

# ENERGY 2011

## Foreword

The First International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (ENERGY 2011), held between May 22 -27, 2011 in Venice, Italy, was an inaugural event considering Green approaches for Smart Grids and IT-aware technologies. It addressed fundamentals, technologies, hardware and software needed support, and applications and challenges.

There is a perceived need for a fundamental transformation in IP communications, energy-aware technologies and the way all energy sources are integrated. This is accelerated by the complexity of smart devices, the need for special interfaces for an easy and remote access, and the new achievements in energy production. Smart Grid technologies promote ways to enhance efficiency and reliability of the electric grid, while addressing increasing demand and incorporating more renewable and distributed electricity generation. The adoption of data centers, penetration of new energy resources, large dissemination of smart sensing and control devices, including smart home, and new vehicular energy approaches demand a new position for distributed communications, energy storage, and integration of various sources of energy.

We welcomed technical papers presenting research and practical results, position papers addressing the pros and cons of specific proposals, such as those being discussed in the standard forums or in industry consortia, survey papers addressing the key problems and solutions on any of the above topics short papers on work in progress, and panel proposals.

We take here the opportunity to warmly thank all the members of the ENERGY 2011 technical program committee as well as the numerous reviewers. The creation of such a broad and high quality conference program would not have been possible without their involvement. We also kindly thank all the authors that dedicated much of their time and efforts to contribute to ENERGY 2011. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

We hope that ENERGY 2011 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in energy-aware technologies.

We are certain that the participants found the event useful and communications very open. We also hope the attendees enjoyed the beautiful surroundings of Venice.

### ENERGY 2011 Chairs

Stefan Mozar, CCM Consulting / CQ University - Sydney International Centre, Australia

Mehrdad (Mark) Ehsani, Texas A&M University - College Station, USA

Petre Dini, Concordia University, Canada / China Space Agency Center, China

Mardavij Roozbehani, Massachusetts Institute of Technology, USA

Dave Cavalcanti, Philips Research North America, USA

Marco Di Girolamo, Hewlett-Packard Company - Cernusco sul Naviglio, Italy

Thomas M. Overman, Boeing Energy Cyber Security, USA

Angelantonio Gnazzo, Telecom Italia - Torino, Italy

Dragan Obradovic, Siemens AG, Germany  
Avi Mendelson, Microsoft Corporation, USA  
Peter Müller, IBM-Zurich, Switzerland  
Giorgio Nunzi, NEC Europe Ltd. - London, UK  
Ritwik Majumder, ABB AB / Corporate Research Center - Vasteras, Sweden  
Brian P. Gaucher, IBM Research Division - Yorktown Heights, USA  
Gargi Bag, ABB Corporate Research, Sweden  
Ken Christensen, University of South Florida, USA  
Grzegorz Swirszcz, IBM Watson Laboratory, USA  
Luciano Bertini, Fluminense Federal University, Brazil  
Cathryn Peoples, University of Ulster, UK