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 CASS**, and its proceedings will be published in **IEEExplore**.

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

Synthesis, Sizing & Optimization	Modeling	Simulation, Verification & Test
◦ Multi-level Synthesis Methods	◦ Performance/Behavioral	◦ Behavioral Simulation
◦ Physical Synthesis Methods	◦ Power and Electro-thermal	◦ Numerical & Symbolic
◦ High-frequency Circuits & Systems	◦ Reliability and Variability	◦ RF Circuit Simulation
◦ Low-Power & Energy-Aware Design	◦ RF/microwave/mm-wave	◦ Electromagnetic Simulation
◦ Parasitic-Aware Design	◦ Signal/Power Integrity	◦ Multilevel Simulation
◦ Variability-aware & Reliability-Aware	◦ Electromagnetic Theory	◦ Analysis of Variability Effects
◦ Sizing & Optimization Methods	◦ Transmission Line Theory	◦ Formal/Functional Verification
◦ Procedural Design Methods	◦ Automated Model Gen.	◦ 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 3rd, 2023
Author Notification	March 17th, 2023
Camera Ready Paper Submission	March 31st, 2023
Early Registration Deadline	March 31st, 2023

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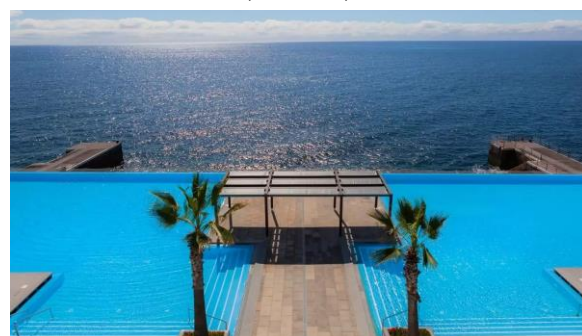
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