

# 25th IEEE Symposium on Computer Arithmetic

## ARITH 25



Amherst, MA, USA - June 25-27, 2018

Since 1969, the ARITH symposia have served as the flagship conference for presenting scientific work on the latest research in computer arithmetic. Authors are invited to submit papers describing recent advances on all aspects of computer arithmetic and 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
- Power-efficient or low-energy arithmetic units and processors
- Industrial implementation of arithmetic units and processors
- Test, validation, and formal verification techniques for arithmetic implementations
- Fault/error-tolerance in arithmetic implementations
- Arithmetic for FPGAs and reconfigurable logic
- Design automation for computer arithmetic implementations
- 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

## **NEW: Industry track – Call for paper on special sessions**

For ARITH 25 we are also inviting researchers in the industry to submit a short paper (4 pages) on one of the following main topics:

- Efficient, accurate, and reproducible floating-point summation
- Overall/ubiquitous encryption - from memory storage to arithmetic units
- Efficient SIMD arithmetic operations, algorithms and designs
- Trading off accuracy for PPA in floating-point operation (performance, power, area): algorithms, hardware design and applications.

### **Procedure for submission**

A PDF version of the papers should be submitted no later than February 7, 2018 (extended deadline). Papers under review elsewhere are not acceptable for submission to ARITH 25. *A double-blind peer review policy will be enforced.* Please, remove authors' 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 25. Authors will be notified of acceptance in the beginning of April, 2018, and final camera-ready papers will be due on April 20, 2018.

**Submission site:** <https://easychair.org/conferences/?conf=arith25>

### **Regular session paper**

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.

### **Special session paper**

The final special session paper 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](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)