

ASAP 2020

Application-specific Systems, Architectures and Processors

Call for Papers

The 31st IEEE International Conference on **Application-specific Systems, Architectures and Processors** will take place in Manchester, UK. The history of the ASAP conference traces back to the International Workshop on Systolic Arrays, organized in 1986 in Oxford, UK. It later developed into the International Conference on Application-Specific Array Processors. With its current title, it was organized for the first time in Chicago, USA, in 1996. Since then it has alternated between Europe and North-America. The conference covers the theory and practice of application-specific systems, architectures, and processors. For the 2020 edition of ASAP, manuscripts in the following categories are especially welcomed:

- **Sustainable Computing**
- **Neuromorphic Computing**
- **Technologies Beyond CMOS**

Further, the conference will build upon traditional strengths in areas such as

- Computer arithmetic
- Cryptography
- Compression
- Network processing
- Signal and image processing
- Reconfigurable computing (FPGAs, CGRAs, etc.)
- Application-specific instruction-set processors
- Hardware and reconfigurable accelerators
- Embedded systems and domain-specific solutions
- Approximate computing
- Heterogeneous computing, ranging from embedded to HPC systems and data centers
- Cloud computing infrastructures and acceleration
- Edge computing, wireless, mobile, and IoT systems
- Hardware and software architectures for CPS



Important Dates

Abstract submission deadline:	March 27, 2020
Paper submission deadline:	April 3, 2020
Notification of acceptance:	May 13, 2020
Camera-ready papers:	June 5, 2020

- AI architectures, acceleration of machine learning (custom designs or based on FPGAs, GPUs, TPUs)
- Autonomous computing systems
- Design methods, tools, and compilers
- Simulation and prototyping (e.g., validation, performance analysis)
- System quality attributes (energy efficiency, fault tolerance, security, etc.)
- Accelerators for computational genomics, finance, big data, and other complex workloads
- Emerging technologies (e.g., quantum computing, optical computing or communication, 3D devices and interconnects, memristors for storage and logic, in-memory computing)

Authors are invited to submit original, unpublished research manuscripts on the above topics.

Submissions must be done through EasyChair (<https://easychair.org/conferences/?conf=asap2020>). All papers will be reviewed by at least three members of the program committee, with a double-blind review process. Manuscripts for full papers should not exceed 8 single-spaced, double-column pages using 10-point size font on 8.5x11 inch pages (IEEE conference style), including references, figures, and tables. Manuscript for short papers should not exceed 4 single-spaced, double-column pages. All papers must be submitted electronically in PDF format. All accepted papers must be presented by one of the authors in order to be included in the proceedings and published in IEEE Xplore.