First Workshop on Disruptive Memory Systems (DIMES)

Co-located with 29th ACM Symposium on Operating Systems Principles (SOSP 2023)
Koblenz, Rhineland-Palatinate, Germany, October 23rd, 2023

Call for Contributions

New system software is essential for using emerging memory technologies effectively. Novel memory types, interfaces, and capabilities are challenging long-held assumptions underlying both hard- and software. Instead of just the traditional volatile, passive, and largely homogeneous DDR DRAM, future systems will increasingly include integrated HBM, disaggregated far memory, and perhaps NVM. "In-memory" and "near-memory" processing promise low-power parallel processing that will scale with the amount of active data. New memory interconnects such as CXL will enable pooling and sharing of memory first at rack level and eventually global fabric-attached memory.

Beyond lower energy consumption and higher processing power, these memory innovations also promise to disrupt with lower cost, higher capacity, or higher reliability. The Workshop on Disruptive Memory Systems (DIMES) is intended to be a platform to discuss new architectures, abstractions, and interfaces for system software to enable and exploit these new memory technologies in future software. The scope of DIMES covers system software for all computing domains: embedded, mobile, desktop/laptop, edge, cloud, and HPC systems.

Submissions

The workshop allows two types of submissions: **papers** & **demos**.

Submitted **papers** must represent original material that is not currently under review in any other conference or journal, and has not been previously published. All paper submissions should be written in English and follow the two-column ACM SIGPLAN article style (https://www.sigplan.org/Resources/Author/, e.g. acmart LaTeX style with options `sigplan,anonymous,10pt`). The CCS Concepts, Keywords, and ACM Reference Format sections are not required in submissions. Papers must not exceed the length of six (6) printed pages plus references using a 10-point font.

All **demo** submissions come in form of an extended abstract with a maximum length of two (2) printed pages plus references with the same format as paper submissions. In addition to **giving a live demo** at the workshop, demo presenters are required to **produce a video**. We also encourage the paper authors to optionally present a demo. This does not require a separate submission of an extended abstract but is covered by the paper submission.

Papers and demo abstracts must be submitted in PDF format via the workshop website. They will be reviewed by the program committee and evaluated based on technical quality, originality, relevance, and presentation. Submissions are double-blind, please make sure that your submissions are properly anonymized.

Accepted submissions will be published in the ACM Digital Library. The authors of accepted submissions will be required to sign ACM copyright release forms.

Topics of Interest

Suggested topics for submissions include all aspects of system software that are affected by emerging memory technologies like

- disaggregated memory
- in-/near-memory computing
- high-bandwidth memory
- persistent memory

in embedded, mobile, desktop/laptop, edge, cloud, and HPC systems, and related domains.

The topics include, but are not limited to:

- operating system concepts
- application interfaces
- programming models
- energy-aware computing
- distributed computing
- resource placement and allocation
- combined use of different emerging memories

We encourage authors to submit papers on concepts, early-stage work, and demos of prototype systems.

Important Dates

Paper/demo submission deadline: ~~August 11~~ **August 18, 2023**
Acceptance notification: September 11, 2023
Final camera-ready paper due: September 29, 2023
Workshop presentations: **October 23, 2023**

Organization and Contact

Gustavo Alonso (ETH Zürich)
Peter Alvaro (UC Santa Cruz)
Timo Hönig (Ruhr University Bochum)
Marcel Köppen (Osnabrück University)

Mail: `organizers@dimes.ws`
Web: `https://dimes.ws`

Program Committee

Gustavo Alonso, ETH Zürich, CH
Peter Alvaro, UC Santa Cruz, US
Frank Bellosa, KIT, DE
Daniel Bittman, UC Santa Cruz, US
Hans-J. Boehm, Google, US
Philippe Bonnet, IT University of Copenhagen, DK
Jeronimo Castrillon, TU Dresden, DE
Timo Hönig, Ruhr University Bochum, DE
Asif Ali Khan, TU Dresden, DE
Marcel Köppen, Osnabrück University, DE
Michal Friedman, ETH Zürich, CH
Youngjin Kwon, KAIST, KR
Dominique Lavenier, IRISA/INRIA, FR
Julia Lawall, INRIA, FR
Alberto Lerner, University of Fribourg, CH
Pankaj Mehra, Elephance Memory, US
Alain Tchana, Grenoble INP, FR
Tianzheng Wang, Simon Fraser University, CA