

# The 2011 IEEE/ACM International Conference on Green Computing and Communications (GreenCom 2011)

Website: <http://GreenCom2011.comp.polyu.edu.hk>

Sponsored by IEEE, IEEE CS, IEEE TCSC, ACM and NSFC

Chengdu, Sichuan, China, August 4-5, 2011



## Call for Papers



### Introduction

Computers, communication systems and other IT infrastructure have been posing severe environmental problems by consuming significant amounts of electricity, increasing greenhouse gas emissions, and causing pollution during their production and disposal. To reduce these environmental problems and create a sustainable environment, new models, algorithms, methodologies, tools and systems are needed so we can generate *green* IT systems with high energy efficiency, low greenhouse gas emissions, less harmful materials and easily being reused and recycled. The goal of [GreenCom 2011](http://GreenCom2011.comp.polyu.edu.hk) is to provide a forum for scientists, engineers, and researchers to discuss and exchange their new ideas, novel results, work in progress and experiences on all aspects of green computing and communications, as well as to identify emerging research topics and define the future directions. Topics of particular interest include, but are not limited to:

#### A. Systems, Models and Algorithms

- A1 Green computing models, methodologies and paradigms
- A2 Green design, manufacture, use, disposal, and recycling of computers and communication systems
- A3 Green software engineering
- A4 Sustainable computing
- A5 Energy-aware computing
- A6 Energy-aware scheduling
- A7 Energy-aware software
- A8 Energy-efficient network services and operations
- A9 Carbon management policies and ecology-related issues with ICT

#### B. Design Methodologies and Tools

- B1 Green design for materials and devices
- B2 Green design for VLSI and micro-architecture
- B3 Energy-aware design for programming, algorithm and software architecture
- B4 Energy-aware design for system-level software, such as operating systems, compilers and programming environments
- B5 Energy-aware hardware/software co-design
- B6 Virtualization and thin client methods
- B7 DPM/DVFS
- B8 Thermal management and applications
- B9 Energy-efficient network infrastructures and protocols
- B10 Performance characterization and evaluation for green computing systems and applications
- B11 Standards and metrics for green computing and communications
- B12 Energy consumption simulation, optimization, management and evaluation tools

#### C. Applications and Interdisciplinary Topics

- C1 Relationship among energy consumption, speed, security, safety, availability, fault tolerance and reliability
- C2 Energy-aware high performance computing and applications
- C3 Energy-aware large scale distributed systems, such as Grids, Clouds and service computing
- C4 Energy-aware network equipments and applications
- C5 Energy-efficient mass data storage and processing
- C6 Green computing in multicore/manycore systems
- C7 Green computing in data centers, embedded systems and supply chains
- C8 Low-radiation in wireless devices and e-waste
- C9 Computer occupational diseases and INTERNET harmful information filtering
- C10 Ergonomics
- C11 Applications in environment protection, healthcare, creature conservation, mobile, avionics, aerospace, control, etc.
- C12 Education, experience, case studies, and lessons learned for green computing systems and applications

All papers must be written in English and submitted electronically through <http://GreenCom2011.comp.polyu.edu.hk>. Paper submissions should be 10 pages in two-column, single-space, 10pt format that describe original work not previously published and not concurrently submitted elsewhere. Submission of a paper should be regarded as an undertaking that, should the paper be accepted, at least one of the authors must attend the conference to present the work in order that the accepted papers can be put into the digital library of IEEE CS (indexed by EI Compendex). Selected bested papers will be recommended for publication in special issues of several SCI-indexed journals, including Journal of System Architecture: Embedded Software Design (Elsevier).

#### Organization Committee

- General Chairs: Prof. Lionel Ni, Hong Kong Univ. of Science and Technology, Hongkong  
Prof. Xiangke Liao, National Univ. of Defense Technology, China  
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Prof. Zhiwei Xu, Institute of Computing Technology, Chinese Academic of Sciences, China  
Prof. Jason Cong, Univ. of California, Los Angeles, USA

***Important Dates***

Deadline for submission	March 30, 2011
Notification of acceptance	April 30, 2011
Deadline for final version	May 15, 2011
Deadline for registration	May 30, 2011