# PPAM 2024

15th INTERNATIONAL CONFERENCE ON PARALLEL PROCESSING AND APPLIED MATHEMATICS

**Website: ppam.edu.pl**

Ostrava, Czech Republic
September 8 – 11, 2024

# WORKSHOP ON ADVANCEMENTS OF GLOBAL CHALLENGES APPLICATIONS

## CALL FOR PAPERS

The Workshop on Advancements of Global Challenges Applications (AGCA) shall be held in conjunction with the 15th International Conference on Parallel Processing and Applied Mathematics PPAM 2024 in Ostrava, Czech Republic, September 8 - 11, 2024.

Global Challenges (GC) addresses problems that require interdisciplinary expertise, and demands for solutions at scale due to their inherent complexity. Thus, GC aims to explore synergies between modelling, data acquisition, simulation, data analysis and visualisation along with achieving better scalability on current and future HPC and AI infrastructures to deliver highly-scalable solutions that can effectively utilise pre-exascale systems.

The AGCA workshop is intended to be a forum for the discussion of ideas for the development of high-scale simulation applications tackling GC demands, with particular emphasis on their scalability, efficiency and co-design.

## SUGGESTED TOPICS INCLUDE (BUT ARE NOT LIMITED TO):

- Algorithms and methods for the efficient solution of large-scale simulation applications
- Global Systems Science applications with a particular emphasis on CFD and Agent-Based Modelling implementations
- New and improved frameworks for Global Systems Science
- Efficient data distribution and scheduling for parallel/distributed applications in Global Systems Science
- Exploration of co-design for HPC applications
- Exploring emerging architectures for Global Systems Science applications
- HPC and HPDA platforms for efficient data processing
- Global Systems Science performance evaluation methodologies
- Performance optimizations and energy efficiency for Global Systems Science applications
- Data analytics and AI solutions advancing Global Challenges problems
- Efficient data storage and transfer for HPC and HPDA systems
- Workflows for complex Global Challenges scenarios
- Powerful and immersive tools for visualizing massive datasets of simulation results

## PAPER SUBMISSION AND PUBLICATION

The rules of the PPAM conference apply. Papers will be refereed and accepted on the basis of their scientific merit, relevance to the workshop topics, originality, correctness and quality of presentation. Papers cannot be previously published or submitted for publication elsewhere. Papers should not exceed 14 pages (LNCS style).

Please submit full papers via the PPAM conference submission system (EasyChair, look for AGCA track), formatted according to the PPAM specifications.

Submissions should be prepared for double-blind review, i.e., without author names or other identifying material. Authors should refer to themselves in the third person when citing their own work.

## JOURNAL SPECIAL ISSUE

The authors of the best articles selected by the program committee and the guest editors will be invited to submit extended versions of their work to a special issues of journals with Impact Factor such as Future Generation Computer Systems, Int. Journal of High Performance Computing Applications, Concurrency and Computation: Practice and Experience.

## DATES

Submission of Papers: ~~May 5, 2024~~ **May 22, 2024**
Notification of Acceptance: ~~June17, 2024~~ **July 3, 2024**
Conference: **September 8-11, 2024**
Camera-Ready Papers: **November 3, 2024**

## INVITED SPEAKERS

**Rafał Duczmal,** Chair of EuroHPC Joint Undertaking Governing Board
**Michael Resch,** Director of the High-Performance Computing Center Stuttgart

## WORKSHOP CHAIRS

**Marcin Lawenda,**
Poznan Supercomputing and Networking Center, Poland
**Łukasz Szustak,**
Czestochowa University of Technology, Poland

## AGCA CONTACT
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## WORKSHOP PROGRAM COMMITTEE

**Dennis Hoppe,** University of Stuttgart, Germany
**Christophe Prud'homme,** Strasbourg University, France
**Zoltán Horváth,** University of Győr, Hungary
**Flavio Cesar Cunha Galeazzo,** University of Stuttgart, Germany
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