

DTTIS 2025 Technical Program

Wednesday, October 15

12.30 – 13.00 Opening session

Ioannis VOYIATZIS, Mohamed MASMOUDI, General Chairs

Anteneh GEBREGIORGIS, Athanassios MILIDONIS, Program Chairs

13.00 – 14.00 Keynote Talk #1: Dimitrios SOUDRIS

14.00 – 16.00 Regular Session #1 – Design and Technology

Fully Inkjet-Printed PEDOT: PSS/ZnO Heterojunctions for Memristive Applications,
Apostolos APOSTOLAKIS, Dimitris BARMPAKOS, Grigoris KALTSAS

Tailored Substitutional-Vanadium Doping in WSe₂ Crystals for High-performance p-FET Engineering,

I-Ling LI, Cheng-Chieh HSIEH, Tsung-Che HSIEH, Hung-Hui YANG, Chan-Yuen CHANG, Chien-Wei CHEN, Chih-Chao YANG, Ying-Hao CHU, Chao-Hui YEH

A 4.0 GHz CP-PLL with Programmable Charge Pump and Second to Third-Order LPF-based Design,
Raphael Ronald SOUZA, Agord de Matos PINTO

Negative Group Delay Predictor Application for CO₂ Gas Concentration in Real Environment Condition,

Jonas PELLEGRINO, Hassen AZIZA, Mathieu GUERIN, Taranto PASCAL

16.00 – 16.30 Coffee Break

16.30 – 18.00 Special Session #1 – Design of Efficient and Robust Quantum Machine Learning Systems

Quantum Neural Networks: an overview and some recent results

Davide Pastorello, University of Bologna

Toward Secure and Decentralized Quantum Machine Learning for Financial Fraud Detection

Ioannis Theodonis, National Technical University of Athens

Trustworthy Quantum Neural Networks: Challenges, Emerging Directions, and Open Questions

Muhammad Shafique, New York University (NYU) Abu Dhabi

Thursday, October 16

09.00 – 10.00 Keynote Talk #2: Matteo SONZA REORDA

10.00 – 11.00 Coffee break and Scientific Poster session

Mobility enhancement by process optimization for RF SOI switch applications,

Robin BOUSMAHA-JOUE, Pascal MASSON, Julien DURA, Wenceslas RAHAJANDRAIBE, Pascal FORNARA, Rémy VAUCHÉ, Fayrouz HADDAD, Franck JULIEN, Alain FLEURY, Frederic GIANESELLO, Clément CHARBUILLET

On the Test of the Analog-Digital Interface in AMS Integrated Circuits,

Iacopo GUGLIELMINETTI, Michelangelo GROSSO, Riccardo CANTORO

Embedded Characterization of MOS Gate-to-Substrate Capacitances Using Ring Oscillators,

Paul DEVOGE, Noemie COUZI, Hassen AZIZA, Abderrezak MARZAKI, Alexandre MALHERBE, Franck JULIEN, Arnaud REGNIER, Stephan NIEL

11.00 – 12.30 Regular Session #2 – Integrated Systems Design

Hardening Digital CIM-BNN Accelerators Against Side-Channel Attacks,

Fouwad MIR, Abdullah ALJUFFRI, Said HAMDIOUI, Mottaqiallah TAOUIL

Towards Proofs for SCA-based Efficient Formal Verification of Complex Arithmetic Circuits,

Lennart WEINGARTEN, Kamalika DATTA, Abhoy KOLE, Rolf DRECHSLER

12.30 – 13.30 Lunch

13.30 – 15.00 Special Session #2 – Towards Brain-Inspired Intelligence: Challenges and Opportunities in Spiking Neural Networks and Neuromorphic Computing

Learning to Spike: Algorithms and Frameworks for Training Spiking Neural Networks

Roberta Bardini, Politecnico di Torino

Digital and Emerging Technologies for Neuromorphic Hardware: From CMOS to Photonics

Filippo Marostica, Politecnico di Torino

Fault Tolerance and Robustness in Spiking Neural Networks for Safety-Critical Systems

Enrico Magliano, Politecnico di Torino

15.00 – 15.30 Coffee Break

15.30 – 16.15 Tutorial – Machine Learning for Smart Agriculture Applications

Zoran Stamenkovic, IHP

16.30 – 22.00 Social event

Friday, October 17

09.00 – 10.30 Special Session #3 – Test and Reliability of Analog-Based AI Accelerators

Moritz Fieback and Hassen Aziza

10.30 – 11.00 Coffee break

11.00 – 12.30 Regular Session #3 – Integrated Systems Testing

GPU Under Pressure: Estimating Application's Stress via Telemetry and Performance Counters,
Giuseppe ESPOSITO, Juan GUERRERO, Josie RODRIGUEZ CONDIA, Matteo SONZA REORDA, Marco BARBIERO, Rossella FORTUNA

Performance-aware reliability optimization for digital designs,
Michelangelo BARTOLOMUCCI, Uyen TRAN, Didier ROLAND, David KINGSTON, Alessandra NARDI, Riccardo CANTORO

Voltage Scaling for Energy-Efficient and Reliable FPGA Deep Neural Network Acceleration,
Konstantinos ARGYRIOU, Grigorios KARAOGLANIAN, Dimitris AGIAKATSIKAS, Mihalis PSARAKIS

12.30 – 13.30 Lunch

13.30 – 15.00 Regular Session #4 – Integrated Systems Design

Design Space exploration and Optimization of ML algorithms for EEG-base Seizure detection,
Christoforos KACHRIS

A Complete Synthesis and Verification Approach for MAGIC Based In-Memory Computing,
Lennart WEINGARTEN, Kamalika DATTA, Abhoy KOLE, Ambalapat MAYA, Nabipour SAEIDEH, Indranil SEN GUPTA, Rolf DRECHSLER

15.00 – 15.30 Conference Closing