CALL FOR PAPERS

Eleventh International Workshop on Advances in High-Performance Computational Earth Sciences: Applications and Frameworks (IHPCES 2021)
in conjunction with International Conference on Computational Science (ICCS 2021) in Krakow, Poland, June 16-18, 2021
https://www.cspp.cc.u-tokyo.ac.jp/IHPCES2021/

Aim of workshop

The IHPCES workshop provides a forum for presentation and discussion of state-of-the-art research in high performance computational earth sciences. The emphasis of the eleventh workshop continues to be on advanced numerical algorithms, large-scale simulations, architecture-aware and power-aware applications, computational environments and infrastructure, and data analytics methodologies in geosciences. With the imminent arrival of the exascale era, strong multidisciplinary collaborations between these diverse scientific groups are critical for the successful development of earth sciences HPC applications. The workshop facilitates communication between earth scientists, applied mathematicians, computational and computer scientists and presents a unique opportunity to exchange advanced knowledge, computational methods and science discoveries. Work focusing emerging data and computational technologies that benefit the broader geoscience community is especially welcome. Topics of interest include, but not limited to:

- Large-scale simulations on both homogeneous and heterogeneous supercomputing systems in earth sciences, such as atmospheric science, ocean science, solid earth science, and space & planetary science, as well as multi-physics simulations.
- Advanced modeling and simulations on natural disaster prevention and mitigation.
- Advanced numerical methods such as FEM, FDM, FVM, BEM/BIEM, Mesh-Free method, and Particle method etc.
- Parallel and distributed algorithms and programming strategies focused on issues such as performance, scalability, portability, data locality, power efficiency and reliability.
- Software engineering and code optimizations for parallel systems with multi-core processors, GPU accelerators or Xeon Phi processors.
- Algorithms for Big Data analytics and applications for large-scale data processing such as mesh generation, I/O, workflow, visualization and end-to-end approaches.
- Methodologies and tools designed for extreme-scale computing with emphasis on integration, interoperability and hardware-software co-design.

Paper Submissions

We welcome full (up to 14 pages) and short (up to 7 pages) papers in Springer Lecture Notes in Computer Science format (we do not accept Abstract Only submissions). Papers must be based on unpublished original work and must be submitted to IHPCES only. All accepted papers will appear in the conference proceedings of ICCS2021, published by Springer in its Lecture Notes in Computer Science series. More information is available on the IHPCES webpage.

Important Dates

- Papers submission due   February 12, 2021
- Notification of acceptance of papers   March 15, 2021
- Camera ready papers due   April 5, 2021

IHPCES 2021 co-chairs (contact)

- Takashi Shimokawabe - The University of Tokyo, Japan **(shimokawabe(at)cc.u-tokyo.ac.jp)**
- Kohei Fujita - The University of Tokyo, Japan **(fujita(at)eri.u-tokyo.ac.jp)**
- Dominik Bartuschat - University of Erlangen-Nuernberg, Germany
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Program committee (tentative)

- Hide, Aochi, BRGM, France
- Jörn, Behrens, University of Hamburg, Germany
- Xing, Cai, Simula Research Laboratory, Norway
- Takeshi, Fukaya, Hokkaido University, Japan
- Takashi, Furumura, The University of Tokyo, Japan
- Lutz, Gross, The University of Queensland, Australia
- Alexander, Heinecke, Intel Parallel Computing Lab, USA
- Sebastian, Kuckuk, University of Erlangen-Nürnberg, Germany
- Johannes, Langguth, Simula Research Laboratory, Norway
- Osni, Marques, Lawrence Berkeley National Laboratory, USA
- Hiromichi, Nagao, The University of Tokyo, Japan
- Kengo, Nakajima, The University of Tokyo, Japan
- Kenji, Ono, Kyushu University, Japan
- Olaf, Schenk, Universita della Svizzera italiana, Switzerland
- Osamu, Tatebe, University of Tsukuba, Japan
- Peng, Wang, NVIDIA, USA
- Mei, Wen, National University of Defense Technology, China
- Huilin, Xing, The University of Queensland, Australia

We are looking forward to your contributions to IHPCES 2021.