Minisymposium on High Performance Computing Interval Methods

Two major measures of the quality of high performance computations are numerical accuracy and efficiency.

Interval methods are a class of algorithms that are accurate and even allow to obtain a guaranteed result. They also provide a useful and appropriate tool to describe the uncertainty of parameters, discretization inaccuracy and numerical errors. Nevertheless, they are usually time consuming and memory demanding.

Hence, all attempts to increase their efficiency are required and valuable: parallel implementations, use of new data structures, improved algorithms.

The Minisymposium is going to provide a forum for interval researchers to share their experiences and present possible improvements to the algorithms and successful applications.

Topics of interest include (but are not limited to):

- parallelization of interval methods, in particular on multi-core architectures, supercomputers, grids or clouds,
- the use of GPU computing and hybrid architectures for interval analysis,
- the use of BLAS, LAPACK, novel data formats and data structures for interval computations,
- collaboration of interval software with schedulers, efficient filesystems, and other high-performance-related tools,
- auto-tuning of interval algorithms,
- global optimization/equations solving methods,
- interval linear systems, and linear systems with interval parameters,
- ordinary and partial differential equations,
- fuzzy numbers and fuzzy calculus,
- practical applications of interval scientific computing algorithms, including machine learning ones.

The Minisymposium is a part of the PPAM 2024 15th International Conference on Parallel Processing and Applied Mathematics.

As the **PPAM 2024** Conference, the Minisymposium is going to take place in **Ostrava, Czech Republic, on September 8-11, 2024**.

All rules of the **PPAM 2024** Conference apply, including the deadlines, required format of the abstracts/papers, and their submission via the **EasyChair** system of PPAM.

Please, send all your questions to Bartłomiej Jacek Kubica -- the preferred address is: bartlomiej.jacek.kubica@gmail.com.

Persons responsible for the Minisymposium organization (in alphabetic order):

- Milan Hladik, Charles University, Czech Republic.
- Małgorzata Aleksandra Jankowska, Poznan University of Technology, Poland.
- Vladik Kreinovich, University of Texas at El Paso, USA.
- Bartłomiej Jacek Kubica, Warsaw University of Life Sciences, Poland.
- Nathalie Revol, Inria, Ecole Normale Superieure de Lyon, France.
- Iwona Skalna, AGH University of Kraków, Poland.