MONDAY NOVEMBER 3

8:30 am – 12:30 pm
WORKSHOP 1 | Silver

8:30 am – 10:00 am
Session Chair: Ziliang Zong
- Practicing Sustainability in Organizations • Nagasushma Devarapalli and Silvia Figueira
- Power Characteristics of Irregular GPGPU Programs • Jared Coplin and Martin Burscher
- GPU-Centric Communication for Improved Efficiency • Benjamin Klenk, Lena Oden and Holger Froening

10:00 – 10:15 am
BREAK | Corridor

10:15 am – 12:15 pm
- Evaluation of Data Placement Method in Database Run-Time Processing Considering Energy Saving and Application Performance • Naho Iimura, Norifumi Nishikawa, Miyuki Nakano and Masato Oguchi
- Satisfying Bandwidth Requirements of GPU Architectures through Adaptive Wavelength Division Multiplexing • Benjamin Johnstone and Sonia Lopez Alarcon

12:15 am – 2:00 pm
LUNCH (ON YOUR OWN)

2:00 – 3:30 pm
WORKSHOP 2 | Silver

Session Chair: Dakai Zhu
- A Node Allocation Algorithm for Resilient CPSs Under Energy-Exhaustion Attack • Tom Chentham and Ryan Genes
- A Task Morphing Framework for Energy Consumption and Reliability Tradeoffs • Sattish Gopalakrishnan

4:30 – 6:00 pm
WELCOME RECEPTION | Bronze III

TUESDAY NOVEMBER 4

8:45 – 10:00 am
TUESDAY KEYNOTE | Bronze III

• Sustainable Communication & Communication for Sustainability • Radu Marculescu, Carnegie Mellon University

10:00 – 10:30 am
BREAK | Corridor

10:30 am – 12:00 pm
SESSION 1A: EMBEDDED SYSTEMS | Silver

Session Chair: Amlan Ganguly
- When They Are Not Listening: Harvesting Power from Idle Sensors in Embedded Systems • Woo Suk Lee, Krishkesh Jayakumar, and Vijay Raghunathan
- Energy-Efficient Parameterized 2-D Separable Convolution on FPGA • Yusong Hu and Viktor K. Prasanna

12:00 – 1:30 pm
LUNCH | Bronze III

1:30 – 3:00 pm
SESSION 1B: [SPECIAL SESSION] GREEN BUILDING ENERGY ANALYTICS | Gold

Session Chair: Nirmalya Roy
- Predictability of Energy Use in Homes • David Lachat, Nilanjan Banerjee and Sami Roininen
- Energy-Comfort Optimization using Discomfort History and Probabilistic Occupancy Prediction • Abhinandan Majumdar, Jason L. Setter, Justin R. Dobbs, Brandon M. Hencay and David H. Albonesi
- iDES: Incentive-Driven Distributed Energy Sharing in Sustainable Microgrids • Weigang Zhong, Zichuan Huang, Ting Zhu, Yu Gu, Qingquan Zhang, Ying Yi, Dingde Jiang and Sheng Xiao

SESSION 1C: [SPECIAL SESSION] DATA CENTERS IN THE SMART GRID | Silver

Session Chair: Girish Ghatikar
- Opportunities and Challenges for Data Center Demand Response • Adam Wiener, Zhenhui Liu, Iris Liu and Hamed Mohsenian-Rad
- Reducing the Data Center Electricity Costs Through Participation in Smart Grid Programs • Hao Chen, Michael Caramanis and Ayse Coskun
- Right Time in Right Place: Taming Workload Balancing Oscillations in Internet Data Center Cost Management • Xi Chen, Lei Mao, Xue Liu, Hongqing Li and Xingbing Wang

SESSION 1D: ENERGY STORAGE | Gold

Session Chair: Wenyao Xu
- Design and Management of Hybrid Electrical Energy Storage Systems for Regulation Services • Younghyun Kim, Vijay Raghunathan and Anand Raghunathan
- Intelligent Joint Spatio-Temporal Management of Electric Vehicle Charging and Data Center Power Consumption • Dan Zhonghao Sun, Fanxin Kong, Xue Liu, Xingshe Zhou and Xi Chen
- GreenColo: A Novel Incentive Mechanism for Minimizing Carbon Footprint in Colocation Data Center • Mohammad Islam, Shaolei Ren and Xiaorui Wang
- One Charge for One Week; Hype or Reality? • Youhuizi Li, Bing Luo, Hui Chen and Weisong Shi
### TUESDAY

**NOVEMBER 4**

**3:00 – 3:30 pm**
**BREAK**

**3:30 – 5:00 pm**
**SESSION 1E: [SPECIAL SESSION] DATA CENTERS IN THE SMART GRID II**
**Silver**

*Session Chair: Ayse Coskun*

- Load Management of Data Centers as Regulation Capacity in Denmark • Anders Clausen, Grish Ghatikar and Bo Næregaard Jørgensen
- An Optimization Framework for Data Centers to Minimize Electric Bill under Day-Ahead Dynamic Energy Prices While Providing Regulation Services • Majid Ghasemi-Gol, Yanzhi Wang and Massoud Pedram
- Placement Optimization of Liquid-Cooled Servers for Power Minimization in Data Centers • LI, Wenli Zheng, Xiaodong Wang and Xiaorui Wang

**SESSION 1F: POWER-AWARE COMPUTING**
**Gold**

*Session Chair: Weisong Shi*

- Good Practices in the Use of ICT Equipment for Electricity Savings at a University Campus • Andreas Kamlaris, Dang Truong Hoang Nguyen, Alexandros Pantazarakis, Balaji Kalluri and Sekhar Kondepudi
- Evaluation of Linear and Non-linear Machine Learning Approaches for Power Estimation in a Computing Cluster • Hao Zhu, Paola Grossio, Xianglei Liao and Cees De Laat
- Thermal, Power, and Co-Location Aware Resource Allocation in Heterogeneous Computing • Mark Osley, Eric Jonardi, Sudeep Pasricha, Anthony Maciejewski, Greg Koenig and Howard Siegel

**5:00 – 6:30 pm**
**HAPPY HOUR**

**WEDNESDAY**

**NOVEMBER 5**

**9:00 – 10:00 am**
**WEDNESDAY KEYNOTE**

**Bronze III**

*Session Chair: Sahra Sedigh*

- Modelling Performance and Power: Methodologies, Tools, and Tradeoffs • Adolfy Hoisie, Pacific Northwest National Laboratory

**10:00 – 10:30 am**
**BREAK**

**10:30 am – 12:00 pm**
**SESSION 2A: ENERGY-EFFICIENT CIRCUITS AND SYSTEMS**
**Silver**

*Session Chair: Younghyun Kim*

- Phone Batteries Draining: Is GWeB (Green Web Browsing) the Solution? • Delfina Malandrino, Salvatore D’Ambrosio, Salvatore De Pasquale, Gerardo Iannone, Alberto Negro, Giovanni Patimo, Andrea Petta, Vittorio Scarano, Luigi Serra and Raffaele Spinelli
- System Architecture Support for Green Enterprise Computing • Maria Kazandjieva, Chimmyee Shah, Ewen Cheslack-Postava, Behram Mistree and Philip Levis
- Power-Efficient Resource Management for Co-Located Visualized Web Servers: A Stochastic Control Approach • Xiaoyu Shi, Jin Dong, Sedick M. Djouadi, Yefu Wang, Xiao Ma and Yong Feng

**12:00 – 1:30 pm**
**LUNCH**

**1:30 – 3:00 pm**
**SESSION 2C: GREEN SYSTEMS**
**Silver**

*Session Chair: Younghyun Kim*

- Phone Batteries Draining: Is GWeB (Green Web Browsing) the Solution? • Delfina Malandrino, Salvatore D’Ambrosio, Salvatore De Pasquale, Gerardo Iannone, Alberto Negro, Giovanni Patimo, Andrea Petta, Vittorio Scarano, Luigi Serra and Raffaele Spinelli
- System Architecture Support for Green Enterprise Computing • Maria Kazandjieva, Chimmyee Shah, Ewen Cheslack-Postava, Behram Mistree and Philip Levis
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**SESSION 2D: ENERGY-EFFICIENT COMPUTING**

*Session Chair: Dakai Zhu*

- A Configurable Quantized Compressed Sensing Architecture for Low-power Tele-Monitoring • Aosen Wang and Wenyao Xu
- Understanding the Power-Performance Tradeoff through Pareto Analysis of Live Performance Data • Junya Michanan, Rinku Dewri and Matthew J. Rutherford
- EEP2P: An Energy-Efficient and Economy-Efficient P2P Network Protocol • Ziqiao Zhou, Mengjun Xie, Ting Zhu, Wei Xu, Ping Yi, Zhichuan Huang, Qingquan Zhang, and Sheng Xiao
WEDNESDAY NOVEMBER 5

3:00 – 3:30 pm
BREAK

3:30 – 5:30 pm
WIP SESSION 2E | Silver

Session Chair: Ali Hurson

- Algorithmic Optimizations for Energy Efficient Throughput-Oriented FFT Architectures on FPGA • Ren Chen and Viktor Prasanna
- NVP: Non-Uniform Voltage and Pulse Width Settings for Power Efficient Hybrid STT-RAM • Reyhaneh Jabbarvand Behrouz and Houman Homayoun
- FoREST-rnn: Runtime DVFS Beyond Communication Slack • Jean-Philippe Halimi, Benoit Pradelle, Amina Guermouche and William Jalby
- Energy Neutral Hybrid Cooling System for High Performance Processors • Luca Rizzon, Maurizio Rossi, Roberto Passerone and Davide Brunelli
- Energy-Aware Resource Management of Virtual Machines under Thermal and Placem ent Constraints • Hideaki Hashimoto, Keigo Matsuo, Kazuaki Chikira, Masayuki Nakamura and Joji Urata
- High Level Performance Model Based Design Space Exploration for Energy-Efficient Designs on FPGAs • Sanmukh R Kuppannagari, Yusong Hu and Viktor K Prasanna

WIP SESSION 2F | Gold

Session Chair: Ishfaq Ahmad

- Program Energy Efficiency: The Impact of Language, Compiler and Implementation Choices • Sarah Abdulsalam, Donna Lakomski, Qijun Gu, Tongdan Jin, and Ziliang Zong
- Greening Web Servers: A Case for Ultra Low-power Web Servers • Benoy Varghese, Niklas Carlsson, Guillaume Jourjon, Anirban Mahanti, and Prashant Shenoy
- Efficient Customer Selection for Sustainable Demand Response in Smart Grids • Vasileios Zois, Marc Frincu, Charalampos Chelmis, Muhammad Rizwan Saeed, and Viktor Prasanna
- Leveraging Distributed UPS Energy for Managing Solar Energy Powered Data Centers • Longjun Liu, Hongbin Sun, Yang Hu, Jingmin Xin, Nanning Zheng, and Tao Li
- A Performance Enforcing Mechanism for Energy- and Failure-Aware Cloud Systems • Altino Sampaio and Jorge Barbosa
- Carbon-Aware Path Provisioning for NRENs • Karel van der Veldt, Inder Monga, Jon Dugan, Cees de Laat, and Paola Grosso