



Embedded Systems Week

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October 7-14, 2022

Hybrid-Shanghai

CODES+ISSS 2022



Call for Papers

International Conference on Hardware/Software Codesign and System Synthesis

October 10 – October 12, 2022, Hybrid-Shanghai

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 intelligent and connected computing systems.

CODES+ISSS Program Chairs:

Chengmo Yang, University of Delaware, USA

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

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 31, 2022

Full Papers: April 7, 2022 (firm)

Work-in-Progress Submissions:

June 11, 2022 (firm)

Notification of Acceptance:

July 05, 2022 (both tracks)

**All submissions are due by AOE time.*

Journal-Integrated Publication Model: CODES+ISSS 2022 has a dual publication model with two tracks. Journal track papers will be published in IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) 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:

Aviral Shrivastava, Arizona State University, USA

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Chengmo Yang, Univ. of Delaware, USA

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