
CALL FOR PAPERS
ARITH-2020
27th IEEE Symposium on Computer Arithmetic
June 7 – 10, 2020, Portland, OR, USA
<http://www.arithsymposium.org>

Scope

Since 1969, the ARITH symposia have served as the flagship conference for presenting scientific work on the latest research in computer arithmetic. Computer arithmetic is now driving the most important innovations and product directions in our industry, such as artificial intelligence and security.

Authors are invited to submit papers describing recent advances on all aspects related to computer arithmetic, its applications or implementations. This includes, but is not restricted to, the following topics:

- Foundations of number systems and arithmetic
- Arithmetic processor design and implementation
- Arithmetic algorithms and their analysis
- Floating-point units, algorithms, and numerical analysis
- Elementary and special function implementations
- Test, validation, and formal verification techniques for arithmetic implementations
- Power-efficient or low-energy arithmetic units and processors
- Industrial implementation of arithmetic units and processors
- Fault/error-tolerance in arithmetic implementations
- Arithmetic for FPGAs and reconfigurable logic
- Design automation for computer arithmetic implementations
- Arithmetic, datapath design and numerics for artificial intelligence, machine/deep learning
- Computer arithmetic for approximate computing
- Computer arithmetic for security and cryptography
- Arithmetic to enhance accuracy or reliability (multiple-precision, interval arithmetic, ...)
- Arithmetic challenges in HPC and exascale computing (accuracy, reproducibility, ...)
- Arithmetic for specific application domains (big-data analytics, signal processing, computer graphics, multimedia, computer vision, finance, ...)
- Computer arithmetic in emerging technologies
- Non-conventional computer arithmetic and applications

Specific Sessions

Besides inviting submissions for regular sessions (8 pages maximum papers), ARITH-2020 will also propose specific sessions. All accepted submissions, whether regular full papers, specific topics, short or industry papers or student forum presentations, will have a presentation slot scheduled.

Short and Industry Papers

For ARITH-2020, we are also inviting short papers (4 pages maximum) to describe industry applications, work-in-progress ideas, or interim results.

Specific Topic Sessions

We are also inviting people to co-organize a few sessions on specific topics. Please identify the targeted session for submissions (e.g. use the anonymous author field). Submissions (4-page and 8-page) must comply to the procedure below and will be reviewed as all other types of sessions.

Co-organizers have to contact the PC Chairs before Dec. 30th, 2019 to propose a topic.

Student Forum

We invite students at any level to present their work in an informal session without papers in the proceedings.

Procedure for submission for all sessions

An abstract submission deadline has been set to January 22nd (**extended deadline**). This initial submission must include title, author(s) (only on the EasyChair website, not in the anonymous PDF file), keywords and abstract. The full paper is due on February 7th (**final extended deadline**).

Submission site: <https://easychair.org/conferences/?conf=arith2020>

Papers under review elsewhere are not acceptable for submission to ARITH-2020. A double-blind peer review policy will be enforced. Please, remove authors' names, acknowledgments or any obvious references to the authors before submission of the PDF file. By submitting a paper you implicitly confirm you are solely submitting it to ARITH-2020. 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.

Formatting instructions:

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

Possible journal extensions:

We expect to propose a special section to the IEEE Transactions on Computers for extensions of papers presented at ARITH-2020 (a dedicated CFP will be made if the special issue is accepted).

Important Dates

Abstract submission (must include title, authors, keywords, abstract), extended deadline	January 22nd, 2020
Final submission with complete anonymous paper, extended deadline	February 7th, 2020
Paper notification	Early April, 2020
Paper camera-ready	End April, 2020
Conference	June 7-10th, 2020

Organization

General chair	Marius Cornea, Intel Corporation, USA
Program co-chairs	Weiqiang Liu, Nanjing University of Aeronautics and Astronautics (NUAA), China Arnaud Tisserand, CNRS, France
Financial chair	Robin C. Gilbert, Intel Corporation, USA
Web chair	Alberto Cannavò, Politecnico di Torino, Italy