Call for Abstracts

# Fifth Workshop on Open-Source Computer Architecture Research (OSCAR)

(co-located with ISCA 2026, in Raleigh, NC, USA)

**https://oscar-workshop.github.io/**

OSCAR 2026 marks the fifth edition of the workshop dedicated to fostering a community of researchers interested in developing and sharing open-source hardware and software for designing next-generation computer architectures.

**Motivation.** Computer architectures increasingly combine general-purpose processors with a growing variety of heterogeneous components, such as special-purpose processors, graphics-processing units, application-specific hardware accelerators, reconfigurable hardware modules, and analog/mixed-signal components. In any given application domain, the success of a new computer architecture is bound to the particular, application-specific mix of heterogeneous components. This heterogeneity brings new challenges to hardware designers and software programmers. Addressing many of these challenges requires collaborative and open-source research. This is the premise of OSCAR. The rationale is that many innovations are best evaluated in the context of complete system implementations, which go beyond traditional simulation methods, and that most individual research groups do not have the resources to realize such implementations. The goal of OSCAR is to bring together a community of researchers from academia, industry and government labs who are interested in collaborative open-source computer architecture research. Recent years have seen significant progress in this direction, with the contributions of hardware components, software tools, and integration platforms to simplify the realization of system prototypes with FPGA or ASIC technologies. The number of developers and users of these open-source artifacts has increased substantially. OSCAR provides a venue that promotes the growth of this community and fosters its efforts.

**Scope:** Topics of interest of the OSCAR workshop include, but are not limited to:

- Open-source processors (CPU, GPU, AI processors…)
- Open-source accelerators (programmable, configurable, fixed-function…)
- Open-source components (e.g., caches, busses, network-on-chip, peripherals, sensors…)
- CAD tools and methodologies for design, integration, and full-system simulation of open-source architectures
- Artificial intelligence (AI) methods for the design of open-source architectures and components
- Software aspects of heterogeneous component integration
- Security, reliability, and verification of open-source architectures and components
- Infrastructures specialized for FPGA prototyping or chip designs of open-source architectures
- Design experiences with the use of open-source components, tools, and platforms
- Discussion of case studies, applications that benefit from open-source architecture research

**Workshop Format:** OSCAR will have a mix of invited talks and presentations selected from the submissions to this call for participation. Abstracts should be submitted in PDF format (max 2 pages) and include title, authors and their affiliations, and the e-mail address of the contact author. Including of a URL of the release website of the open-source contribution described in the abstract is recommended. Submissions of early work and position papers are encouraged. Workshop submissions do not preclude publishing at future conference venues. While no formal proceedings are planned, the OSCAR organizers may seek the realization of a journal special issue collecting a subset of the contributions, after the workshop.

**Organizers:**


- Luca Carloni, Columbia University (Chair)
- Pradip Bose, IBM
- Margaret Martonosi, Princeton University
- Sophia Shao, University of California at Berkeley
- Caroline Trippel, Stanford University


**Important Dates:**

Abstract submissions: May 8, 2026
Author notification: May 22, 2026
Workshop Date and Venue: June 28, 2026, (co-located with ISCA 2026, in Raleigh, NC, USA)