

SIE 2024

Scientific Sessions - Preliminary Programme

LV Annual Meeting of the Italian Society of Electronics

26-28 June, 2024 | Genoa, Italy



Università
di **Genova**

DITEN

Oral Sessions

<i>Thursday (morning), June 27</i>	
Oral Session I	
Chair: Domenico Caputo	
	Full Oral
08:50-09:10	<p>Role of feedthrough capacitance in mode-split MEMS gyroscope bias-instability Luca Pileri and Giacomo Langfelder <i>Politecnico di Milano</i></p>
09:10-09:30	<p>Efficient Human Activity Recognition: Machine Learning at the Sensor Level Arianna De Vecchi, Alice Scandelli, Federica Bossi, Benedetta Caterina Casade, Hazem Hesham Yousef Shalby and Federica Villa <i>Politecnico di Milano</i></p>
09:30-09:50	<p>Bio-reconfigurable impedance-based platform for multiplexing diagnostic Arianna Adelaide Maurina, Caina de Oliveira Figares, Francesco Damin, Chiara Capelli, Laura Sola, Marcella Chiari, Francesco Zanetto, Giorgio Ferrari and Marco Sampietro <i>Politecnico di Milano</i></p>
09:50-10:10	<p>Stability and functionalization of carbon nanotube electrolyte-gated field-effect transistors Anna Tagliaferri, Bajramshahe Shkodra, Martina Aurora Costa Angeli, Moritz Ploner, Mattia Petrelli, Antonio Altana, Pietro Ibba, Paolo Lugli and Luisa Petti <i>Free University of Bozen-Bolzano</i></p>
	Short Oral
10:10-10:15	<p>The front-end charge readout IC for the LEM-X mission concept Filippo Mele, Marco Grassi, Irisa Dedolli, Piero Malcovati, Ettore Del Monte, Yuri Evangelista, Marco Feroci and Giuseppe Bertuccio <i>Politecnico di Milano</i></p>

10:15-10:20	Analysis of Non-Linearity Sources in Piezoresistive Gyroscopic Systems Gabriele Laita, Andrea Buffoli and Giacomo Langfelder <i>Politecnico di Milano</i>
10:20-10:25	Architectural Modeling and Experimental Characterization of SPAD-based Imager developed for Fast-Quantum Ghost Imaging Applications Enrico Manuzzato, Massimo Gandola, Leonardo Gasparini and Roberto Passerone <i>University of Trento - Fondazione Bruno Kessler</i>
10:25-10:30	Pilot Study: Experimental Analysis of PVDF Sensors Response to Slippage Razan Khalifeh, Christian Gianoglio, Yahya Abbass and Maurizio Valle <i>University of Genova</i>

Thursday (morning), June 27

Oral Session II

Chairs: Simona Donati Guerrieri, Antonio D'Alessandro

	Full Oral
11:00-11:20	A Wideband L-band Integrated Low Noise Amplifier Sergio Colangeli, Patrick Ettore Longhi, Walter Ciccognani and Ernesto Limiti <i>University of Rome Tor Vergata</i>
11:20-11:40	Raman spectroscopy assisted by Artificial Intelligence for the intracellular localization of therapeutic carriers: a feasibility analysis Valeria Iazzetta, Sara Spaziani, Marianna Abate, Mario Cesarelli, Marco Pisco, Michele Caraglia and Andrea Cusano <i>University of Sannio</i>
11:40-12:00	Integrating CMOS analog electronics in Silicon Pho Francesco Zanetto, Monica Crico, Samuele De Gaetano, Giorgio Ferrari and Marco Sampietro <i>Politecnico di Milano</i>

<p>12:00-12:20</p>	<p>Detection of Selected IR Signatures through SEIRA Sensing Platform <i>Valentina Di Meo, Alessio Crescitelli, Massimo Moccia, Emanuela Iaccarino, Vincenzo Galdi, Menotti Ruvo, Ivo Rendina and Emanuela Esposito</i> <i>National Research Council of Italy</i></p>
<p>Short Oral</p>	
<p>12:20-12:25</p>	<p>Advanced packaging solutions for millimetre-wave Low-Noise Amplifiers <i>Patrick Ettore Longhi, Walter Ciccognani, Sergio Colangeli and Ernesto Limiti</i> <i>University of Rome Tor Vergata</i></p>
<p>12:25-12:30</p>	<p>A Filtering Single-Ended-to-Balanced Power Divider With Enhanced Ultra-Wideband Suppression <i>Leidan Pan, Yongle Wu, Weimin Wang, Anna Piacibello and Vittorio Camarchia</i> <i>University of Beijing</i></p>
<p>12:30-12:35</p>	<p>A novel Lab-on-Fiber platform for Soil Water Content Monitoring <i>Gaia Maria Berruti, Marco Leone, Patrizio Vaiano, Giovanni Vito Persiano, Marco Consales and Andrea Cusano</i> <i>University of Sannio</i></p>
<p>12:35-12:40</p>	<p>Real-Time Reconfiguration of Free-Space Optical Receivers by means of Fully Integrated CMOS Controller <i>Emanuele Sacchi, Francesco Zanetto, Francesco Morichetti, Andrea Ivano Melloni, Marco Sampietro and Giorgio Ferrari</i> <i>Politecnico di Milano</i></p>

Thursday (afternoon), June 27

Oral Session III

Chairs: Andrea Bonfanti, Giorgio Spiazzi

	Full Oral
14:30-14:50	On-Chip Analog Neural Network for Edge Computing in Radiation Detectors Susanna Di Giacomo, Michele Ronchi, Mattia Amadori, Giacomo Borghi, Marco Carminati and Carlo Fiorini <i>Politecnico di Milano</i>
14:50-15:10	A low-cost fault tolerant technique for microcontroller-class RISC-V processors Riccardo Tedeschi, Alessandro Nadalini, Filippo Grillotti, Fabio De Ambroggi, Elio Guidetti, Luca Benini and Davide Rossi <i>University of Bologna</i>
15:10-15:30	Out-of-SOA performance of 3.3 kV SiC MOSFETs: Comparison between Planar and Quasi-Planar Trench Ciro Scognamillo, Alessandro Borghese, Kyrylo Melnyk, Iulian Nistor, Vincenzo D'Alessandro, Marco Boccarossa, Vincenzo Terracciano, Michele Riccio, Antonio Pio Catalano, Giovanni Breglio, Neo Lophitis, Marina Antoniou, Munaf Rahimo, Andrea Irace and Luca Maresca <i>University of Naples Federico II</i>
15:30-15:50	Modeling and Optimization of 1.2kV SiC-based pre-package power module in half bridge arrangement using finite element analysis Saimir Frroku, Ankit Bhushan Sharma, Till Huesgen, Andrea Irace and Giovanni A. Salvatore <i>Ca' Foscari University of Venice</i>
	Short Oral
15:50-15:55	Exploiting the Latched Ring Oscillator Cell as a compact PUF architecture on FPGA Riccardo Della Sala and Giuseppe Scotti <i>Sapienza University of Rome</i>
15:55-16:00	109 dB, 0.3V, 1.49 nW, Digital-Based OTA Topology with cross-coupled bulk gain-enhancement

	Ali Namdari, Orazio Aiello and Daniele D Caviglia <i>University of Genoa</i>
16:00-16:05	Ohmic contact formation on p-doped 4H-SiC using pulsed laser annealing Roberto Vabres, Gabriele Bellocchi, Simone Rascunà, Fabrizio Roccaforte, Marilena Vivona, Valeria Puglisi, Paola Mancuso, Paolo Badalà, Isodiana Crupi. <i>University of Palermo</i>
16:05-16:10	In-depth analysis of the electrical ruggedness of double sided cooled power modules Antonio Pio Catalano, Ciro Scognamillo and Vincenzo D'Alessandro <i>University of Naples Federico II</i>

<i>Thursday (afternoon), June 27</i>	
Oral Session IV	
Chairs: David Esseni, Massimo Ruo Roch	
	Full Oral
16:40-17:00	Rutile TiO₂ microparticles as Raman micro-thermometer for self-heating analysis. Francesca Zarotti, Ernesto Limiti and Andrea Reale <i>University of Rome Tor Vergata</i>
17:00-17:20	Design of a Low-Complexity Entropy Estimator for the Statistical Characterization of Full-Digital Tunable True Random Number Generators Filippo Spinelli, Tommaso Addabbo, Valerio Vignoli, Ada Fort and Marco Mugnaini <i>University of Siena</i>
17:20-17:40	Miniaturized Low-Power Head-Mounted PPG Board Alice Scandelli, Pietro Bartoli, Federica Villa, Ilaria Crupi, Arianna De Vecchi and Andrea Giudici <i>Politecnico di Milano</i>

17:40-18:00	<p>TinyML acceleration with MAX78000 Ali Dabbous, Luca Lazzaroni, Francesco Bellotti, Sara Muñoz Presentación, Alessandro Pighetti and Riccardo Berta <i>University of Genova</i></p>
Short Oral	
18:00-18:05	<p>Semi-analytical model for the estimation of the subthreshold-swing in Dirac-source FETs Tommaso Ugolini and Elena Gnani <i>University of Bologna</i></p>
18:05-18:10	<p>Simulation framework for hole spin qubits Lorenzo Raschi and Antonio Gnudi <i>University of Bologna</i></p>
18:10-18:15	<p>Enhancing Vibration Inspection via Compressed Sensing based on Embedded Phase Change Memories Federica Zonzini, Francesco Zavalloni, Daniele Martinelli, Alessio Antolini, Eleonora Franchi Scarselli, Marco Pasotti and Luca De Marchi <i>University of Bologna</i></p>
18:15-18.20	<p>A Multi-Parameter Sensing Device for Vital Signs Monitoring Chiara Botrugno, Elisabetta Leogrande, Teresa Natale and Francesco Dell'Olio <i>Polytechnic University of Bari</i></p>

Poster Sessions

<i>Wednesday (afternoon), June 26</i>
Poster Session I
Phased Arrays and BeamForming for MIMO and GNSS Applications Simone Acciarito, Lorenzo Canese, Gian Carlo Cardarilli, Luca Di Nunzio, Rocco Fazzolari, Riccardo La Cesa, Marco Re and Sergio Spanò <i>University of Rome Tor Vergata</i>
Resilient Multi-Agent RL: Introducing DQ-RTS for Distributed Environments with Data Loss Lorenzo Canese, Sergio Spanò, Gian Carlo Cardarilli, Luca Di Nunzio, Marco Re and Rocco Fazzolari <i>University of Rome Tor Vergata</i>
A RISC-V Hardware Accelerator for Q-Learning Algorithm Damiano Angeloni, Lorenzo Canese, Gian Carlo Cardarilli, Luca Di Nunzio, Marco Re and Sergio Spanò <i>University of Rome Tor Vergata</i>
High-speed Solid-State Mass Memory for future satellite systems Simone Acciarito, Lorenzo Canese, Gian Carlo Cardarilli, Luca Di Nunzio, Rocco Fazzolari, Riccardo La Cesa, Marco Re and Sergio Spanò <i>University of Rome Tor Vergata</i>
Gallium Nitride SSPAs For Space Applications Rocco Giofrè and Paolo Colantonio <i>University of Rome Tor Vergata</i>
W-doped vanadium dioxide films by pulsed laser deposition for IR Photonics Roberto Macaluso, Alessandro Bile, Daniele Ceneda, Daniele Scirè, Gianpiero Buscarino, Mauro Mosca, Dominique Persano Adorno, Isodiana Crupi, Maryam Vaghefi Esfidani, Roberto Li Voti, Concita Sibilìa, Thomas G. Folland, Koray Aydin, Marco Centini and Maria Cristina Larciprete <i>University of Palermo</i>
Correlated Metals as electrodes in UV-C LEDs Mauro Mosca, Roberto Macaluso and Isodiana Crupi <i>University of Palermo</i>

Design Issues of a THz Receiver in CMOS Technology

Fabrizio Palma, Demetrio Logoteta, Francesco Centurelli, Renato Cicchetti, Carlo Santini, Orlandino Testa, Alessandro Trifiletti and Antonio D'Alessandro

Sapienza University of Rome

A Tunable Photonic Biosensor Based on Nanoplasmonics by Using Nematic Liquid Crystals

Carlo Santini, Maria Laura Sforza, Federica Zaccagnini, Francesca Petronella, Luciano De Sio and Antonio D'Alessandro

Sapienza University of Rome

Approximate Low-power floating-point multiplier with dynamic segmentation for high-precision applications

Luca Tegazzini, Gennaro Di Meo, Davide De Caro and Antonio G. M. Strollo

University of Naples Federico II

Towards a fully On-Chip Digital Readout of Superconducting Qubits

Laura Di Marino, Luigi Di Palma, Francesco Fienga, Michele Riccio, Marzo Arzeo and Oleg Mukhanov

University of Naples Federico II

A novel I/Q demodulation method for distributed vibration sensing based on vector network analysis

Alayn Loayssa, Raffaele Vallifuoco, Rizwan Zahoor, Luigi Zeni and Aldo Minardo

University of Campania Luigi Vanvitelli

A hybrid frequency/correlation domain Brillouin analysis for static and dynamic strain measurements

Raffaele Vallifuoco, Luigi Zeni and Aldo Minardo

University of Campania Luigi Vanvitelli

Environmental monitoring at ultra-low concentrations via unconventional plasmonic phenomena in multimode optical fibers

Luca Pasquale Renzullo, Rosalba Pitruzzella, Ines Tavoletta, Riccardo Roviato, Chiara Perri, Chiara Marzano, Francesco Arcadio, Luigi Zeni and Nunzio Cennamo

University of Campania Luigi Vanvitelli

Latest Research Results on Smart Sensors at MiCS&D Laboratory of the University of Salerno

Andrea Fasolino, Giuseppe Longo, Fiorita Nunziata, Paola Vitolo, Rosalba Liguori, Luigi Di Benedetto, Gian Domenico Licciardo and Alfredo Rubino

University of Salerno

Low-Complexity Neural Network for Embedded QCM-D Signal Processing

Riccardo Moretti, Tommaso Addabbo, Ada Fort, Elia Landi, Marco Mugnaini and Valerio Vignoli

University of Siena

Influence of electronic front-ends on QCM measurement results

Elia Landi, Riccardo Moretti, Valerio Vignoli, Ada Fort, Marco Mugnaini and Tommaso Addabbo

University of Siena

ENGAGE: An Error Logging and Reporting Architecture for RAS in RISC-V systems

Nicasio Canino, Daniele Rossi and Sergio Saponara

University of Pisa

Four-Leg Three-Phase Inverter Ripple Reduction with Multi-Carrier Modulation

Ezio Gallo, Davide Biadene and Tommaso Caldognetto

University of Padova

Review of a Magnetic Core Losses Measurement Method Applicable with Arbitrary Excitation Waveforms

Stefano Cabizza and Giorgio Spiazzi

University of Padova

Development of a sensor for nanoplastic detection in environmental applications

Giulia Elli, Manuela Ciocca, Bajramshahe Shkodra, Riccardo Carzino, Despina Fragouli, Luisa Petti and Paolo Lugli

University of Bozen-Bolzano

Modelling and Characterization of Ferroelectric Oxides for Neuromorphic Computing Applications

Mattia Segatto, Daniel Lizzit, Marco Massarotto, Francesco Driussi and David Esseni

University of Udine

Thursday (morning), June 27

Poster Session II

Resistorless Current-mode Schmitt Trigger for SingleEvent Detection in Photomultipliers Front-Ends

Davide Colaiuda, Alfiero Leoni, Gianluca Barile, Vincenzo Stornelli and Giuseppe Ferri
University of L'Aquila

Sensor-Based Monitoring of Physical Activity for Glucose Management in Diabetic Patients: A Review

Sara Campanella and Lorenzo Palma
Polytechnic University of Marche

Effect of Intrinsic Layer Thickness on the Performances of Amorphous Silicon P-I-N Junction

Nicola Lovecchio, Silvia Casalnuovo, Augusto Nascetti, Giampiero de Cesare and Domenico Caputo
Sapienza University of Rome

Stress transmission in a soft electronic skin with viscoelastic properties

Chiara Micheli, Giovanni Berselli and Lucia Seminara
University of Genoa

FPGA Implementation of a Convolutional Neural Network for Real-Time Sensor Data Processing

Riccardo Testa, Mohamad Yaacoub, Christian Gianoglio and Maurizio Valle
University of Genoa

Electrical characterization of Red blood cells with nanocapacitor array sensor

Mariano José Guillén, Jacopo Nicolini, Daniele Goldoni, Rossana Madrid and Luca Selmi
University of Modena e Reggio Emilia

The Safety Monitoring System for the SND@LHC Experiment at CERN

Francesco Fienga, Vincenzo Romano Marrazzo, Michele Riccio, Antonia Di Crescenzo, Giovanni De Lellis, Salvatore Buontempo, Andrea Irace and Giovanni Breglio
University of Naples Federico II

The front-end charge readout IC for the LEM-X mission concept

Filippo Mele, Marco Grassi, Irisa Dedolli, Piero Malcovati, Ettore Del Monte, Yuri Evangelista, Marco Feroci and Giuseppe Bertuccio
Politecnico di Milano

Analysis of Non-Linearity Sources in Piezoresistive Gyroscopic Systems

Gabriele Laita, Andrea Buffoli and Giacomo Langfelder

Politecnico di Milano

Architectural Modeling and Experimental Characterization of SPAD-based Imager developed for Fast-Quantum Ghost Imaging Applications

Enrico Manuzzato, Massimo Gandola, Leonardo Gasparini and Roberto Passerone

University of Trento

Pilot Study: Experimental Analysis of PVDF Sensors Response to Slippage

Razan Khalifeh, Christian Gianoglio, Yahya Abbass and Maurizio Valle

University of Genoa

Challenges of 9-dB Back-off Doherty Power Amplifiers with 20% Fractional Bandwidth

Zhifan Zhang, Anna Piacibello and Vittorio Camarchia

Politecnico di Torino

Low-Cost, Calibrated Microwave Radiometers for Solar Observation: from Education to Science

Giacomo Schiavolini, Giulia Orecchini, Valentina Palazzi, Maurizio Burla and Federico Alimenti

University of Perugia

Experimentally validated model of the optoelectronic and photonic section of the interferometric fiber-optic gyroscope

Teresa Natale and Francesco Dell'Olio

Polytechnic University of Bari

Optoelectronic characterization of nano-diamond/crystalline Silicon heterostructures

Arpana Singh, Marinus Kunst, Diana Sannino, Vito Speranza, Vincenzo Carrano and Heinz-Christoph Neitzert

University of Salerno

A plethysmographic sensor based on FBG embedded in a soft silicone patch

Mariaconsiglia Cuomo, Elena De Vita, Vincenzo Romano Marrazzo, Giovanni Breglio, Agostino Iadicicco and Stefania Campopiano

University of Naples Partenope

Integrating VCSEL on the optical fiber facet

Federica Piccirillo, Michael Zimmer, Norbert Witz, Alberto Micco, Martino Giaquinto, Mathias Kaschel, Joachim Burghartz, Michael Jetter, Peter Michler, Simone Luca Portalupi, Armando Ricciardi and Andrea Cusano

University of Sannio

Fiber optic probes exploiting localized surface plasmon resonance for chemical detection

Amin Moslemi, Lucia Sansone, Flavio Esposito, Stefania Campopiano, Michele Giordano and Agostino Iadicicco

University of Naples Partheope

True Time Delay System using Phase Change Materials

Rahuldas Kutteeri, Martino De Carlo, Francesco De Leonardis, Richard Soref and Vittorio Passaro

Polytechnic University of Bari

Machine learned correction to the Empirical Tight-Binding method

Daniele Soccodato, Matthias Auf der Maur, Alessandro Pecchia and Anh Luan Phan

University of Rome Tor Vergata

Advanced packaging solutions for millimetre-wave Low-Noise Amplifiers

Patrick Ettore Longhi, Walter Ciccognani, Sergio Colangeli and Ernesto Limiti

University of Rome Tor Vergata

A Filtering Single-Ended-to-Balanced Power Divider With Enhanced Ultra-Wideband Suppression

Leidan Pan, Yongle Wu, Weimin Wang, Anna Piacibello and Vittorio Camarchia

University of Beijing

A novel Lab-on-Fiber platform for Soil Water Content Monitoring

Gaia Maria Berruti, Marco Leone, Patrizio Vaiano, Giovanni Vito Persiano, Marco Consales and Andrea Cusano

University of Sannio

Real-Time Reconfiguration of Free-Space Optical Receivers by means of Fully Integrated CMOS Controller

Emanuele Sacchi, Francesco Zanetto, Francesco Morichetti, Andrea Ivano Melloni, Marco Sampietro and Giorgio Ferrari

Politecnico di Milano

Thursday (afternoon), June 27

Poster Session III

Operating Principles and Power Consumption of DB-OTAs

Paolo Faustini, Andrea Rosa, Anna Richelli and Luigi Colalongo
University of Brescia

A high-voltage LDO voltage regulator featuring enhanced transient response and reduced area

Jacopo Serra and Franco Fiori
Politecnico di Torino

Low Power Design of Approximate Adders based on Inexact Full Adder

Ali Ibrahim, Zeinab Hijazi, Fatima Bzeih and Oussama Srour
Lebanese International University

0.7V, 215 nW Tunable Universal Gm-C Filter

Ali Namdari, Orazio Aiello and Daniele Caviglia
University of Genoa

Model-based Design & AI for Monitoring Systems in Automotive Power Electronics

Pierpaolo Dini, Giovanni Basso, Sergio Saponara and Claudio Romano
University of Pisa

An Ultra-Fast Overcurrent Protection Circuit Based on SMD Shunt Resistors for Wide Band-Gap Devices

Emanuele Martano, Giovanni Busatto, Annunziata Sanseverino, Simone Palazzo and Francesco Velardi
University of Cassino and Southern Lazio

Performance Analysis of a Custom DC-DC Buck Converter for Smart Plug Applications in Nanogrids

Danilo Santoro, Armel Asongu Nkempi, Paolo Cova and Nicola Delmonte
University of Parma

Exploiting the Latched Ring Oscillator Cell as a compact PUF architecture on FPGA

Riccardo Della Sala and Giuseppe Scotti
Sapienza University of Rome

109 dB, 0.3V, 1.49 nW, Digital-Based OTA Topology with cross-coupled bulk gain-enhancement

Ali Namdari, Orazio Aiello and Daniele D Caviglia
University of Genoa

Ohmic contact formation on p-doped 4H-SiC using pulsed laser annealing

Roberto Vabres, Gabriele Bellocchi, Simone Rascunà, Fabrizio Roccaforte, Marilena Vivona, Valeria Puglisi, Paola Mancuso, Paolo Badalà, Isodiana Crupi.

University of Palermo

In-depth analysis of the electrical ruggedness of double sided cooled power modules

Antonio Pio Catalano, Ciro Scognamillo and Vincenzo D'Alessandro

University of Naples Federico II

Anomalous I-V characteristics of 4H-SiC p-i-n diode at cryogenic temperature

Nicola Rinaldi, Luigi Di Benedetto, Gian Domenico Licciardo, Rosalba Liguori and Alfredo Rubino

University of Salerno

A front-end board for modular ultrasound open scanners

Francesco Lagonigro, Alessandra Vignoli, Valentino Meacci, Paolo Verdi, Piero Tortoli, Alessandro Ramalli and Enrico Boni

University of Florence

A Modular Portable Current Stimulator for Electrical Stimulation of Excitable Tissues

Riccardo Collu, Stefano Lai, Antonello Mascia, Roberto Paolini, Elena Ferrazzano, Loredana Zollo, Piero Cosseddu and Massimo Barbaro

University of Cagliari

Investigating Cutaneous Mechanoreceptors for Neuromorphic Tactile Texture Classification

Haydar Al Haj Ali, Yahya Abbass, Christian Gianoglio and Maurizio Valle

University of Genoa

On-Edge 1-D Convolutional Neural Network for Hand-Gesture Classification

Daniella Shebly, Haydar Al Haj Ali, Mohamad Yaacoub, Hussein Chibli, Maurizio Valle and Christian Gianoglio

University of Genoa

Classification of Skiing Techniques on Embedded System

Matteo Fresta, Francesco Bellotti, Alessio Capello, Marianna Cossu, Luca Forneris and Riccardo Berta

University of Genoa

Enhancing μ NAS for 1D CNNs on Microcontrollers

Alessio Capello, Riccardo Berta, Hadi Ballout, Matteo Fresta, Vafali Soltanmuradov and Francesco Bellotti

University of Genoa

Effect of phase noise in superconducting qubit control

Agata Barsotti, Carola Ciaramelletti, Paolo Marconcini, Leonardo Guidoni, Simone Paganelli and Massimo Macucci

University of Pisa

Supporting in-sensor computing with hardware-aware neural architecture search

Andrea Mattia Garavagno, Edoardo Ragusa, Rodolfo Zunino, Antonio Frisoli and Paolo Gastaldo

University of Genoa

Towards Energy-efficient Smart Sensing Nodes for Automatic Structural Health Monitoring

Edoardo Ragusa, Federica Zonzini, Paolo Gastaldo, Rodolfo Zunino and Luca De Marchi

University of Genoa

Semi-analytical model for the estimation of the subthreshold-swing in Dirac-source FETs

Tommaso Ugolini and Elena Gnani

University of Bologna

Simulation framework for hole spin qubits

Lorenzo Raschi and Antonio Gnudi

University of Bologna

Enhancing Vibration Inspection via Compressed Sensing based on Embedded Phase Change Memories

Federica Zonzini, Francesco Zavalloni, Daniele Martinelli, Alessio Antolini, Eleonora Franchi Scarselli, Marco Pasotti and Luca De Marchi

University of Bologna

A Multi-Parameter Sensing Device for Vital Signs Monitoring

Chiara Botrugno, Elisabetta Leogrande, Teresa Natale and Francesco Dell'Olio

Polytechnic University of Bari

Friday (morning), June 28

Poster Session IV

A RISC-V Fault Tolerant Hardware Accelerator

Marcello Barbirotta, Abdallah Cheikh, Marco Angioli and Mauro Olivieri
Sapienza University of Rome

Sub-ppm Photonic Sensor for Detecting Heavy Metal Ions in Water

Ahmadreza Alaeddini, Alessio Buzzin, Rita Asquini, Domenico Caputo and Giampiero de Cesare
Sapienza University of Rome

Dual Input DC – DC Converter for Off-shore Multi-Source Harvester Applications

Giuseppe Ferri, Davide Colaiuda, Alfiero Leoni, Beatrice Nardecchia, Lorenzo Nazzicone and Vincenzo Stornelli
University of L'Aquila

A LoRa-based Smart Gas Meter for Civil and Industrial Applications

Paolo Esposito, Paolo Spinozzi, Emanuela Natale, Giulio D'Emilia, Giuseppe Ferri and Vincenzo Stornelli
University of L'Aquila

A 0.3V 335nW Low-Effort Design PWM-Based ADC

Guido Di Patrizio Stanchieri, Orazio Aiello, Andrea De Marcellis, Elia Palange and Marco Faccio
University of L'Aquila

Active Rectifier for Ultrasound-Powered Implantable Medical Devices

Marco Privitera, Alfio Dario Grasso and Andrea Ballo
University of Catania

A comparison between single and differential-ended Doherty power stages in GaN Technology for 28-GHz 5G Applications

Alessandro Domenico Minnella, Giuseppe Papotto, Alessandro Parisi and Giuseppe Palmisano
University of Catania

Building blocks for GaN-on-Sol monolithic ICs

Katia Samperi, Salvatore Pennisi and Giuseppe Palmisano
University of Catania

Ultrasonic Wireless Power Transfer with Directional Piezoelectric Transducers and Impedance Matching

Stefano Taccetti, Federica Zonzini, Matteo Zauli, Aldo Romani and Luca De Marchi
University of Bologna

Unleashing OpenTitan's Potential: a Silicon-Ready Embedded Secure Element for Root of Trust and Cryptographic Offloading

Maicol Ciani, Emanuele Parisi, Alberto Musa, Francesco Barchi, Andrea Bartolini, Ari Kulmala, Rafail Psiakis, Angelo Garofalo, Andrea Acquaviva and Davide Rossi
University of Bologna

Real-Time Motor Unit Tracking from sEMG Signals with Adaptive ICA on a Parallel Ultra-Low Power Processor

Mattia Orlandi, Pierangelo Maria Rapa and Simone Benatti
University of Bologna

Hole Virtual Gate Model Explaining Gate-Bias Induced Dynamic RON in p-GaN Power HEMTs

Nicolò Zagni, Giovanni Verzellesi and Alessandro Chini
University of Modena and Reggio Emilia

Insights from Device Simulations into Trapping Effects in Vertical GaN Power Devices

Nicolò Zagni, Giovanni Verzellesi and Paolo Pavan
University of Modena and Reggio Emilia

The Effect of Trapped Charge on Dielectric Breakdown: a Simulation Study

Francesco Maria Puglisi, Sara Vecchi, Andrea Padovani and Paolo Pavan
University of Modena and Reggio Emilia

On the design of LDMOS finFETs in advanced technology nodes

Alessandro Ruggieri, Lisa Tondelli, Ruben Asanovski and Luca Selmi
University of Modena and Reggio Emilia

Additive Manufacturing to Develop Efficient Liquid Coolers for Power Devices and Modules

Davide Spaggiari, Danilo Santoro, Roberto Menozzi, Paolo Cova, Federico Portesine and Nicola Delmonte
University of Parma

Hand-Posture Recognition through Time-of-Flight sensor

Pietro Bartoli, Daniele Saporito, Alice Scandelli, Andrea Giudici, Arianna De Vecchi and Franco Zappa
Politecnico di Milano

Compact modeling of electrochemical random access memory (ECRAM) for in-memory computing

Matteo Porzani, Lorenzo Micheletti, Fabio Carletti, Saverio Ricci, Matteo Farronato and Daniele Ielmini

Politecnico di Milano

Measurement of the Noise Power Spectral Density of silicon Low-Gain Avalanche Diode

Iurii Eremeev, Filippo Mele, Jacopo Quercia, Wei Chen, Gabriele Giacomini and Giuseppe Bertuccio

Politecnico di Milano

Electronic technique and system for non-contact reading of temperature sensors based on piezoelectric MEMS resonators

Marco Zini, Marco Bau', Alessandro Nastro, Marco Ferrari and Vittorio Ferrari

University of Brescia

Simulation and Experimental Validation of a Flexural Plate Wave Piezoelectric MEMS Transducer

Stefano Bertelli, Alessandro Nastro, Marco Ferrari, Marco Baù and Vittorio Ferrari

University of Brescia

28 nm CMOS analog front-end electronics for future High Energy Physics colliders

Andrea Galliani, Luigi Gaioni, Gianluca Traversi and Valerio Re

University of Bergamo

Triboelectric sensor for arteriovenous fistulas monitoring

Salvatore A. Pullano, Giuseppe Oliva, Filippo Laganà, Pierangela Presta, Nazareno Carullo, Michela Musolino, Michele Andreucci, Davide Bolignano, Antonino S. Fiorillo and Giuseppe Coppolino

University of Catanzaro

Demodulation Circuit for Power and Bidirectional Data Transmission in Implantable Distributed Wired System

Cinzia Salis, Riccardo Collu and Massimo Barbaro

University of Cagliari