

# Call for Contributions

## Submission:

1. **Inform the Chair:** with the Title of your Contribution

2. **Submission URL:**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=INFOCOMP+2018+Special>

Please select Track Preference as **ECO-PAR**

Special track

## **ECO-PAR: Energy-efficient Computing on Parallel Architectures**

### **Chair and Coordinator**

Dr. Sebastiano Fabio Schifano, University of Ferrara and INFN-Ferrara, Italy

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### **Co-Chair**

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along with

**INFOCOMP 2018**, The Eighth International Conference on Advanced Communications and Computation

July 22, 2018 to July 26, 2018 - Barcelona, Spain

<http://www.iaria.org/conferences2018/INFOCOMP18.html>

The power requirements of large HPC installations is increasingly becoming a limiting factor for computing capabilities, and are becoming unsustainable for both technical and economic reasons. A significant fraction of the total cost of ownership of the installations available nowadays is already driven by the electricity bill, and the idea of charging users for the consumed Joules, instead of the core hours, is spreading.

This requires finding disruptive solutions both at hardware and software level to maximize computing throughput of computing systems within a given power envelop, maximizing their energy-efficiency.

Several kinds of processors, such as multi- and many-cores CPUs, GPUs, FPGAs and SoCs (System on Chip) are developed including features to improve computing energy-efficiency, e.g. increasing their intrinsic parallelism, or dynamically adapting clock frequency. However, programming complexity and code portability are highly affected by these choices, and also computing efficiency can be disrupted if applications are not able to exploit all hardware features, increasing the time-to-solution and often also the energy-to-solution.

This workshop aims to strongly encourage the exchange of experiences and knowledge in novel strategies to monitor, analyze, and optimize the energy-efficiency of computing systems. We focus on new trends including, hardware and software tools, but also algorithm-design and techniques in general, able to minimize the energy-to-solution of workloads, and overall to reduce the energy required to operate computing systems.

**Prospective authors** are invited to submit original papers on topics including, but not limited to:

- Application profiling and analysis of energy requirements aimed to energy-efficiency optimizations
- Cases studies of parallel applications optimization techniques towards Energy-efficiency
- Cases studies of parallel applications performance optimization techniques under a power budget
- Power estimation, analysis and optimization for hardware and software systems
- Power and Energy-efficiency assessment of processors and accelerators
- Programming models, tools, languages and compilers to support energy-aware computing
- Compiler and run-time tools aimed to increase energy-efficiency

- Low-power parallel architectures (use and design)
- Energy-proportional systems
- Energy-efficient heterogeneous system architectures
- Energy-efficient communication architectures

### **Important Datelines**

- Inform the Chair (see Contact below): As soon as you decided to contribute
- Submission: May 28
- Notification: June 20
- Registration: June 30
- Camera ready: June 30

### **Contribution Types**

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Presentations: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Demos: two pages [posted on [www.iaria.org](http://www.iaria.org)]

### **Paper Format**

- See: <http://www.iaria.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaria.org/editorialrules.html>

### **Publications**

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

### **Paper Submission**

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### **Registration**

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

### **Contacts**

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