

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=AISS+2024+Special>

Please select Track Preference as **AIHPC**

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

AIHPC: AI-HPC Convergence

Chairs

Dennis Hoppe, HLRS, University of Stuttgart, Germany

hoppe@hlrs.de

Prof. Dr.-Ing. Michael Resch, HLRS, University of Stuttgart, Germany

hpcresch@hlrs.de

along with

AISS 2024: The First International Conference on AI-based Systems and Services

<https://www.iaria.org/conferences2024/AISS24.html>

September 29 - October 03, 2024 - Venice, Italy

The convergence of High-Performance Computing (HPC) and Artificial Intelligence (AI) has unlocked unparalleled opportunities for scientific discovery, engineering innovation, and operational optimization.

This research track focuses on the synergistic integration of these two powerful technologies, exploring how HPC can leverage AI to enhance system performance and efficiency and how AI can harness the immense computational capabilities of HPC to tackle increasingly complex modelling and simulation challenges.

Subtopics for contributions include, but are not limited to:

HPC using AI

- AI-integrated simulations for scientific and engineering applications
- Distributed data processing for advanced simulations
- AI-driven optimization techniques for HPC applications
- Enhancing cybersecurity in HPC systems through AI
- Strengthening HPC services with AI capabilities (e.g., anomaly detection)
- Evaluating the impacts of HPC and AI convergence on science, engineering, economy, and society
- Strategic planning, policy, regulatory, and future technological developments in AI and HPC

AI on HPC

- Scaling AI algorithms on HPC systems
- HPC-integrated AI workflows on cloud and edge platforms
- Distributed data processing, data management, and AI frameworks on HPC
- Real-time data processing and analytics on HPC
- Ensuring AI reproducibility (e.g., with containers) without compromising performance
- Emerging software and hardware architectures (e.g., DPUs, APUs) for AI workflows on HPC
- Addressing cybersecurity concerns for HPC centers regarding AI

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.iaia.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=AISyS+2024+Special>

Please select Track Preference as **AIHPC**

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

Chairs:

Dennis Hoppe: hoppe@hirs.de

Michael Resch: hpcresch@hirs.de

Logistics (Steve McGuire): steve@iaia.org