

# 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 <sup>rd</sup> , 2023
Author Notification .....	March 17 <sup>th</sup> , 2023
Camera Ready Paper Submission .....	March 31 <sup>st</sup> , 2023
Early Registration Deadline .....	March 31 <sup>st</sup> , 2023

## ORGANIZED BY



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## CONFERENCE VENUE

VidaMar Resort Hotel, Funchal, Madeira Island



CONTACT: [info@smacd-conference.org](mailto:info@smacd-conference.org)