

30th IEEE International Symposium on Computer Arithmetic (ARITH 2023)

September 4-6, 2023, Portland, Oregon, USA <https://arith2023.arithsymposium.org/>

First Call for Papers

Computer arithmetic has always been at the core of the digital age and is currently driving innovation in domains such as artificial intelligence, high-performance computing, signal processing, and security. Since 1969, the ARITH symposia have served as the premier conference for presenting the latest research in computer arithmetic.

The 30th edition of the symposium, ARITH 2023, will be held in Portland, Oregon, USA, with in-person attendance and presentation of research results, keynote talks, and panels.

Regular Conference Papers

ARITH 2023 welcomes submissions of conference papers (up to 8 pages in the IEEE CS Conference format) describing recent scientific advances related to computer arithmetic. Accepted papers will be included in the conference proceedings and in the IEEE Xplore Digital Library. Topics of interest include, but are not restricted to:

- Foundations of computer arithmetic: emerging number systems and their applications, novel arithmetic algorithms, their analysis, and applications
- Efficient, low-power, or high-performance novel implementations of computer arithmetic in software and hardware: integer or floating-point operations, elementary and special functions, multiple-precision computing, interval arithmetic, finite field arithmetic
- Novel floating-point algorithms, properties of floating-point arithmetic in emerging domains and applications
- Computer arithmetic in emerging standards, high-level languages, and compilers
- Test, verification, formal proofs, computer-aided design (CAD) automation and fault/error-tolerance for computer arithmetic
- New arithmetic paradigms, architectures, and implementations for emerging technologies, for FPGAs or configurable logic, and for non-conventional computing systems
- New arithmetic paradigms and architectures for specific application domains such as cryptography, security, Internet-of-Things, neural networks, deep learning, signal processing, computer graphics, multimedia, computer vision, high-performance computing, finance, and emerging application domains
- Inexact and stochastic arithmetic algorithms, architectures, and applications

Short and Industry Papers

For ARITH 2023, we are also inviting short papers (4 pages maximum) to describe work-in-progress ideas, interim results, or industry applications. PhD students are especially welcome.

TETC Special Section

ARITH 2023 is also partnering with IEEE Transactions on Emerging Topics in Computing for a special section on "Emerging and Impacting Trends on Computer Arithmetic", to be published tentatively at the conference dates. This special section is opened to new submissions which, if accepted, will be considered also for presentation at ARITH 2023. Submissions of extended versions of previous conference papers are also welcome, but they will not be considered for presentation at ARITH 2023.

A detailed call for papers for this special TETC section can found at <https://www.computer.org/digital-library/journals/ec/cfp-emerging-trends-computer-arithmetic>.

Procedure for submission

Submission site: <https://easychair.org/conferences/?conf=arith2023>

Papers under review elsewhere are not acceptable for submission to ARITH 2023. A double-blind peer review policy will be used. Please, remove author names, acknowledgments, or any obvious references to the authors before submission. By submitting a paper, you implicitly confirm you are solely submitting it to ARITH 2023.

The final submissions of accepted regular session papers cannot exceed 8 pages (NO extra pages) using the IEEE Computer Society Conference format (two columns). However, for review, authors may submit a paper with a maximum of 20 pages, 12pt font size, single column and double spacing. The final submissions for short and industry papers cannot exceed 4 pages (NO extra pages) using the IEEE Computer Society Conference format (two columns). For review, the paper may have up to 10 pages, in 12pt font size, single column and double spacing.

For formatting instructions, please see:

http://www.ieee.org/conferences_events/conferences/publishing/templates.html

All accepted submissions, whether regular, short, or industry papers, will have a full presentation slot scheduled.

IMPORTANT DATES

IEEE TETC Special Section

- | | |
|---------------------------------------|----------------|
| • Submission deadline | March 12, 2023 |
| • Authors notification (first review) | May 1, 2023 |
| • Submission of Minor revisions | May 29, 2023 |
| • Notification of Final acceptance | Jul 2, 2023 |
| • Publication materials due | July 15, 2023 |

ARITH 2023 Conference Papers

- | | |
|--|----------------|
| • Abstract submission deadline | April 16, 2023 |
| • Conference paper submission deadline | April 23, 2023 |
| • Reviews completed and Authors notified | June 26, 2023 |
| • Camera ready and copyright due | July 22, 2023 |

Detailed submission procedures, registration information, and other relevant information will be available by late February/early March at <https://arith2023.arithsymposium.org/>

Venue: The Benson Hotel, Portland, Oregon - <https://www.hilton.com/en/hotels/pdxbeqq-the-benson-portland/>

We are looking forward to seeing you at ARITH 2023 in Portland, Oregon, USA in September this year. Please forward this message to others who might be interested and are not aware of this.

Thank you,

Marius Cornea/General Chair, on behalf of the Organizing Committee

Email: arith2023@ieee.org or arith2023@arithsymposium.org