



## Call for Papers

**International Conference on Compilers, Architectures, and Synthesis for Embedded Systems (CASES)  
September 28 – October 03, 2025, Taipei, Taiwan**

CASES is a premier forum, where researchers, developers, and practitioners exchange information on the latest advances in design, optimization, validation, and applications of embedded systems, Internet of Things (IoT), and the emergent trend of integrating Artificial Intelligence into IoT (AIoT). The conference has a long tradition of showcasing cutting-edge research in these broad areas, covering topics including, but not limited to, hardware-software co-design and co-validation, edge AI, embedded architecture, compilers for heterogeneous systems, memory/storage technology, security/reliability, energy-efficiency of embedded systems, and domain-specific hardware accelerators.

We particularly solicit submission of original research articles on the following topics:

### **TRACK 1: AI Systems and Applications of AI at Edge**

Artificial Intelligence of Things (AIoT), Edge intelligence, Architectures, accelerators, and compilers for AI hardware; Applications of machine learning techniques to embedded systems, IoT, and Cyber-Physical Systems (CPS); Neuromorphic and cognitive computing, analytics for embedded applications; and validation techniques for AI components.

### **TRACK 2: Embedded Systems and IoT/CPS Security, Safety, Reliability, and Energy-Efficiency**

Secure architectures, hardware security, software security for embedded systems, IoT, and CPS; Architecture, design, and compiler techniques for energy-efficiency, reliability, and aging; Modeling, analysis, and optimization for timing and predictability; Validation, verification, testing, and debugging of embedded software.

### **TRACK 3: Memory and Storage**

Memory system architecture; Persistent memory, Emerging memory technologies (e.g., ReRAM, MRAM, FeRAM, DNA); Caches, scratchpad memory, and compiler-controlled memory; Reconfigurable memory; and storage systems.

### **TRACK 4: Accelerators, Emerging Technologies, and Applications**

Synthesis, optimization, and design-space exploration of high-performance, low-power, reliable accelerators; Domain-specific accelerators for emerging applications including AI training/inference, graph analytics, scientific computing; Compilers for accelerators; Biologically-inspired computing; Heterogeneous and domain-specific multi-core SoC; Approximate computing; Flexible hybrid electronics (FHE); Augmented/virtual reality.

### **TRACK 5: Architectures, Compilers, System-level Design**

Embedded and mobile processor micro-architecture, Many-core processors, GPU architectures, Reconfigurable computing including FPGAs and CGRAs for embedded systems and IoT/CPS, Application-specific processor design, 3D-stacked architectures; Networks-on-Chip (NoC) architectures; I/O management in embedded systems; and compiler support for CPU, GPU, reconfigurable computing, emerging computing paradigms, compilation for memory, storage, and on-chip communications.

**Journal-Integrated Publication Model:** Accepted full papers will be published in the *ACM Transactions on Embedded Computing Systems*. Accepted LBR papers will be published in *IEEE Embedded Systems Letters*. Journal-track papers must be up to **20 pages** in ACM one-column format, including references. LBR must be up to **4 pages** in IEEE format.

**In-Person Presentation Requirement:** An accepted paper will be removed from the journal (TECS or ESL) and the technical program unless both of the following conditions are satisfied: (1) One author of the accepted paper must register at the full conference (author registration) rate, and (2) An author of the accepted paper must present (in-person) the paper in the conference. See details at <http://www.esweek.org/author-information>

### **ESWEEK General Chairs:**

Tei-Wei Kuo, National Taiwan University, Taiwan  
Andy Pimentel, University of Amsterdam, The Netherlands

### **CASES Program Chairs:**

Jeronimo Castrillon, TU Dresden, Germany  
Christophe Dubach, McGill University, Canada

### **Journal Track Submissions:**

Abstract Submission: March 23, 2025  
Full Paper Submission: March 30, 2025 (firm)  
Acceptance Notification: July 13, 2025

### **Late Breaking Results (LBR) Submissions:**

Paper Submission: June 1, 2025 (firm)  
Acceptance Notification: July 13, 2025

**All submissions are due by midnight, AOE.**