



IEEE CLUSTER 2021

Portland, OR, USA • 7–10 September

Call for Posters

<https://clustercomp.org/2021/posters/>

IEEE Cluster 2021 is the 23rd edition of the IEEE Cluster conference series, organized in cooperation with SIGHPC.

Clusters remain the primary system architecture for building many of today's rapidly evolving computing infrastructures and are used to solve some of the most complex problems. The challenges to make them scalable, efficient, productive, and increasingly effective requires a community effort in the areas of cluster system design, advancing the capabilities of the software stack, system management and monitoring, and the design of algorithms, methods, and applications to leverage the overall infrastructure.

IEEE Cluster 2021 is soliciting submissions from academia, laboratory, and industry professionals to present their latest research findings and works-in-progress in all aspects of cluster, cloud, and grid technologies in the form of posters, which will be included in the conference proceedings.

Papers of interest to IEEE Cluster 2021 will fall into four topic areas:

Area 1: Application, Algorithms, and Libraries

- Node and system architecture for HPC and Big Data clusters
- Architecture for converged HPC/Big Data clusters
- Energy-efficient cluster architectures
- Packaging, power and cooling
- Hybrid programming techniques in applications and libraries (e.g., MPI+X)
- Cluster benchmarks
- Application-level libraries on clusters
- Effective use of clusters in novel applications
- Performance evaluation tools

Area 2: Architecture, Network/Communications, and Management

- HPC and Big Data application studies on large-scale clusters
- Applications at the boundary of HPC and Big Data
- New applications for converged HPC/Big Data clusters
- Application-level performance and energy modeling and measurement
- Accelerators, reconfigurable and domain-specific hardware
- Heterogeneous clusters
- Interconnect/memory architectures
- Single system/distributed image clusters

- Novel algorithms on clusters

- Administration, monitoring and maintenance tools

Area 3: Programming and System Software

- Cluster system software/operating systems
- Programming models for converged HPC/Big Data/Machine Learning systems
- System software supporting the convergence of HPC, Big Data, and Machine Learning processing
- Cloud-enabling cluster technologies and virtualization
- Energy-efficient middleware
- Cluster system-level protocols and APIs
- Cluster security
- Resource and job management
- Programming and software development environments on clusters
- Fault tolerance and high-availability

Area 4: Data, Storage, and Visualization

- Cluster architectures for Big Data storage and processing
- Middleware for Big Data management
- Cluster-based cloud architectures for Big Data
- Storage systems supporting the convergence of HPC and Big Data processing
- File systems and I/O libraries
- Support and integration of non-volatile memory
- Visualization clusters and tiled displays
- Big Data visualization tools
- Programming models for Big Data processing
- Big Data application studies on cluster architectures

Poster Submission

Participants must submit a 2-page extended abstract (including references) describing the poster content, and the research ideas in the poster. If accepted, this extended abstract will be published in the proceedings of the conference. Posters will be prominently displayed and presented during a session in the conference. Additionally, posters will be made publicly available on the conference website.

The extended abstract should be structured similar to a technical paper, and may not exceed 2 letter-sized (8.5 x 11) pages including figures, tables and references using the **IEEE format** for conference proceedings (PDF, single-spaced, double column, 10pt text).

Please submit your poster via the **online submission system**

Important Dates

- Poster submission deadline: July 16, 2021
- Acceptance Notification: July 23, 2021
- Camera-ready deadline: July 30, 2021 (firm)
- Conference: September 7-10, 2021
- All deadlines are Anywhere on Earth (AoE)

For more information, contact the Posters Chairs

- Sameer Shende, University of Oregon, USA
- Yoshio Tanaka, Advanced Industrial Science and Technology (AIST), Japan