callforpaper.org

September 1-5, 2025

CONFERENCE WEBSITE: https://clustercomp.org/2025/papers/

About the Conference

IEEE Cluster 2025 is the 27th edition of the IEEE Cluster conference series. It is being held in cooperation with SIGHPC.

Computing clusters remain the primary system architecture for building many of today's rapidly evolving computing infrastructures including high-performance computing, cloud computing, machine learning training and inference systems, and big data, and are used to solve some of the most complex problems. The challenges posed making them scalable, efficient, productive, and increasingly effective require community efforts 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.

For IEEE Cluster 2025, which will be held September 2-5, 2025 in Edinburgh, United Kingdom, we again solicit high-quality original work that advances the state-of-the-art in clusters and closely related fields.

Important Dates

SEP 01

CONFERENCE DATE

September 1-5, 2025

All papers will be rigorously peer-reviewed for their originality, technical depth and correctness, potential impact, relevance to the conference, and quality of presentation. Generally research papers must clearly demonstrate novel research contributions, however papers reporting experiences are also welcome, but they must clearly describe the lessons learned and the resulting impact, along with the utility of the approach in comparison to previous work.

Authors must indicate the primary topic area of their submissions from the four topic areas provided below. In addition, they may optionally rank their paper relative to the overall set of topics. Transversal and emerging topics such as AI for HPC, HPC for AI, quantum computing, accelerators, and many others, are welcome within the respective areas even if they are not mentioned explicitly. Papers are limited to 10 pages, although references do not need to fit within this page limit.

IEEE Cluster 2025 follows a dual-anonymous review process. For an explanation and description of this review process, please refer to the following link: https://clustercomp.org/2025/dual_anonymous.html

Guidelines for Artificial Intelligence (AI)-Generated Text
The use of content generated by artificial intelligence (AI) in a paper (including but not limited to text, figures, images, and code) shall be disclosed in the acknowledgments section of any paper submitted to an IEEE publication. The AI

system used shall be identified, and specific sections of the paper that use AI-generated content shall be identified and accompanied by a brief explanation regarding the level at which the AI system was used to generate the content.

The use of AI systems for editing and grammar enhancement is common practice and, as such, is generally outside the intent of the above policy. In this case, disclosure as noted above is recommended.

Please also refer to the IEEE Submission Policies

Area 1: Application, Algorithms, and Libraries

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
Novel algorithms on clusters
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

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
Accelerators, reconfigurable and domain-specific hardware
Heterogeneous clusters
Interconnect/memory architectures
Single system/distributed image 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
Management of local, center-wide and disaggregate resources and job
Programming and software development environments on clusters
Fault tolerance and high-availability
Administration, monitoring and maintenance tools

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/Large scale visualization tools
Big Data application studies on cluster architectures

Paper Submission

Submissions must be in PDF format and must conform to the following Xplore layout, page limit, and font size, that is; single-spaced, 2-column numbered pages in IEEE format (8.5x11-inch paper, margins in inches – top: 0.75, bottom: 1.0, sides:0.625, and between columns:0.25, main text: 10pt). Submissions are required to be no more than 10 pages (excluding references). Submissions must be single-spaced, 2-column numbered pages in IEEE Xplore format (8.5x11-inch paper, margins in inches – top: 0.75, bottom: 1.0, sides:0.625, and between columns:0.25, main text: 10pt). Papers will be reviewed dual-anonymous. Author names and affiliations should NOT be included in the submitted paper. For additional guidelines read the double anonymous review policy

Important Dates

Submission site open: February 3, 2025
Full Papers due: April 25, 2025
Paper Acceptance Notification: July 4, 2025
Camera-ready deadline: August 8, 2025
Conference: September 2--5, 2025
All deadlines are Anywhere on Earth (AoE)

Contact
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Complete committee list is available here, https://clustercomp.org/2025/committees/