



Embedded Systems Week

www.esweek.org

September 17-22, 2023

Hamburg, Germany

CODES+ISSS 2023



Call for Papers

International Conference on Hardware/Software Codesign and System Synthesis
September 17 – September 22, 2023, Hamburg, Germany

The International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS) is the premier conference in system-level design, hardware/software co-design, modeling, analysis, and implementation of modern Embedded Systems, Cyber-Physical Systems, and Internet-of-Things, from system-level specification and optimization to synthesis of system-on-chip hardware/software implementations. CODES+ISSS is part of Embedded Systems Week (ESWEEK), the premier event covering all aspects of hardware and software design for smart, intelligent, and connected computing systems.

CODES+ISSS Program Chairs:

Mohammad Abdullah Al Faruque, University of California, Irvine, USA

Muhammad Shafique, New York University (NYU) Abu Dhabi, UAE

Topics of interest include:

Track 1) System-level design – Specification, modeling, refinement, synthesis, and partitioning of embedded systems, hardware-software co-design, hybrid system modeling and design, model-based design, design for adaptivity and reconfigurability.

Track 2) Domain and application-specific design – Analysis, design, and optimization techniques for multimedia, medical, automotive, cyber-physical, IoT, and other application domains.

Track 3) System architecture – Heterogeneous systems, many-cores, and distributed systems, architecture and micro-architecture design, exploration and optimizations of application-specific processors and accelerators, reconfigurable and self-adaptive architectures, storage, memory systems, and networks-on-chip.

Track 4) Simulation, validation, and verification – Hardware/software co-simulation, verification and validation methodologies, formal verification, hardware accelerated simulation, simulation and verification languages, models, and benchmarks..

Track 5) Embedded software – Language and library support, compilers, runtimes, parallelization, software verification, memory management, virtual machines, operating systems, real-time support, middleware.

Track 6) Safety, security, and reliability – Cross-layer reliability, resiliency and fault tolerance, test methodology, design for security, reliability, and testability, hardware security, security for embedded, CPS, and IoT devices.

Track 7) Power-aware systems – Power-aware and energy-aware system design and methodologies, ranging from low-power embedded and cyber-physical systems, IoT devices, to energy-efficient large-scale systems such as cloud datacenters, green computing, and smart grids.

Track 8) Embedded machine learning – Hardware and software design, implementation, and optimization for machine learning that are specially designed for resource- and power-constrained embedded, CPS, and IoT devices.

Track 9) Industrial practices and case studies – Practical impact on current and/or future industries, application of state-of-the-art methodologies and tools in areas including wireless, networking, multimedia, automotive, cyber-physical, medical systems, IoT, etc.

Journal Track Submissions:

Abstracts: March 16, 2023

Full Papers: March 23, 2023 (firm)

Work-in-Progress Submissions:

Full Papers: May 22, 2023 (firm)

Notification of Acceptance:

June 30, 2023 (Journal track)

June 19, 2023 (WiP track)

*All submissions are due by AOE time.

Journal-Integrated Publication Model: CODES+ISSS 2023 has a dual publication model with two tracks. Journal track papers will be published in ACM Transactions on Embedded Computing Systems (TECS) and Work-in-Progress track papers will be published in the ESWEEK Proceedings. See details at <http://www.esweek.org/author-information>

ESWEEK General Chairs:

Xiaobo Sharon Hu, University of Notre Dame, USA

Alain Girault, INRIA, France

CODES+ISSS Program Chairs:

Mohammad Al Faruque, Univ. of California, Irvine, USA

Muhammad Shafique, NYU Abu Dhabi, UAE