2026 IEEE 26th International Conference on Nanotechnology (NANO 2026)

Nanjing, China
5-8 July 2026

IEEE Catalog Number: CFP26NAN-POD
ISBN: 979-8-3195-1949-8

IEEE
Advancing Technology for Humanity

Copyright © 2026, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP26NAN-POD
ISBN (Print-On-Demand):	979-8-3195-1949-8
ISBN (Online):	979-8-3195-1948-1
ISSN:	1944-9399

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA

Phone:	(845) 758-0400
Fax:	(845) 758-2633
E-mail:	curran@proceedings.com
Web:	www.proceedings.com

CURRAN ASSOCIATES INC. proceedings .com

TABLE OF CONTENTS

A Device Modeling Framework for Emerging Transistors of New Material and Advanced Structure 1
Siyuan Wang, XiangLi Li, Lingpeng Bao, Hongwei Liu, Minghui Yin, Weihua Zhang, Yunxia You Huanhuan Zhou, Chen Wang, Baisheng Peng, Zhiqiang Li

Fast and Area-Efficient Minimal AND-Inverter Tree Synthesis for Stochastic Computing 6
Jiangyuan Wang, Mingyu Cheng, Kuncai Zhong, Weikang Qian

Compression-Based Trust Verification of Lightweight Ciphers Deployed in Nano-IoT Communication Standards 11
David Tom Foss

Sensitivity Limits and Regime Transitions in Photonic RF Spectrometry for Ultra-Wideband Spectrum Sensing 17
Joshua Cole Schuetta

LLM-Guided Co-Evolution of Nanorobot Morphology and Control for Tumor Targeting 23
Weiqi Liu, Shaolong Shi

Unified Modeling of Small-Signal Parameters in Nanosheet Fets for Sub-5 nm RF IC Design 29
Linlin Cai, Chuhao Chen, Minghui Dong, Wangyong Chen

Multi-Pillar VGSOT-MRAM Crossbar for Energy-Efficient Analog in-Memory Computing 35
Aymen Romdhane, Kamel-Eddine Sadadou, Bruno Lovison-Franco, Mohammed-Amine Laamouri David Novo, Lorena Anghel, Pascal Benoit, Guillaume Prenat, Jonathan Miquel

A PMMA-Modified Gelatin/ITZO Synaptic Transistor for Recyclable and In-Sensor Edge Computing Systems 42
Mingchao Wu, Yao Ni, Yuan Liu

Carbon Black Nanofluid Effectiveness for Solar Thermal Applications 47
Y. Altoorah, N.F. Aljuwayhel, N. Ali

Sm-Doped $\text{HfO}_{{2}}$ Ferroelectric Memristors with Emulated Synaptic Plasticity Directly Deposited on Si Substrates 54
Jiao Bai, Yijun Cui, Weiwei Li

Optically Reconfigurable Rectification and Anisotropic Photocurrent Transport in Thickness Engineered Two-Dimensional Heterojunctions 58
Zhiyuan Wang, Zhixin Chen, Zichao Ma

Optimization of Plasmonic Core@Shell Nanoparticles for LSPR Biosensing via Mie Theory and Machine Learning 62
Fahime Seyedheydari, Simo Särkkä

Hysteresis in Ambipolar $MoTe_2$ Field-Effect Transistors 68
Adolfo Mazzotti, Andrea Sessa, Kimberly Intonti, Francesco De Chiara, Aniello Pelella, Stephen O'Sullivan Vilas Patil, Paul K. Hurley, Lida Ansari, Farzan Gity, Antonio Di Bartolomeo

Ising-Inspired Multi-State Annealer with Efficient Parallel Probabilistic Computing 75
Zhan Chen, Wenshuo Yue, Bonan Yan

A Versatile CMOS Ising Machine Based on Simulated Bifurcation 81
Lehan Liu, Siting Liu

Optimization of Time-Multiplexed Constant Multiplication via Ising Model 87
Wenhui Zhang, Hui Wang, Jie Han, Honglan Jiang

A Scalable Compute-in-Memory Ising Machine for Combinatorial Optimization Problems 93
Xianmin Huang, Yu Qian, Yunlong Li, Cheng Zhuo, Xunzhao Yin

STSCA: Scalable Tensor-Train Stochastic Computing with Stabilized Arithmetic for High-Dimensional Nonlinear Operators 99
Xincheng Feng, Tong Xie, Ngai Wong, Meng Li

RePreSC: Enabling Reconfigurable Precision in Stochastic Computing 104
Zexi Li, Weikang Qian

Stochastic Computing for ADC-Less Computing in Memory: Modeling and Algorithm 110
Kuo Liao, Jienan Chen, Ying Pan, Junshuo Wang

Analysis and Design of Impedance-Tunable Nanoparticle-Epoxy Acoustic Hologram Lenses for Multifocal Ultrasound Fields 115
Hoseok Kang, Jonghun Lee, Haesu Byeon, Haseeb Khan, Jinwook Kim

Design and Control Methods of TSAW Acoustic Tweezers System for Cellular Sorting 120
Bo Li, YaRu Wang, Lue Zhang

Low-Frequency CMARs Based on Flexible Polymer Diaphragm Served for Microphones of Cochlear Implants 125
Yifei Yuan, Jiaqi Wang, John T.W. Yeow

Design of an Adaptive Third-Order Fixed-Time Integral Sliding-Mode Controller for XY Compliant Parallel Micromanipulator Systems 130
Rungeng Zhang, Zehao Wu, Weijian Zhang, Qingsong Xu

Slot Waveguide Integrated Biosensor with Intermediate Buffer Layers for Measuring Temperature 136
Kamakshi Manchikalapati, Yamini Govindaraj, Shriraam S J, Janani R, Gopalkirshna H Srinivas Talabattula

Design and Fabrication of a Multi-Layered MEMS Sensor and Semiconductor Nanocrystals-Based Gas Sensing Applications 141
Zihan Wang, Meixuan Li, Aoran Shen, Chunqing Li, Xinran He, Zhenxing Ye, Feifei Deng, Yunong Zhao Xiaohui Guo

Mechanistic Insights into Protein Translocation Under Competing Electrophoretic and Electroosmotic Forces in Solid-State Nanopores 145
Rui Liu, Tixi He, Yin Zhang

Comparative NH_3 Gas Sensing Characteristic of MoS_2 and MoS_2/NiS Nanocomposite Coated Plastic Optical Fibers 149
Nor Akmar Mohd Yahya, Mohd Rashid Yusof Hamid, Abdul Hadi Ismail, Nurul Atiqah Izzati Md Ishak Mohd Hanif Yaacob, Saidur Rahman

Comparative Performance Analysis of PEDOT:PSS Organic Electrochemical Transistors with 6% and 10% D-Sorbitol Additives 155
Alejandro Bello, Fahian Mahmud, Ashok Kumar, Vinay Budhraja

Asymmetric Dual-Gate Junctionless MOSFET Biosensor with Diagonal Nanocavities for Classification of Breast Cancer Cell Lines 159
Divey Pradhan, Ronak Dudani, Kankan Deka, Basudha Dewan

Design and Evaluation of RF Energy Harvesting and LIG-Based Environmental Sensor 165
Ke Xin Wong, Bing Wei Chua, Mei Kum Khaw, Pei Song Chee

Hydrogel-Integrated Flexible Spintronic Materials 170
Songlin Yang, Jin Zhang

A Multimodal Wearable Bioelectronic System Enabling Silent-Speech Human-Computer Interaction 174
Linhui Wang, Ziang Cui, Ze Xiong

Intelligent Visual Recognition System Based on Senputing-CNN 180
Yinghao Zhang, Jiyang Wang, Liang Zhang, Hengrui Guo, Yan Liang, Wang Kang, Jinshui Miao, Fei Qiao

WSe_{2} Homojunction Enabled Negative Differential Resistance Effect for Sensor-Transceiver Multifunctional Devices 185
Chengdong Zhao, Bingbing Chen, Yiguo Liu, Zhehan Wang, Xuyan Zhang, Nuo Cheng, Linbo Sun, Li Tao

Green Synthesized Silver Nanoparticles (AgNP) Reduced Using Lanzones (Lansium Domesticum) Leaves Extract with Multifunctional Role as an Antimicrobial Agent, Catalyst, and Heavy Metal Colorimetric Sensor 189
Lorenzo Gabriel Janairo, Alexandrea Sacay, Jaliyah Dana Cabrera, John William Crame Bradford Clyde Aguila, Raquel Gonzales, Arra Asejo, Kristian Jude Borres, Jose Esmeria Gil Nonato Santos, Jose Paolo Bantang

Role of CeO_2/ZrO_2 Molar Ratio in Ni-CeO_2-ZrO_2 Composite Catalysts for Ammonia Decomposition to Hydrogen* 196
Tianyi Zhang, Song Wang

Carbon Quantum Dots (CQD) Derived from ι-Carrageenan Incorporated into Zinc Oxide (ZNO) as a Photodegradation Catalyst for Persistent Methylene Blue Dye Pollutant 202
Valerie Johanne C. Teoxon, Micah Charlene B. Lontoc, Rey Eliseo C. Torrejos, Jose M. Esmeria Gil Nonato C. Santos, Jose Paolo O. Bantang

A Dual-Modal Analysis Framework for Vagus Nerve Stimulation-Evoked Gastrointestinal Responses in Rabbits 210
Xinyao Jia, Leyi Zhao, Zhi Huang, Ying Qin, Junfang Zhang, Ling Zhu, Hu Pu, Lin Lin

Phase-Regulated Swarm Control for Nanorobot Collective Transport in Tumor Microenvironments 216
Jiawei Zou, Shaolong Shi

Cross-Limb Neural Compensation Via Intent Decoding for Personalized Gait Restoration 222
Zhi Deng, Zuo Li, Jiayu Li, Leyi Zhao, Bo Pang, Ying Qin, Junfang Zhang, Ling Zhu, Hu Pu, Lin Lin

Low-Temperature $\mathbf{S i O}_{\mathbf{2}}$ Deposition at $\mathbf{1 0 0}^{\circ}\mathbf{C}$ by ICP-PECVD: Effect of $\mathbf{S i H}_{\mathbf{4}} / \mathbf{O}_{\mathbf{2}}$ Flow Ratio and Insights into Film Formation 228
Yosuke Wakabayashi, Kunihiro Kamataki, Masayasu Hatashita, Takashi Yamamoto, Toshihiro Hayami Masaharu Shiratani

Dynamic Processes in Chemical-Vapor Deposition of Transition-Metal Dichalcogenides Revealed by AI-Driven Operando Metrology 235
Mingwei Feng, Xilu Zou, Haotian Zhang, Caiqi Zou, Silin Chen, Wei Xu, Xiaotian Zhang, Taotao Li Ningmu Zou

Diversity Mapping for TEOS Capacitively Coupled Plasmas 241
Masaharu Shiratani, Kunihiro Kamataki

The 1996 Invention and Experimental Demonstration of Modern GAA and Nanoribbon Transistors: From Single-Electron MOS Memory to Ultimate GAA Short-Channel Scaling Rules: (Plenary Paper) 245
Stephen Y. Chou

Optimization Research on ${\text{MoTe}}_{2}$ Memristors: Size and Temperature Effects 251
Yuqing Zhang, Xinfei Guan, Xu Jing, Li Tao

A Novel Approach to Secure Execution in Embedded Systems: Custom ISA and Compiler Binding 255
Maria Ayub, Sajid Gul Khawaja, Asad Mansoor Khan, Haroon Waris

Nanoscale AlGaN/GaN FinFETs: Enhancement Mode Operation and Multiscale Simulation of Random Defects 261
Salim I. Almenshad, Aqeel Y. Alalawi, Shaikh S. Ahmed

TCAD Simulation of Sub-2nm CFET with Backside Fin Isolation Structure via BSPDN Process for Performance Enhancing 265
Ningxiang Xu, Yadong Zhang, Feixiong Wang, Zhiyao Wang, Lei Cao, Qingzhu Zhang, Zhenhua Wu Huaxiang Yin

Experimental and Numerical Investigation on the Characteristics of Laser Induced Graphene-Based Strain Sensor 271
Xin Zhang, Jinsong Fang, Yan Zhang

A Compact Multiplier Design Using Hybrid SET-MOS Technology 275
Jingping Zhang, Chunhong Chen

A Ternary Inverter Based on Carbon Nanotube/Molybdenum Disulfide Heterojunction 280
Meiqi Xi, Yong Zhang, Haoyun Liu, Xuehao Zhu, Zirui You, Xuelei Liang

Operational Domain Sketching for Silicon Dangling Bond Logic 284
Jan Drewniok, Marcel Walter, Robert Wille

Electrical Detection of Indigo Dye Using ZnO–Ag Water-Gated Field-Effect Transistors 290
Rogerio Morais, Theodoros Serghiou, Neri Alves, Carlos J.L Constantinos, Jeff Kettle

Minimizing Area and Delay in Planar Physical Design for Field-Coupled Nanocomputing 294
Benjamin Hien, Marcel Walter, Robert Wille

Optoelectronic Synaptic Characteristics of ZTO/SZO Bilayer Memristor and its Application in Face Recognition for Neuromorphic Computing 300
Tzu-Chien Liang, Tseung-Yuen Tseng

Toward Compact Planar Circuits for Atomic-Scale Computing: A Hybrid Crossing Elimination Flow 306
Benjamin Hien, Marcel Walter, Robert Wille

Mixed-Precision Floating-Point Arithmetic for Highly Accurate Artificial Neural Networks 312
Farzad Niknia, Ziheng Wang, Shanshan Liu, Pedro Reviriego, Zhen Gao, Fabrizio Lombardi

Holistic Physical Design for Silicon Atomic Logic 319
Willem Lambooy, Jan Drewniok, Marcel Walter, Robert Wille

A Novel Flash-SAR Hybrid ADC with Adjustable Resolution for STT-MRAM Analog In-Memory Computing 325
Xiangyi Meng, Mingtao Chen, Jiongzhe Su, Hao Cai

A Low-Power Non-Volatile TCAM with 2-Bit Encoding and Dynamic Power Gating 330
Erya Deng, Qingting Hu, Zhongkun Shen, You Wang, Hao Kang, Weiqiang Liu

Multi-Bit Ultra-Fast Memory Based on Topological Antiferromagnetic Domain Wall 334
Xiaohan Sun, Jiyu Xie, Xinyu Wang, Zhizhong Zhang, Weisheng Zhao, Yue Zhang

Double Node Upset Tolerant Design of STT-MRAM with High Speed and Low Power 340
Chunxia Xie, Yee Chang Lim, Yefan Xu, Shuo Fan, Erya Deng, Chenghua Wang, You Wang, Weiqiang Liu

Spin Wave Domain Wall Driven Threshold Logic 345
Pantazis Anagnostou, Arne Van Zegbroeck, Said Hamdioui, Christoph Adelmann, Florin Ciubotaru Sorin Cotofana

An Energy-Efficient Time-Domain CIM Macro With Self-Referenced Scheme for STT-MRAM 351
Hao Kang, Erya Deng, Qingting Hu, Zhongkun Shen, Weiqiang Liu

High-Reliability Multi-Level Cell Voltage-Gated Spin-Orbit Torque Magnetic Random-Access Memory 356
Luman Xiang, Chao Wang, Zhongzhen Tong, Yulong Qiu, Zhaohao Wang

A TST-MRAM-Based Low-Latency In-Memory Multi-Bit Adder with Reconfigurable Logic 362
Guanyu Zhao, Erya Deng, Zhongkun Shen, Yuting Zhang, Weiqiang Liu

Micromagnetic Reservoir Computing in Synthetic Antiferromagnets: Role of Interlayer Exchange Coupling 368
Santhosh Sivasubramani

Machine Learning-Based Inverse Design of Magnetic Nanoparticle Hyperthermia Under Brezovich Safety Constraints 372
Augustine Boakye Yiadom, Kingsley Amponsah, Kingsley Adjei

Spin-Orbit Torque Switching of Synthetic Antiferromagnets: Micromagnetic Analysis of RKKY Coupling Effects 378
Santhosh Sivasubramani

Homogeneous Integration of Diameter-Engineered Carbon Nanotube Thin-Film Transistors for Emerging Displays 382
Yuan Kai, Anqi Zheng, Yujia Gong, Pujian Lin, Yuting Zhang, Yu Cao, Jiahao Kang

$Cs_{0.05}(FA_{0.98}MA_{0.02})_{0.95}Pb(I_{0.98}Br_{0.02})_3$-CMOS Image Sensor for Broadband (UV-Vis-NIR) Photodetection with 99.997% Pixel Functionality 388
Yunfei Xie, Peng Sun, Xuan Ye, Zijian Pan, Jiasheng Li, Hao Ning, Zhi-Xiang Zhang, Zongwen Li Qianqian Zhang, Yongliang Xie, Xiaochen Wang, Yan Jiang, Srikrishna Chanakya Bodepudi

Quantum Noise-Limited Information Capacity in Sub-Wavelength Nanophotonic Waveguides: A Theoretical Study 394
Praveen Kumar Pal

A Low-Noise CMOS Readout Circuit for Graphene/Ge Photodetector Arrays 398
Mingyi Zhou, Qianqian Zhang, Zhixiang Zhang, Yuxin Ye, Muhammad Malik, Guanyu Liu, Dianyu Qi Yang Xu

Ultracompact Dual-Band Plasmonic BPF Using SRR with SIR for Subwavelength Applications 402
Kola Thirupathaiah, Montasir Qasymeh

A Self-Aligned nMAG/3D-Si Hybrid Nanostripe Photodetector for Polarization-Sensitive Infrared Detection 407
Yunfei Xie, Xuan Ye, Zijian Pan, Srikrishna Chanakya Bodepudi, Wenzhang Fang, Bin Yu, Yang Xu

Mechanistic Insights Into Solvent-Mediated Structural Properties and Encapsulation Dynamics of Lead-Free $MA_3Bi_2Br_9$/PDMS for Ultrafast Photonics 412
M. Mansor, H. Halip, N. H. Zainol Abidin, A. Amphawan, A. K. Pandey

Plasmon-Mediated Polarization-Sensitive Photodetection in Germanium-MXene Heterojunctions 417
Kritika Bhattacharya, Papi Sarkar, Suprovat Ghosh, Aditya Kumar, Kaustuv Das, Samaresh Das

Interfacial Bubble Engineering for High-Performance $\mathbf{T i}_{\mathbf{3}} \mathbf{C}_{\mathbf{2}} \mathbf{T}_{\mathbf{x}}$ Mxene/Si X-Ray Detectors 423
Xuan Ye, Yunfei Xie, Yu Gao, Zijian Pan, Srikrishna Chanakya Bodepudi, Wenzhang Fang, Bin Yu, Yang Xu

A New Way to Benchmark Low-Dimensional Optoelectronic Synapses 429
Aniello Pelella, Andrea Sessa, Adolfo Mazzotti, Francesco De Chiara, Antonio Di Bartolomeo

Material Effects on Polarization Reversal: A Theoretical Comparison Between Doped AlN and GaN Wurtzite Systems 434
Yuan He, Kan-hao Xue, Xiangshui Miao, Dongdong Li, Liang Zhao

The Role of Nitrogen Dopant Configurations on Graphite-Based Field-Effect Transistors 439
M. Aldrigo, E. Laudadio, E. Mohebbi, E. Pavoni, H. J. Christopher, S. N. Afifa Azman, P. Russo, L. Zappelli L. Pierantoni, D. Mencarelli

Accuracy Evaluation of Deep Convolutional Neural Networks for N-and B-Doped Graphene Electronic Wavefunctions Prediction at Variable Doping Sites 444
Marco A. Pérez-Flores, Rubén Guerrero-Rivera, Eduardo Gamero-Inda, Norma A. García-Vidaña Francisco J. Godínez-García, Josué Ortiz-Medina

A Passive Acoustic Waveguide for Nonreciprocal Transmission Based on Wave-Vector Modulation 450
Xiaoyin Wan, Xuankai Xu, Lihui Jin, Tao Wu

Thick-Resist Vector Lithography Simulation Based on Effective Spectral Contribution 454
Shiyao Tian, Kaiqi Guo, Xianjie Li, Jikui He, Yanqing Xiao, Zaifa Zhou

Selective Thermal Tuning of Two Transmission Peaks in a Dual-SPUDT Acoustic Delay Line 458
Zichen Wang, Xuankai Xu, Tao Wu

How Geometric and Atomistic Asymmetries Affect Entangled Light Generation in InGaN/GaN Quantum Dots 462
Aqeel Y. Alalawi, Salim I. Almenshad, Shaikh S. Ahmed

In Situ Photocurrent-Driven Feature Extraction in Memristive Oscillatory-Based Reservoirs 466
Ioannis Tompris, Ioannis K. Chatzipaschalis, Theodoros Panagiotis Chatzinikolaou, Georgios Kleitsiotis Iosif-Angelos Fyrigos, Georgios Ch. Sirakoulis

Optical Modeling and Spectral Tuning of Plasmonic Si/Au Nanopillars for Filter-Free Narrowband Photodetection 472
Chuan Qin, Qianqian Zhang, Zongwen Li, Feng Tian, Shaoxiong Wu, Xinyi Xu, Wenzhang Fang, Yang Xu

Unipolar to Bipolar Transition in Resistive Memories Based on Silicon Nitride Thin Films by Different CVD Techniques 477
Alexandros E. Mavropoulis, Artin Ovsanian, Thanasis Kostopoulos, Georgios Konstantinidis Pascal Normand, Georgios Ch. Sirakoulis, Panagiotis Dimitrakis

Modeling and Analysis of Built-in Self-Repair for OTP-MRAM 483
Cheng He, Jiongzhe Su, Zeying Ding, Hao Cai

High-Density in-Memory Ising Computing Enabled by VGSOT-MTJ Based Spin Model 489
Wentao Huang, Kaili Zhang, Youguang Zhang, Weisheng Zhao, Lang Zeng, Deming Zhang

Compact Probabilistic Modeling of Voltage Controlled MTJ Towards Efficient Ising Machines 495
Hongjie Yin, Lirida Naviner, Yantong Di, Haoran Du, Yaoru Hou, Hao Cai

TCAD-GPT: Multimodal Large Language Model Framework for Complete and Rapid TCAD Simulation* 501
Gongteng Xiao, Haobo Huang, Tianye Yu, Yudi Zhao, Shisheng Xiong, Zhaori Bi, Xuan Zeng, Ye Lu

Enhancing the Switching Ratio of Hafnia-based Ferroelectric Tunnel Junctions via Defect Engineering 508
Zhijiang Wang, Zili Tang, Xing Zhang, Xiaoyan Liu, Fei Liu

Computational Investigation of Quantum Memory Logic Implemented with Electron Spins in Silicon Devices 513
Hoon Ryu

Design of Median Filters in Stochastic Computing 517
Yongqiang Zhang, Defang Meng, Jie Han, Shaowei Wang, Guangjun Xie

Organic Optoelectronic Synaptic Transistors Toward Hardware-Aware Transfer Learning for Satellite Scene Classification 522
Zhonglin Zhang, Kuakua Lu, Yunfei Tian, Qijing Wang

A High-Performance Cyclic-Mapping Encoding for Quantum Computing of Traveling Salesperson Problems on NISQ Devices 527
J. Wang, T. Kanezashi, D. Tsukayama, K. Awaya, R. Saito, J. Shirakashi

Cost-Effective Indium-Free Ga-Sn-O Synaptic Transistor with Rich Dynamics for Brain-Inspired Computing 532
Xingji Liu, Yao Ni, Yuan Liu

A Digital Oscillator-Based Potts Machine for Graph Colouring Problems 537
Xingjian Gao, Jie Han

Design and Layout of a 22-Bit Finite State Machine for Izhikevich Neuron Equations 543
Gonzalo Sebastián Torres-Chávez, Raúl Pérez-Núñez, Royce Richmond Ramírez-Morales Jorge Alejandro Juárez-Lora, Herón Molina-Lozano, Victor H. Ponce-Ponce

Engineering Titanium Oxide Films to Achieve High Performance Photomemristor Devices 549
Marina Sparvoli, José F. D. Chubaci, Henrique C. Gulino, Pedro H. Duarte, Ricardo Rangel Bianca J. Mendonça, Gilson S. Goveia, Daniel Fidelis, Luis Zambom, Ronaldo D. Mansano

Entanglement-Enhanced Multi-Objective Quantum-Inspired Computing with Adaptive Density-Based Segmentation 554
Yun-Ting Lai, Shu-Yu Kuo, Yu-Chi Jiang, Yao-Hsin Chou, Sy-Yen Kuo

Multi-PUFim: Compute-in-Memory Architecture with Multi-Encryption Obfuscation Based on High-Security MRAM PUF 560
Siying Wu, Jiaqi Xu, Maoxiang Tian, Jiaao Dai, Shuo Fan, Bi Wu, Chenghua Wang, You Wang Weiqiang Liu

Design and Emulation Methodology for Atomic-Scale Systolic Arrays: An LLM Accelerator Case Study in Silicon DB Logic 566
Samuel S. H. Ng, Marcel Walter, Simon Hofmann, Jan Drewniok, Robert Wille, Konrad Walus

A Mixed-Signal Parallel Stochastic Computing-in-Memory MRAM Macro for Edge AI Application 572
Mengjie Liu, Jiaqi Xu, Fang Zhou, Yuxuan Tao, Jiaao Dai, Yu Gong, Bi Wu, Lirida Naviner, You Wang Weiqiang Liu

BitPlanarNet: Learning-to-Layout Planar Gate Networks for Emerging Devices 578
Samuel S. H. Ng, Marcel Walter, Max Yuan, Jan Drewniok, Ryan H. Foote, Robert Lupoiu, Jonathan A. Fan Robert Wolkow, Robert Wille, Konrad Walus

Energy Band-Engineered Defect-Mediated Self-Rectification in Single-Layer IGZO Memristors for Terabit-Scale Passive Arrays 584
Haoze Yu, Xuemeng Fan, Zijian Wang, Baichen Zhu, Jie Wang, Yishu Zhang

A Programmable Memristive Cellular Automaton Architecture for State-Transition Trajectories in Neuromodulation 588
Ioannis K. Chatzipaschalis, Iosif-Angelos Fyrigos, Antonio Rubio, Georgios Ch. Sirakoulis