October 2023 Currents

CEDA®

IEEE Council on Electronic Design Automation

D&T: Call for Papers

Call for Papers for a Special Issue on Open-Source Silicon

The Submission deadline is **15 November 2023**

Aim and Scope

Since the launch of the Open MPW program by Google, SkyWater, and Efabless in 2020, we have witnessed a steady expansion of the open-source IC design ecosystem. There are more than 5,500 users on the open-silicon Slack space and nearly 1,000 design projects have been initiated on Efabless' project portal. In addition to SkyWater's 90 and 130 nm offerings, designers can now also target open PDKs by Globalfoundries (180 nm) and IHP (130 nm BiCMOS). These efforts have resulted in hundreds of tapeouts across 12 shuttle runs that are now beginning to yield measured silicon results.

Several motivators underpin this new movement, primarily related to the lack of sharing and reproducibility in the current ecosystem that builds on nondisclosure agreements. By embracing the open-source approach and promoting transparency, the new ecosystem fosters reproducibility and reuse by providing a complete open chain of tools, design kits, and design libraries. It will allow designers to collaborate openly, share knowledge, and work collectively toward enhanced reliability and productivity. It also grants broader access to IC design beyond the electrical engineering field, benefiting educational institutions, research organizations, and facilitating innovative cross-disciplinary projects. Lastly, the new ecosystem enables the utilization of open data for training AI-based generators, leading to significant advancements in design methodology.

The goal of this special issue is to disseminate the most exciting open-source silicon results to date and to promote further interest in open-source chip design. We invite the community to submit contributions that are primarily focused on circuit design and measured results (as opposed to design tools, which were the topic of a past issue). A requirement for all contributions is that the circuits were designed exclusively using open-source tools and PDKs.

Important Dates:

- Open for submissions: 25 September 2023
- Submission deadline: 15 November 2023
- Notification First Round: 15 February 2024
- Revision submission: 30 April 2024
- Final decisions: 15 June 2024
- Tentative publication: Fall 2024

Call for Papers for a Special Issue on Wearable IoT Devices for Reliable Mobile Health Applications

The Submission deadline is **1 February 2024**

Aim and Scope

Wearable Internet of Things (IoT) technology has the potential to transform the quality of human life by enabling cost-effective, reliable, continuous, and data-driven monitoring of users in a free-living environment. For example, wearable devices have been identified as a key technology to support the aging populations across the world. Despite the impressive potential of wearable technology, their widespread adoption in both clinical and everyday settings have been limited due to several technology, usability, and energy sustainability challenges. This has led to multiple organizations, including the Movement Disorders Society Technology Study Group, stating that solving these challenges is crucial to improve the adoption of wearable devices. Some of the key challenges to wider adoption of wearable IoT technology include energy limitations, sensor data shift, privacy, and security. Reliability and in-situ ageing management in IoT devices is another crucial issue for wider adoption these devices. This is especially true for IoT devices deployed in remote locations where maintenance is expensive and time consuming. The goal of this special issue is to highlight recent research in

wearable IoT devices that aims to address the above challenges. Articles in this special issue will focus on hardware, software, design optimization, reliability, testing, and privacy aspects of wearable IoT devices. We will also consider approaches that co-optimize the operation of wearable devices for a specific set of applications (e.g., movement disorders). Overall, the aim of this issue is to generate a body of work in design of wearable devices and their integration into the IoT, which will further catalyze research and adoption of wearable IoT technology.

Important Dates:

- Open for submissions: 1 September 2023
- Submission deadline: 1 February 2024
- Notification First Round: 15 April 2024
- Revision submission: 30 April 2024
- Final decisions: 15 June 2024
- Tentative publication: Fall 2024

2023 IEEE CEDA Ernest S. Kuh Early Career Award

Congratulations to the 2023 IEEE CEDA Ernest S. Kuh Early Career Award winner, Pierluigi Nuzzo.

"*For outstanding contributions to high-assurance design of cyber-physical systems using contract-based design methodology*."

The deadline to submit for the 2024 award is **15 April 2024**.

2023 Phil Kaufman Award

Dr. Pileggi Will be Recognized for His Significant Contributions to the Electronic System Design Industry

Dr. Lawrence Pileggi, Coraluppi Head and Tanoto Professor of Electrical and Computer Engineering at Carnegie Mellon University, will be honored with the 2023 Phil Kaufman Award for distinguished contributions to Electronic System Design (ESD). The award will be presented at the annual Phil Kaufman Award presentation and dinner in Q1 2024.

DAC 2024: Call for Contributions

For the past 60 years, DAC has been the premier conference for the design and automation of electronic circuits and systems. Research papers, technical presentations, and sessions are selected by a committee of electronic design experts that offer the latest information on recent developments, trends, management practices, new products, technologies, and methodologies. Submit to the 61st DAC and be part of tomorrow's innovation.

Important Dates:

- Research Papers
  - Abstract Submission Deadline: 13 November 2023
  - Manuscript Submission Deadline: 20 November 2023
- Sunday Workshop Proposals Deadline: 20 November 2023
- Monday Tutorial Proposals Deadline: 20 November 2023
- Special/Invited Session Proposals Deadline: 20 November 2023
- Panel Proposals Deadline: 20 November 2023
- DAC Pavilion Proposals Deadline: 16 January 2024
- Exhibitor Forum Proposals Deadline: 16 January 2024

Engineering Tracks Submission Deadline: 16 January 2024
Previously known as "Designer, IP and Embedded Systems and Software Tracks". Now combined under Engineering Tracks.

- Front-End Design Track
- Back-End Design Track
- IP Track
- Embedded Systems and Software Track

Late Breaking Results Papers Deadline (opens 9 January 2024): 27 February 2024

IEEE SSCS Non-Traditional Computing Paradigms with Emerging Technologies for Energy Efficiency Workshop

Thursday, 9 November 2023 at 6:00 AM PST / 9:00 AM EST
Monday, 13 November 2023 at 6:00 AM PST / 9:00 AM EST

Organized by: Sumeet Kumar Gupta, Azad Naeemi, and Ian Young

As the power reduction through device scaling slows, exploratory materials, devices, and circuits are being examined to open new paths for achieving energy-efficiency especially as the demand for information storage and processing grows exponentially. This new-found freedom of breaking out of "CMOS scaling" introduces many new opportunities to do things completely differently—use a different material, invent a new device that operates on a different physical mechanism, and explore a new circuit function for computing that capitalizes on the unique properties of the new devices. Research in this area is truly multidisciplinary as it brings together researchers who are focused on the exploration of a new device and interconnect, or function for a more energy-efficient integrated circuit for computing. Computation based on emerging devices is not limited to just digital information processing but also encompasses non-Boolean computation, including analog, neuromorphic computing, and novel concepts in computer automata. This two-day virtual workshop brings together leading researchers in this field to present the latest advances and to discuss the challenges and opportunities that are ahead of us. Register here.

DATE 2024: Call for Papers

The Design Automation and Test in Europe Conference (DATE) is the main European event bringing together designers and design automation users, researchers and vendors as well as specialists in the hardware and software design, test, and manufacturing of electronic circuits and systems. DATE puts a strong emphasis on both technology and systems, covering ICs/SoCs, reconfigurable hardware, and embedded systems as well as embedded software. DATE 2024 will be held in Valencia, Spain from 25-27 March 2024. For more information, visit the website.

Important Dates:

D, A, T and E Papers:

- ~~Abstract Deadline: 10 September 2023~~
- ~~Full Papers Deadline: 17 September 2023~~
- Notification of Acceptance: 14 November 2023
- Camera-Ready Papers: 17 January 2024
- Paper Presentation Videos: 7 February 2024

Late Breaking Results Papers:

- Abstract Deadline: 3 December 2023
- Notification of Acceptance: 10 January 2024
- Paper Presentation Videos: 7 February 2024

Special Initiative "Autonomous Systems Design":

- ~~Abstract Deadline: 4 November 2023~~
- Full Papers Deadline: 11 November 2023
- Notification of Acceptance: 17 December 2023
- Camera-Ready Papers: 17 January 2024
- Paper Presentation Videos: 7 February 2024

~~Focus Session Proposals: 2 October 2023~~
~~Embedded Tutorials Proposals: 2 October 2023~~
~~Workshop Proposals: 2 October 2023~~
Multi-Partner Projects:

- Papers Deadline: 3 December 2023
- Paper Presentation Videos: 7 February 2024

Young People Program

- Ph.D. Forum: 3 December 2023
- Careers Fair - Industry: 3 December 2023
- Student Teams Fair: 3 December 2023
- Design Contest: 3 December 2023
- University Fair: 3 December 2023
- Sponsorship of Attendance Application: 31 December 2023
- Careers Fair Academia: 25 February 2024

*Kindly note that all deadline days apply to anywhere on earth (AoE). Deadlines are strict and no extensions will be given.*View the call for papers here.

ASP-DAC 2024: Registration is Open

The 2024 Asian and South Pacific Design Automation Conference (ASP-DAC) aims to provide the Asian and South Pacific CAD/DA and Design community with opportunities to present recent advances and with forums for future directions in technologies related to design and Electronic Design Automation (EDA).

The format intends to cultivate and promote an instructive and productive interchange of ideas among EDA researchers/developers and system/circuit/device designers. All scientists, engineers, and students who are interested in theoretical and practical aspects of VLSI design and design automation are welcome to ASP-DAC.

Registration Due Dates:

- Author Registration: 3 November 2023
- Early Registration for General Participants: 15 December 2023

Find us online at **ieee-ceda.org**

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Submit contributions via the form

Contributions Form