of application functionality all combine to produce a unique, highly demanding problem domain for SE to address. The objective of this workshop is to bring together members of the SE community and the power engineering community to understand these requirements and determine the most appropriate SE tools, methods and techniques.

Topics of Interest

SE4SG workshop is interested in submissions on all topics related to identifying and developing appropriate methods, tools and techniques for smart grid software. Specifically, we will focus on:

- Applications that support power engineering operations. Such applications include, but are not limited to, complex event processing systems for managing and manipulating large amounts of real-time sensor data, and systems that provide infrastructure for metering, analysis, decision support and control applications;
- Software and enterprise architectures tailored for smart grids, including the challenges of the Smart Grid as an ultra-large-scale system;
- Designing applications with advanced computing capabilities. This requires understanding the implications of, for example, exploiting cloud computing and high performance, multicore computing platforms for computationally intensive smart grid functions;
- Designing simulation frameworks targeting smart grids. These can model designs and predict system properties, e.g., responsiveness and availability, based on simulated and historical data;
- Designing highly effective and usable analysis and monitoring tools for grid operation;
- Methodologies that apply advanced SE approaches to analyze and improve the properties of smart grid applications. These include model-driven development, self-managing and adaptive software systems, and quality reasoning and evaluation frameworks;
- Standards-based distributed architecture solutions and reference architectures that enable open interfaces with plug-and-play hardware and software components;
- The design and analysis of robust, scalable security and privacy frameworks for the smart grid;
- Approaches to modeling and monitoring the system-wide performance, scalability and/or other quality properties of the smart grid software framework;
- Software tools and engineering approaches for smart grid markets;
- Software engineering approaches for business-IT alignment for smart grids.

Paper Submission Details

All papers should be submitted through EasyChair: <https://www.easychair.org/conferences/?conf=se4sg13>

Research papers will be thoroughly reviewed for novelty, technical quality, scientific soundness and relevance. They should not exceed 8 pages double column including figures and tables.

- Experience report papers cover innovative implementations, novel applications of smart grid related technologies, interesting results and experience in applying recent SE research advances to industrial situations on any of the topics of interest. Papers should be 6-8 pages double column including figures and tables.
- Vision papers present emerging research challenges and long-term research directions on hot topics of interest relevant to the smart grid domain. Submissions of papers should be 4 pages.

Paper Formatting Instructions

All papers must conform, at time of submission, to the [ICSE 2013 paper formatting guidelines](#). Make sure that you use US letter page format (don't use A4!). Submissions must be in PDF format. Author names and affiliations shall not be suppressed on the title page of the paper.

Important Dates

- Paper submission : Feb 7, 2013
- Acceptance notification : Feb 28, 2013
- Camera ready copy : Mar 7, 2013
- Advance registration : TBA
- Workshop : Saturday May 18, 2013

Organizing Committee

- Ian Gorton, PNNL, USA
- Yan Liu, Concordia U, Canada
- Heiko Koziolok, ABB, Germany
- Anne Koziolok, U Zurich, Switzerland
- Mazeiar Salehie, Lero, Ireland

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- Gabriel Moreno, SEI
- Martin Naedele, ABB
- Harmut Schmeck, KIT
- Kishor S. Trivedi, Duke University
- Yun Yang, Swinburne University of Technology

Contacts

Related emails should be addressed to se4sgchair@gmail.com