

The 2017 International Workshop on Energy Efficiency of New Architectures and Systems
(WEENAS2017)

In Conjunction with the [IEEE 8th International Green & Sustainable Computing \(IGSC 2017\)](#)

Orlando, Florida, USA.

October 23-25, 2017

<http://cloud.hdu.edu.cn/weenas2017>

Important dates

Submission Due: August 25, 2017

Notification of Acceptance: September 15, 2017

Camera-ready paper due: September 22, 2017

Submit your paper via EasyChair for WEENAS2017 at:

<https://easychair.org/conferences/?conf=weenas2017>

Description

Over the recent years, worldwide server energy consumptions have been increasing exponentially. With this continuing energy consumption in Big Data and cloud computing era, it is necessary to store and process data more energy efficiently by utilizing enormous computing power that is available in the form of new architectures and systems, ranging from low power ARM v8 servers to container based systems. By taking advantage of new architectures and systems, system designers can often also incorporate novel energy-efficient policies for existing installations and applications.

New architectures and systems are posing many challenges in exploiting their potentials in energy reductions, such as automated energy efficiency characterization and profiling, system monitoring and energy management, programming models, etc. These challenges are becoming the bottlenecks for implementation, deployment and commercial adoptions. The new architectures and systems also comes up with algorithmic and engineering issues such as performance aspects not yet eminent but expected to grow with their scaling of large installation systems, and the dynamics of its energy management. These new challenges may comprise, sometimes even deteriorate the performance, efficiency, and scalability of the dedicated applications.

This workshop focuses on the energy efficiency challenges imposed by new architectures and systems, and on the state-of-the-art designs and solutions proposed to overcome these challenges. It will bring together the sustainable and green computing community and the system architecture community in an effort to generate productive conversations on the modeling, evaluation, implementation, and scheduling of new architectures and systems.

We welcome various kinds of papers that could formalize, simplify and optimize all the aspects of energy efficiency of new architectures and systems in science, engineering and business. We

particularly encourage the submission of position papers that describe novel research directions and work that is in its formative stages, and papers about practical experiences and lessons learned from production systems.

Papers of applied research, industrial experience reports, work-in-progress and vision papers with different criteria for each category that describe recent advances and efforts in the design and development of energy efficiency aware computing, functionalities and capabilities that will benefit many applications are also solicited.

List of topics

Topics of interests include, but are not limited to:

- Future research challenges on energy efficiency of new architectures and systems
- Energy efficient design for new architectures
- Ultra-energy efficient processors and chips
- Energy efficiency design for green energy powered systems
- Energy efficiency evaluation of new architectures and systems
- Energy efficiency aware programming models, abstractions for new architectures and systems
- Energy efficient architecture and system design for smart homes and smart cities
- Energy efficiency evaluation of heterogeneous systems architecture
- Energy efficiency evaluation of ARM v8 servers, GPU clusters, and hyperscale data centers
- Energy efficiency evaluation of IoT and edge devices
- Energy efficiency of hybrid memory systems
- Energy efficiency of container-based systems
- Network support for new architectures and systems

Submission Instructions

Full papers following the guidelines of the [International Green and Sustainable Computing \(IGSC\)](#) are sought. All papers should be submitted electronically (in PDF format) using the instructions at [WEENAS2017](#). All submitted/invited manuscripts will be reviewed and evaluated on correctness, originality, technical strength, significance, quality of presentation, interest, and relevance to the scope of the workshop.

Papers presented at the workshop will be published in the official conference proceedings (through [IEEE Digital Library-IEEE Explore](#)) contingent on two conditions: (1) One author of each accepted paper must register for the conference at the time of the submission of the accepted final manuscript and (2) One of the authors must appear to present the paper at the workshop. Please note that each accepted workshop paper will require a full IGSC registration at the IEEE member or at the non-member rate (NOT student rate). There will be no separate workshop-only registration.

Please submit full papers via the submission system at [EasyChair](#). Do not email submissions. Papers must be written in English.

The complete submission must be no longer than six (6) pages. It should be typeset in two-column format in 10 point type on 12 point (single-spaced) leading. References should not be set in a smaller font. Submissions that violate any of these restrictions may not be reviewed. The limits will be interpreted fairly strictly, and no extensions will be given for reformatting. Final author manuscripts will be 8.5" x 11" (two columns [IEEE format](#)), not exceeding 6 pages; max 2 extra pages allowed at additional cost.

The names of authors and their affiliations should be included on the first page of the submission.

Simultaneous submission of the same work to multiple venues, submission of previously published work, or plagiarism constitutes dishonesty or fraud.

Reviewing of full papers will be done by the program committee, assisted by outside referees. Accepted papers will be shepherded through an editorial review process by a member of the program committee.

By submitting a paper, you agree that at least one of the authors will attend the workshop to present it. Otherwise, the paper will be excluded from the digital library of IEEE.

Presented papers at the workshop will be recommended for publication in some prestigious journals.

Program Co-Chairs

Congfeng JIANG, Hangzhou Dianzi University, China

Weisong SHI, Wayne State University, USA

Program Committee Members

TBD