

Call for Contributions

1. Inform the Chair: with the title of your contribution

2. Submission URL:

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=ADVCOMP+2024+Special>

Please select Track Preference as **HAAP**

3. Note: *For 2024, all events will be held in a hybrid mode: on site or virtual choices (live, prerecorded videos, voiced presentation slides, and .pdf slides). We hope for better times allowing us to return to the traditional on site scientific events. However, we are ready to adapt any which way the conditions dictate.*

Special track

HAAP: Hardware Accelerators and Accelerated Programming

Chair

Dr. Biagio Peccerillo, University of Siena, Italy

peccerillo@diism.unisi.it

along with

ADVCOMP 2024: The Eighteenth International Conference on Advanced Engineering Computing and Applications in Sciences

<https://www.aria.org/conferences2024/ADVCOMP24.html>

September 29 - October 03, 2024 - Venice, Italy

Hardware accelerators are a hot topic today due to the significant boost in performance and energy efficiency they promise, thanks to their ability to fit the needs of specific application domains through specialization. We are gradually moving away from relying solely on general purpose computing resources to solve an ever-growing number of performance/energy-constrained problems, progressively relegating the CPU to the role of a coordinator.

In the pursuit of specialization, hardware accelerators embrace "heterogeneity" at every level: hardware components, layout, form factor, connection and interfacing strategies with the host system, programming models, software ecosystem, and so on. They present a high variety, which requires specific knowledge both in the design/simulation phase, when the requirements of an application/domain are translated into hardware or simulated, and in the usage phase, when application code is written to take advantage of a hardware accelerator to improve performance and/or efficiency figures.

The special track HAAP at ADVCOMP 2024 focuses on this specific knowledge, welcoming research contributions that investigate hardware accelerator design, simulation, and programming, as well as analyses of case studies and real-world examples of hardware accelerators and accelerated applications. We invite contributions from academia, research, and industry, including long papers, short papers, and idea papers.

Subtopics for contributions include, but are not limited to:

- Hardware accelerator IC/RTL design methods, techniques, and examples
- Hardware accelerator simulation in cycle-accurate, trace-based, and functional architectural simulators
- Design and development of libraries and frameworks to write accelerated code
- Domain Specific Languages aimed at supporting hardware accelerators and accelerated code
- Case studies and benchmark examples of hardware accelerators in specific/particular domains
- Performance/energy study of real-world or proof-of-concept accelerated applications

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.aria.org]

- Presentations: slide only [slide-deck posted on www.iaia.org]
- Demos: two pages [posted on www.iaia.org]

Important Datelines

Inform the Chair or Coordinator: As soon as you decide to contribute

Submission: Aug 14, 2024

Notification: Sept 1, 2024

Registration: Sept 11, 2024

Camera ready: Sept 11, 2024

Note: The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chairs.

Paper Format

- See: <http://www.iaia.org/format.html>

- Before submission, please check and comply with the editorial rules:

<http://www.iaia.org/editorialrules.html>

Publications

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iaiajournals.org>

- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>

- Articles will be archived in the Open Access ThinkMind Digital Library: <http://www.thinkmind.org>

Paper Submission

<https://www.iaiasubmit.org/conferences/submit/newcontribution.php?event=ADVCOMP+2024+Special>

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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.iaia.org/registration.html>

Contact

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