

International Workshop on Big Memory (BigMem) 2026

Co-located with ACM Symposium on Operating Systems Principles (SOSP) 2026

Prague, Czechia, September 29, 2026

<https://bigmem2026.github.io/>

Overview

The rapid evolution of memory-centric computing technologies—including Compute Express Link (CXL), persistent memory, and disaggregated architectures—is fundamentally reshaping system software design paradigms. The International Workshop on Big Memory (BigMem 2026) establishes a premier forum for researchers and practitioners to explore the challenges and opportunities in managing terabyte-to-petabyte scale memory hierarchies in modern computing systems.

Topics of Interest

This workshop will focus on important research directions, including operating system support for heterogeneous memory systems integrating DRAM, CXL and/or persistent memory, memory-centric networking technologies enabling efficient remote memory access, and innovative applications leveraging massive memory capacities. Moreover, we will examine emerging challenges in memory virtualization, coherence protocols, and fault tolerance for next-generation memory architectures.

The topics include, but are not limited to: Memory-system design (hardware/software co-optimization); Disaggregated memory architectures (e.g., CXL, NVMe-over-Fabrics); Operating systems for hybrid/heterogeneous memory (NVM, DRAM, HBM); Design and operation of large-scale memory systems; Emerging memory technologies (3D XPoint, STT-MRAM, FeRAM, optical memory); Memory failure modes, reliability, and fault mitigation; Energy-efficient memory subsystems; Memory security (side-channel attacks, encryption, secure allocators); Memory safety for critical systems; Memory-centric programming models and languages; In-memory and near-memory computing architectures; Algorithmic memory optimizations (caching, prefetching, compression); Non-volatile memory programming paradigms; In-memory databases, NoSQL stores, and analytics; Memory-driven AI/ML workloads; Embedded and autonomous systems; Memory disaggregation for cloud/edge environments; Bio-inspired memory architectures. By bridging architecture, systems, and applications, BigMem 2026 seeks to shape future research directions in operating systems.

Submission Guidelines

We invite original research contributions that

have not been published previously or submitted concurrently to other venues, including any other conference or journal. Authors should prepare their work as a two-page extended abstract (references excluded) in English, formatted as a PDF document. The ACM submission template is recommended.

All submissions must be made through the workshop's online submission system and will undergo a double-blind review process by our program committee. Please ensure your submission is properly anonymized to maintain the integrity of the review. Submissions will be evaluated on their technical merit, novelty, relevance to the workshop themes, and clarity of presentation. This workshop focuses on discussion and feedback rather than archival publication, and therefore does not produce formal proceedings.

Important Dates

Submissions due: June 10, 2026 (AOE)

Notification of acceptance: July 10, 2026

Workshop presentation: September 29, 2026

Submission site:

<https://bigmem26.hotcrp.com>

Program Chairs:

Yu Hua, *Huazhong Univ. Sci. and Tech*

Xue Liu, *McGill University*

Web/Submission Chair:

Yujie Hu, *Huazhong Univ. Sci. and Tech.*

Program Committee Member:

Ashvin Goel, *University of Toronto*

Bingzhe Li, *The University of Texas at Dallas*

Daniel S. Berger, *Microsoft*

Hui Lu, *The University of Texas at Arlington*

Jiacheng Shen, *Duke Kunshan University*

Juncheng Yang, *Harvard University*

Luo Mai, *University of Edinburgh*

Mai Zheng, *Iowa State University*

Michael Swift, *University of Wisconsin—Madison*

Mingxing Zhang, *Tsinghua University*

Oana Balmau, *McGill University*

Sanidhya Kashyap, *EPFL*

Vijay Chidambaram, *The University of Texas at Austin*

Yao Fu, *NVIDIA Research*

Youhui Bai, *University of Science and Technology of China*

Yuxin Ren, *Huawei*

Zhichao Cao, *Arizona State University*