



PPAM 2022

Gdansk, Poland
September 11-14, 2022

The PPAM 2022 conference will cover topics in parallel and distributed computing, including theory and applications, as well as applied mathematics. The focus will be on models, algorithms, and software tools that facilitate efficient and convenient utilization of modern parallel and distributed computing architectures, as well as on large-scale applications, including artificial intelligence and machine learning problems. Special attention is expected to be given to the future of computing beyond Moore's Law.

PPAM is a biennial conference started in 1994, with the proceedings published by Springer in the Lecture Notes in Computer Sciences series. The PPAM Proceedings are indexed in main databases such as Web of Science, Scopus, and DBLP.

TOPICS OF INTEREST

Topics of interest include, but are not limited to:

- Parallel/distributed architectures, enabling technologies
- Quantum computing and communication
- Neuromorphic computing
- Computing beyond Moore's Law
- Cluster, cloud, edge and fog computing
- Multi-core and many-core parallel computing, GPU computing
- Heterogeneous/hybrid computing and accelerators
- Parallel/distributed algorithms: numerical and non-numerical
- Scheduling, mapping, load balancing
- Performance analysis and prediction
- Performance issues on various types of parallel systems
- Auto-tuning and auto-parallelization: methods, tools, and applications
- Power and energy aspects of computation
- Parallel/distributed programming
- Tools and environments for parallel/distributed computing
- Security and dependability in parallel/distributed environments
- HPC numerical linear algebra
- HPC methods of solving differential equations
- Evolutionary computing, meta-heuristics and neural networks
- Machine learning, artificial intelligence and HPC
- HPC interval analysis
- Applied Computing in mechanics, material processing, biology and medicine, physics, chemistry, business, environmental modeling, etc.
- Applications of parallel/distributed computing
- Methods and tools for parallel solution of large-scale problems, including artificial intelligence and machine learning applications

WORKSHOPS & MINISYMPOSIA (preliminary list)

- Special Session on GPU Computing
- Special Session on Parallel EVD/SVD and its Application in Matrix Computations
- WS on Models, Algorithms and Methodologies for Hybrid Parallelism in New HPC Systems
- WS on Quantum Computing and Communication
- WS on Language-Based Parallel Programming Models
- WS on Scheduling for Parallel Computing
- WS on Applications of Machine Learning and Artificial Intelligence in High Performance Computing
- WS on Applied High Performance Numerical Algorithms for PDEs
- Minisymposium of HPC Applications in Physical Science
- Minisymposium on High Performance Computing Interval Methods
- WS on Complex Collective Systems

CONFERENCE CHAIRS

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14th INTERNATIONAL CONFERENCE ON

PARALLEL PROCESSING & APPLIED MATHEMATICS

KEYNOTE SPEAKERS (preliminary list)

Anima Anandkumar	California Institute of Technology, USA
Keren Bergman	Columbia University, USA
Ivona Brandic	Vienna University of Technology, Austria
Ümit V. Çatalyürek	Georgia Institute of Technology, USA
Jack Dongarra	University of Tennessee and ORNL, USA
Georg Hager	University of Erlangen-Nuremberg, Germany
Torsten Hoefler	ETH Zurich, Switzerland
Kate Keahey	University of Chicago & Argonne National Lab, USA
Simon Knowles	Graphcore
Satoshi Matsuoka	Tokyo Institute of Technology, Japan
Simon McIntosh-Smith	University of Bristol, United Kingdom
Enrique S. Quintana-Orti	Universitat Politècnica de Valencia, Spain
John Shalf	Lawrence Berkeley National Lab.LBNL, USA
Boleslaw Szymanski	Rensselaer Polytechnic Institute, USA
Manuel Ujaldon	University of Malaga & NVIDIA, Spain

PAPER SUBMISSION AND PUBLICATION

Original papers are invited for the conference. Authors should submit full papers using the EasyChair system before May 6. Regular papers are not to exceed 12 pages (LNCS style). Papers will be refereed and accepted on the basis of their scientific merit and relevance to the conference topics. Abstracts of accepted papers will be available during the conference in form of a brochure. Only papers presented at PPAM 2022 will be included into the proceedings, which is planned to be published after the conference by Springer in the LNCS series.

JOURNAL SPECIAL ISSUES

Like the previous PPAM editions, the authors of the best papers selected by the Program Committee will be invited to submit extended versions of their work to special issues of journals with Impact Factor such as *Int. Journal of High Performance Computing Applications*; *Concurrency and Computation: Practice and Experience*, and *Parallel Computing*.

IMPORTANT DATES

Submission of Papers:	May 6, 2022
Notification of Acceptance:	June 17, 2022
Camera-Ready Papers:	Nov. 2, 2022



Czestochowa
University
of Technology



We are committed to hosting PPAM 2022 on-site and will fulfill all the safety standards. Therefore, we strongly encourage submissions from people who plan to attend the conference in person. For those who cannot travel, we will offer the possibility of remote participation.