

NEWCAS 2023 Session Details - Poster Sessions

Tuesday June 27

10:00 - 11:30

Poster 1

Track: Analog/mixed-signal circuits

9007	New Design of an Ultra Low Power CDR Architecture Using FDSOI 28 nm Technology	Yuqing Mao
9021	Bitwise ELD Compensation Under Integrator Nonidealities in $\Delta\Sigma$ Modulators	Michael Pietzko
9035	A CDAC Mismatch Calibration Technique for SAR-Assisted Pipeline ADCs	Zheyi Li
9047	A Low Noise High Speed Dynamic Comparator Insensitive to PVT and Common-Mode Input - Virtual	Yaning Wang

9068	1st-Order Error-Feedback Sampling-Rate Reconfigurable Noise-Shaping SAR ADC for Multi-Channel CMOS Front-End ASICs for Space Applications	Muhammad Rashid Karim
9074	Comparative Study of Linearized Analysis Frameworks for Mid-Rise TDCs	Xu Wang
9182	Linearized Analysis of Mid-Rise TDCs for Integer-N and Fractional-N Digital PLLs	Xu Wang
9079	A Zoom Architecture Using Linear-Exponential Incremental ADC	Liang Qi
9085	A Novel Push-Pull Input Buffer for Wideband ADCs with Improved High-Frequency Linearity	Lorenzo Scaletti
9100	A Wide Input Common-Mode Range Pipelined ADC Front-End with Common-Mode Refreshing - Virtual	Junjie Jing
9114	An Inaccuracy Thermal Sensor with a New Digital Calibration Algorithm in 12nm CMOS	Po-Hung Chen
9132	Background Calibration of Time-Interleaved ADCs with Polyphase Filters	Yvon Savaria
9149	A High-Speed Charge-Injection Based Double Tail Latch for Decision Feedback Equalizer (DFE) - Virtual	Nijwm Wary
9159	Fully Time-Based PID Controller for a High Frequency Buck Converter - Virtual	Nicolai Dahl
9172	A Parallel-Path Amplifier for Fast Output Settling	Alireza Saberkeri
9212	Variable Duty Cycle Pulse Generation for Low Complexity Randomization in Machine Learning	Komal Krishnamurthy
9218	Doherty Power Amplifier with Compact Load Modulation Network for 5G Applications	Praveen Saraswat
9219	A Compensation Scheme for Three-Stage OTAs with No Miller Capacitors	Alfio Dario Grasso
9243	A Spur-Free Dynamic Element Matching Scheme for Bandpass DACs	Jarrah Bergeron
9272	Improved Dynamic Comparator with Adaptive Delay Line for the Latch Conduction and Regenerative Feedback Assisted FIA - Virtual	Qiang Li
9287	CMOS Continuous-Time Integrator with Capacitance Multiplier	Hiroki Sato

Track: Microsystems and Embedded systems

9101	A Deep Reinforcement Learning-Based Routing Algorithm for Unknown Erroneous Cells in DMFBs	Tomohisa Kawakami
9185	Toward 2.5D Structures for Multi-Channel MEMS Acoustic-Based Digital Isolators Using Through Silicon Openings	Hamid Sadrimanesh
9257	Anomaly Behaviour Tracing of CHERI-RISC V Using Hardware-Software Co-Design	Sangeet Saha
9276	Toward a Polysilicon-Based Electrostatically Actuated DC MEMS Switch	Abdurrahid Hassan Shuaibu

Track: Circuits and systems for AI algorithms

9155	American Sign Language Recognition System Using Wearable Sensors and Machine Learning	Cheol-Hong Min
9188	Improving Hardware Efficiency of a Sparse Training Accelerator by Restructuring a Reduction Network	Sehun Park
9207	Modelling and Analysis of FPGA-Based MPSoC System with Multiple DNN Accelerators	Xiaojun Zhai
9274	PSU Transfer Function Response Prediction via NARNET and KBNNs	Ahsan Javaid

Track: Neural networks and neuromorphic circuits

9073	TinyFL: On-Device Training, Communication and Aggregation on a Microcontroller for Federated Learning - Virtual	Lars Wulfert
9246	Efficient Transistor-Level QDI Asynchronous Switch for Neuromorphic Systems	Shahzad Haider
9254	SqueezeNetVLAD: High-Speed Power and Memory Efficient GPS Less Accurate Network Model for Visual Place Recognition on the Edge	Prasannata Bhangé

Track: Sensory circuits and systems

9294	Mismatch and Offset-Voltage Compensation Technique for Current Excitation Based Resistive Sensors Interface	Hadi Heidari
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Track: Imaging and image sensors

9062	Pose Aware RGBD-Based Face Recognition System with Hierarchical Bilinear Pooling - Virtual	Ching Te Chiu
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Track: Emerging technologies and technology trends

9005	A Novel Dynamic Memristor Window Function for High Frequency Applications - Virtual	Ananda YR
9023	Inductive Relaxation Oscillator with Current-Limiting	Hervé Barthelemy
9129	Memristive Crossbar for Hyper Dimensional Consumer Text Analytics Accelerator - Virtual	Alex James
9234	Efficiency and Sustainability in Simulation: Enhancing Accuracy of Chaotic Maps Using Kahan Summation	Erivelton Geraldo Nepomuceno
9258	Energy-Efficient and High Speed Active Cell Balancing Methodology for Lithium-Ion Battery Pack	Dr. Rashi Dutt

Track: Test and verification

9247	Statistical Model Checking Based Analysis of Fault Trees and Power Consumption to Enhance Autonomous Systems Reliability	Otmene Ait Mohamed
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Wednesday, June 28

15:00 - 16:00

Poster 2

Track: Young Professionals

9309	UPF-Aware CDC Structural Verification on RTL	Diana Kalel
9310	Modeling and Simulation of Heterojunction Solar Cell; Determination of Optimal Values	Nazila Fough
9313	Sensor Node Design and Evaluation for Quality Assurance of Drugs	Josep Genovard Oliver
9317	Fully Parallel, Flexible, and Conflict-Free Interleaver Design Using Processing in Memory	Mojtaba Mahdavi
9318	RFSoc Implementation of Runtime Reconfigurable Numerologies for 5G New Radio	Lewis Brown
9321	Next-Generation Battery Management System Design Methodology	Dr. Rashi Dutt
9323	Fault Tolerant Processing Unit Using Gamma Distribution Sliding Window for Autonomous Landing Guidance System	Hossam O. Ahmed

Track: Biomedical circuits and systems

9063	Low Temperature and Dry Fingerprint Restoration with Ridge Loss and Orientation - Virtual	Ching Te Chiu
9075	Flexible Analog-to-Feature Converter for Wireless Smart Healthcare Sensors	Patricia Desgreys
9091	A 3.3V Saturation-Aware Neurostimulator with Reset Functionality in 22nm FDSOI	Richard George
9128	Retina Stimulator with Channel Dependent Arbitrary Waveforms in 28nm CMOS Process	Raphael Steinhoff
9148	Optimum Supply Voltage for High Gain Amplifier in Telemetry Circuitry for Ultra-Low Power Implantable Cardiac Pacemaker	Martin Margala
9153	A Fast Approach to Droplet Routing with Shape-Dependent Velocity on MEDA Biochips	Kaito Mori
9211	A Neural Recording System with 16 Reconfigurable Front-End Channels and Memristive Processing/Memory Unit	Xiongfei Jiang
9275	3D Printed Graphite Based Flexible Thermoplastic Polyurethane Electromyography Electrode	Benoit Gosselin
9298	Portable Diagnostic Platform for Rapid Detection of 2 μ l Paramagnetic Particles in 5s	Yuanxi Cheng

Track: Digital circuits and systems

9071	Multi-Context-Scrubbing Operation for a 1-Bit Counter Circuit	Minoru Watanabe
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Track: Communications circuits and systems

9033	Assessment of Communication Protocols' Latency in Co-Processing Robotic Systems	Rafael Fraga Garibotti
9043	Exploring Security Threats by Hardware-Faults in Approximate Arithmetic Computing - Virtual	Morgana Macedo
9060	Design and Modeling of Heterogeneous Semi-Active Wake-Up Radio for Sensor Network Applications	Ruochen Ding
9078	A Beam Steerable Speaker Tracking-Based First-Order Differential Microphone Array - Virtual	M. Omair Ahmad
9213	High-Precision Time-to-Digital Conversion for Calibration of Outphasing Radio Transmitters	Dhanashree Boopathy

Track: RF & microwave circuits

9028	On the Synthesis of Lossy Analog Filter Networks with Lossless-Like Passband Shape	Xi Zhu
9081	A V-Band Compact LNA with Gm-Boosting and Noise-Cancelling Technique	Shulan Chen
9165	Random and Static Phase Errors in a PLL Array for Millimeter-Wave Frequency Generation	Frank Herzel
9208	A 12 GS/s RF-Sampler Employing Inductive Peaking with >57 dB THD and >49.3 dB SNDR in 22 nm FD-SOI CMOS	Enne Wittenhagen
9228	PWM Controlled 180° Analog Phase Shifter	Shouri Chatterjee
9238	A Single-Turn Inductor Based Compact and Wide-Tuning LC-VCO Using Dual-Resonant Modes	Abhishek Kumar
9240	A 4 GBaud 5 Vpp Class-B Pre-Driver Design for GaN-Based Switching Power Amplifier in 22 nm SOI-CMOS Utilizing LDMOS	Frowin Buballa
9250	A Computationally Efficient Predistortion and Segment Thresholding for Distributed PA Arrays	John Dooley

Track: CAD and design tools

9087	Towards a CMOS-Process-Portable ReRAM PDK	Andrea Mifsud
9115	Improving Pin Accessibility of Standard Cells Under Power/Ground Stripes	Rung-Bin Lin
9277	A Necessary and Sufficient Condition to Generate Representative Clip for Edge-Constrained Clustering of Layout Pattern Classification Problem	Kunihiro Fujiyoshi

Track: Energy harvesting and power management

9141	Extending Wireless Power Transfer Range for Self-Powered Micro Devices with mm-Size Antenna	Alireza Saberkari
9143	A Fully Integrated SCC DC-DC Converter with Novel FMC Controller for Fast Transient Response - Virtual	Wary, Nijwm
9152	Low-Energy, Scalable, On-Demand State-of-Charge Estimation System for Li-Ion Batteries	Jules Dufour
9175	Adaptive FOCV MPPT for Piezoelectric Energy Harvesting Circuit	Lakhdar Mamouri
9180	A 40 nA, 84 % Efficient, PLL-Based Rectifier-Less Power Switching Converter for Low-Voltage Piezoelectric Energy Harvesting	Shouri Chatterjee
9186	A High-Accuracy Hysteretic DC-DC Converter Using a Spread-Spectrum EMI Suppression Technique with Double Gold Codes	Tsung-Heng Tsai
9187	Triple Clock Boosted Voltage Multiplier: A Design Strategy to Heavily Reduce Rise Time	Andrea Ballo