

SMACD23

3-5 JULY • FUNCHAL-MADEIRA ISLAND • PORTUGAL

CALL FOR PAPERS

The 2023 edition of the International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD) will be held at VidaMar Resort Hotel, a stunning location on Madeira island, Portugal. 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. Open-source tools and methods for AMS/RF and multi-domain IC design and experiences with modeling, simulation, and synthesis techniques 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. SMACD is **technically co-sponsored** by the IEEE, IEEE CEDA and IEEE CAS, and its proceedings will be published in IEEEExplore.



CAD AND EDA METHODOLOGIES AND TOOLS FOR AMS SYSTEMS (CAD/EDA)

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
- Sizing & Optimization Methods
- Procedural Design 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 Gen.

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/using Emerging Technologies

- CAD for Bio-Electronic Devices, Bio-Sensors
- CAD for Multi-Domain Devices and Circuits
- CAD for Nanophotonics and Optical Devices/Interc.
- CAD using AI and ML Algorithms
- CAD using Cloud Computing
- AMS CAS Soft and Hard IP Blocks Generating Meth.

Hardware Security

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

Emerging Devices and Paradigms

- Emerging Device Modeling (Steep-Slope, TFET, NCFET, PTM, Memristor, etc.)
- Design Strategies using Emerging Devices
- Emerging Devices in Security
- Devices, Hardware and Methods for Bio-Inspired and Neuromorphic Computing

AMS ICS AND MULTI-DOMAIN DESIGN APPLICATIONS (DES)

Design Applications

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

IMPORTANT DATES

Paper Submission Deadline	February 3 rd , 2023
Author Notification	March 17 th , 2023
Camera Ready Paper Submission	March 31 st , 2023
Early Registration Deadline	March 31 st , 2023

ORGANIZED BY



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VidaMar Resort Hotel, Funchal, Madeira Island



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