

CEMISC 2016

3rd International Workshop on Computational Energy Management in Smart Grids

27 July 2016, Vancouver, Canada

Organizers

STEFANO SQUARTINI

Università Politecnica delle Marche, Italy
s.squartini@univpm.it

DERONG LIU

Chinese Academy of Sciences, China
derongliu@gmail.com

FRANCESCO PIAZZA

Università Politecnica delle Marche, Italy
f.piazza@univpm.it

DONGBIN ZHAO

Chinese Academy of Sciences, China
dongbin.zhao@ia.ac.cn

HAIBO HE

University of Rhode Island, USA
he@ele.uri.edu

Program Committee

Giacomo Boracchi, Italy

J. José Cardenas Araujo, Spain

Mo-Yuen Chow, USA

Emanuele Crisostomi, Italy

Paul Kaufmann, Germany

Elias Kyriadikes, Cyprus

Andrew Kusniak, USA

Ginaluca Ippoliti, Italy

Chengdong Li, China

Stephen Makonin, Canada

Danilo Mandic, UK

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Hugo Morais, France

Peter Palensky, Austria

Dianwei Qian, China

Wei Qiao, USA

Antonello Rizzi, Italy

Jennie Si, USA

Pierluigi Siano, Italy

Gerard Smit, Netherlands

Dipti Srinivasan, Singapore

Mauro Tucci, Italy

Kumar Venayagamoorthy, USA

Markus Wagner, Australia

www.cemisc2016.org

www.wcci2016.org

Scope

The sustainable usage of energy resources is actually an issue that humanity and technology have been seriously facing in the last decade, as a consequence of the higher and higher energy demand worldwide and the strong dependence on oil-based fuels. This shoves the scientists and technicians worldwide to intensify their studies on renewable energy resources, especially in the Electrical Energy sector. At the same time, a remarkable increment of the complexity of the electrical grid has been also registered at diverse levels in order to include variegated and distributed generation and storage sites. This yielded in a flourishing scientific literature on sophisticated algorithms and systems aimed at introducing intelligence within the electrical energy grid with several effective solutions already available in the market.

The many different needs coming from heterogeneous grid customers, at diverse grid level, and the different peculiarities of energy sources to be included in the grid itself, makes the task challenging and multi-faceted. Along this same direction, a big variety of interventions can be applied into the grid to increase the inherent degree of automation, optimal functioning, security and reliability, thus increasing the engineering appeal of the issue. A multi-disciplinary coordinated action is therefore required to the scientific communities operating in the Electrical and Electronic Engineering, Computational Intelligence, Digital Signal Processing and Telecommunications research fields to provide adequate technological solutions.

Focalizing to the interests of our scientific community, the organizers of this Workshop, as inside the IJCNN2016 conference, wants to explore the new frontiers and challenges within the Computational Intelligence research area, for the optimal usage and management of energy resources in Smart Grid scenarios. Indeed, the recent adoption of distributed sensor networks in many grid contexts enabled the availability of data to be used to develop suitable expert systems with the aim of supporting the humans in dealing with the complex problems in grid management, from multiple applicative perspectives. Research is already florid, but many open issues need to be studied and innovative intelligent systems investigated.

Topics

Workshop topics include, but are not limited to:

- *Computational Intelligence for Smart Grids*
- *Neural Networks based algorithms for Complex Energy Systems*
- *Expert Systems for Smart Grid Optimization*
- *Smart Grids and Big Data*
- *Computational Intelligence ofr Vehicle to Grid*
- *Automatic Fault Detection Algorithms in Smart Grid scenarios*
- *Computational methods for Smart Grid Self-Healing*
- *Learning-based Control of Renewable Energy Generators*
- *Smart Building Energy Management*
- *Deep Learning strategies for Energy Efficiency*
- *Energy Resource Allocation and Task Scheduling*
- *Building Energy Consumption Forecasting*
- *Computational Intelligence for Energy Internet Management*
- *Demand-side Management*
- *Non-Intrusive Load Monitoring*

Sponsors

**International Neural
Network Society**



**IEEE Computational
Intelligence Society**



Submission Guidelines

Prospective authors are invited to submit papers according to the IEEE format. All submissions should be according to the specifications of IJCNN2016. Accepted contributions will be part of the IJCNN2016 conference proceedings.

Important Dates

- **31st January 2016:** Due date for paper submission
- **15th March 2016:** Notification to authors
- **15th April 2016:** Camera-ready deadline for accepted papers
- **27th July 2016:** Workshop Day (*tentative*)