PRELIMINARY CALL FOR PAPERS



Where Silicon meets Intelligence

14–17 June 2027 Seville, SPAIN

The 2027 edition of the **International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and Applications to Circuit Design (SMACD)** will be held from June 14th to 17th in **Seville, SPAIN**. SMACD is a forum devoted to modeling, simulation, and synthesis for Analog, Mixed-signal, RF (AMS/RF), and multi-domain (nanoelectronics, biological, MEMS, optoelectronics, etc.) integrated circuits and systems, as well as emerging technologies and applications. **Open-source tools and methods** for IC design and experiences with modeling, simulation, and synthesis techniques including system/technology co-optimization in diverse application areas are also welcomed. Objective technologies include CMOS, beyond CMOS, and More-than-Moore such as MEMS, power devices, sensors, passives, etc. **Accepted papers will be submitted for inclusion into IEEE Xplore® subject to meeting IEEE Xplore's scope and quality requirements.**

CAD AND EDA METHODS AND TOOLS FOR AMS SYSTEMS

Synthesis, Sizing & Optimization
- Multi-level Synthesis Methods
- Physical Synthesis Methods
- High-frequency Circuits & Systems
- Low-Power & Energy-aware Design
- Parasitic-aware Design
- Variability-aware & Reliability-aware
- Procedural Design Methods
- Sizing & Optimization Methods

Modeling
- Performance/Behavioral
- Power and Electro-thermal
- Reliability and Variability
- RF/microwave/mm-wave
- Signal/Power Integrity
- Electromagnetic Theory
- Transmission Line Theory
- Automated Model Generation
- Modeling of Chiplet-based Systems and Components

Simulation, Verification & Test
- Behavioral Simulation
- Numerical & Symbolic
- RF Circuit Simulation
- Electromagnetic Simulation
- Multilevel Simulation
- Analysis of Variability Effects
- Formal/Functional Verification
- Test & Design-for-Test

EMERGING TECHNOLOGIES AND APPLICATIONS (ETA)

CAD for Emerging Technologies
- CAD for Bio-Electronic Devices, Bio-Sensors
- CAD for Multi-Domain Devices and Circuits
- CAD using Cloud Computing
- AMS Soft and Hard IP Block Generation

AI/ML for CAD/EDA
- ML for Device/Circuit Modeling
- ML for Circuit/System Simulation
- ML for Automatic Sizing and Layout
- LLMs and agents for CAD/EDA

Hardware Security
- Hardware Security Primitives (Methods, PUFs, etc.)
- Attacks and Countermeasures
- Anticounterfeiting
- Architectures and Tools for Secure Design

EMERGING DEVICES AND PARADIGMS

- Devices, Hardware and Methods for Bio-Inspired and Neuromorphic Computing
- Design Strategies using Emerging Devices
- Emerging Devices in Security
- Modeling and simulation of emerging devices, e.g., wide band gap GaN power MOSFETS, NCFETs, TFETs, ...

AMS ICs AND MULTI-DOMAIN DESIGN APPLICATIONS

- Internet of Everything
- Automotive Systems
- Biomedical and Bio-inspired CAS
- Low-Power Low Voltage CAS
- Sensors and Sensing Systems
- Integrated power management architectures
- Security Systems
- Aerospace Systems
- Renewable Energy Systems

COMPETITIONS

EDA COMPETITION

Looking for a **better designer**: a new tool, method or flow that improves how circuits are designed.

OPEN-SOURCE DESIGN CHALLENGE

Looking for a **better design**: a real circuit made entirely with open-source tools and an open PDK, published so that anyone can reproduce it.

ORGANIZED BY

IMSE-cnm Instituto de Microelectrónica de Sevilla | CSIC | US | USE CHIP

Escuela Técnica Superior de Ingeniería Informática

CEDA IEEE Council on Electronic Design Automation
Spain Chapter

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IMPORTANT DATES

Paper Submission Deadline	**Feb. 19 2027**
Author Notification	**April 9, 2027**
Camera Ready Submission	**April 30, 2027**
Early Registration Deadline	**April 30, 2027**

CONTACT

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