ASICON 2025 Technical Sessions Overview

		Meeting Room 1, 3rd Fl.	Meeting Room 2, 3rd Fl.	Meeting Room 3, 3rd Fl.	Lounge Meeting 1, 4th Fl.	Lounge Meeting 2, 4th Fl.
Date	Time	Overview				
Oct.21	9:00:12:15		Tutorial Session T1			
	13:30-16:45		Tutorial Session T2			
Oct.22	8: 30-10: 30	Opening Ceremony & Keynote Session K1 (Grand Ballroom)				
	10: 45-12: 15	Keynote Session K2 (Grand Ballroom)				
	13: 30-15: 30	Session A1 Advanced Devices	Session B1 AI & Neural Network I	Session C1 Digital Circuit I	Session D1 EDA & FPGA I	Session E1 ESD & Reliability I
	15: 45-17: 45	Special Session A2 The FET 100th Forum	Session B2 AI & Neural Network II	Session C2 Digital Circuit II	Session D2 EDA & FPGA II	Session E2 ESD & Reliability II
	17: 45-18: 45					
	19: 00-21: 00	Reception (Atrium Cafe)				
Oct.23	8: 30-10: 00	Keynote Session K3 (Grand Ballroom)				
	10: 15-12: 15	Session A3 Processing and Material	Session B3 Advanced Memory I	Session C3 Analog Circuit I	Session D3 Mixed-signal Circuit I	Session E3 Image Sensor & Optoelectronics I
	13: 30-15: 30	Session A4 Power & Compound Device I	Session B4 Advanced Memory II	Session C4 Analog Circuit II	Session D4 Mixed-signal Circuit II	Session E 4 Image Sensor & Optoelectronics II
	15: 45-17: 45	Session A5 Power & Compound Device II	Session B5 Advanced Memory II	Session C5 Analog Circuit III	Session D5 Analog Computing & CIM I	Session E 5 High Speed Interface
	17: 45-18: 45	Poster Session				
Oct.24	8: 30-10: 00	Keynote Session K4 (Grand Ballroom)				
	10: 15-12: 15	Session A6 DTCO	Session B6 Security	Session C6 RF Circuit	Session D6 Analog Computing & CIM II	Session E6 MEMS & Bioelectronics
	19: 00-21: 00	Banquet & Closing Ceremony (Grand Ballroom)				

Tutorial Session

Tuesday, October 21, 2025

Tuesday, October 21, 9: 00 – 18: 15

Tuesday, October 21, 9: 00 – 12: 15
Tutorial Session T1

T1-1	**Compact Modeling for Technology Development and Chip Design**
9: 00 ~10: 30	Prof. Xing Zhou, IEEE EDS, Singapore
T1-2	**Basics and Advances towards Wideband Continuous-time Delta-Sigma ADCs: Fundamentals, Recent Trends, and Perspectives**
10: 45 ~12: 15	Prof. Liang Qi, Shanghai Jiao Tong University, China

Tuesday, October 21, 13: 30 – 16: 45
Tutorial Session T2

T2-1	**Fundamentals of Emerging Memory Circuit Design for Embedded and AI Applications**
13: 30 ~15: 00	Prof. Jianguo Yang, Zhangjiang Laboratory, China
T2-2	**AI-Driven Strategies for Accurate and Efficient Transistor Parameter Extraction in Next-Generation Device Modeling**
15: 15 ~16: 45	Prof. Ningmu Zou, Nanjing University, China

Technical Session

Wednesday, October 22, 2025

Wednesday, October 22, 8: 30 –9:00

Opening Ceremony

Wednesday, October 22, 9: 00 –10: 30

Wednesday, October 22, 9: 00 –10: 30
Keynote Session K1

Session Chair: Prof. Bin Zhao, IEEE EDS

K1-1	**Designing Analog Integrated Circuits: Inspiration in Nature or Synthesized by AI ?**
9: 00 ~9: 45	Prof. Georges Gielen, KU Leuven, Belgium
K1-2	**Systems-on-chips Based Implantable Brain-computer Interfaces to Treat and Predict Brain Diseases**
9: 45 ~10: 30	Prof. Mohamad Sawan, Westlake University, China; Polytechnique Montreal, Canada

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Wednesday, October 22, 10: 45– 12: 15

Wednesday, October 22, 10: 45–12: 15
Keynote Session K2

Session Chair: Prof. Hao Min, Fudan University, China

K2-1	**A Century Field Effect Transistor: Past, Trends and Challenges for the Next Decade**
10: 45 ~11: 30	Prof. Cor Claeys, Fellow IEEE/EDS, Leuven, Belgium
K2-2	**Development of High-performance P-type Transistors**
11: 30 ~12: 15	Prof. Yong-Young Noh, Pohang University of Science and Technology (POSTECH), Pohang, Korea

Wednesday, October 23, 13: 30 – 15: 30

Session A1: Advanced Devices

	Title
A1-1	**0496: Generation, Modulation and Application of Spintronic Markov Chain Signal (invited)**
13:30 ~13:57	Xihui Yuan, Jiajia Jian, Zheng Chai, Xue Zhou, Weidong Zhang, Jian Fu Zhang, Tai Min *(Xi'an Jiaotong University, China; Xidian University, China; Hangzhou Institute of Technology, Xidian University, China; Liverpool John Moores University, United Kingdom)*
A1-2	**0522: Opportunities for Advanced Logic Technology with Dual-sided Integrations: From Lateral to Vertical Transistors (invited)**
13:57 ~14:24	Yanbang Chu, Yu Liu, Runsheng Wang, Ming Li, Heng Wu *(Peking University, China)*
A1-3	**0533: Si Hybrid Tunnel FET-CMOS Foundry Platform for Ultra-low-Power Circuit Applications (invited)**
14:24 ~14:51	Qianqian Huang, Kaifeng Wang, Ru Huang *(Peking University, China)*
A1-4	**0431: Si-MoS$_2$ Heterogeneous CFET for Ultra-low Power Logic Technology Scaling**
14:51 ~15:04	Zehua Wang, Wenzhong Bao, Peng Zhou, and Jing Wan *(Fudan University, China)*
A1-5	**0459: Impact of Off-state Stress on the Reliability of 14nm nFinFETs**
15:04 ~15:17	Wendi Wei, Kun Chen, Chen Wang, Yaolin Wang, Zhao Yang, Zhiteng Zhang, Zhuming Wang, Qingqing Sun, and David Wei Zhang *(Fudan University, China; National Integrated Circuit Innovation Center, China)*
A1-6	**0473: Performance Comparison Between Bulk-Si and FDSOI Nanosheet GAAFETs**
15:17 ~15:30	RS.He, BX.Gan, S.Cristoloveanu, Y.Xu, J.Wan *(Fudan University, China; Guangdong Greater Bay Area Institute of Integrated Circuit and System, China)*

Wednesday, October 22, 13: 30 – 15: 30
Session B1: AI & Neural Network I

	Title
B1-1	**0504: Full-spiking Bio-inspired Target Detection Vision Algorithm based on Gating Attention Prediction for DVS and SPAD Sensors (invited)**
13:30 ~13:56	Lengjun Yang, Xingyu Xiang, Yiyao Wen, Jian Liu, Nanjian Wu, Liyuan Liu, Shuangming Yu *(Institute of Semiconductors, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China)*
B1-2	**0521: The Quest for Reliable AI Accelerators: Cross-Layer Evaluation and Design Optimization (invited)**
13:56 ~14:22	Meng Li, Tong Xie, Zuodong Zhang, and Runsheng Wang *(Peking University, China; Beijing Advanced Innovation Center for Integrated Circuits, China)*
B1-3	**0475: A Lightweight Hardware Defense Against DSE-Based Trojans in NN Accelerators**
14:22 ~14:36	Yujing Wu, Chao Guo, Youhua Shi *(Waseda University, Japan)*
B1-4	**0349: SpykSim: A Cycle-Level Full-System Simulator for Systolic SCNN Accelerators**
14:36 ~14:49	Wanwan Zhao, Yichu Yao, Qiang Niu, Qian Li, Chen Zhao *(Northwestern Polytechnical University, China)*
B1-5	**0405: A Data-Efficient Deep Reinforcement Learning Algorithm and FPGA Accelerator for Real-Time Robot Motion Control Applications**
14:49 ~15:03	Wenhao Huang, Rao Fu, Aiwu Ruan, Huiyun Li, Chongyang Zhu *(University of Electronic Science and Technology of China, China; Shenzhen University of Advanced Technology, China)*
B1-6	**0404: An Embedded Real-Time License Plate Detection and Recognition System Using YOLOv8 and LPRNet**
15:03 ~15:16	Yifei Lu, Yujie Huang, Mingyu Wang, Minge Jing, Wenhong Li, Xiaoyang Zeng *(Fudan University, China)*
B1-7	**0445: GraphFlow-PIM: Annotated Execution Graphs of DNN Workloads across Diverse PIM Configurations**
15:16 ~15:30	Syeda Munazza Marium, Song Chen *(University of Science and Technology of China, China)*

	Wednesday, October 22, 13: 30 – 15: 30 **Session C1: Digital Circuit I**

	Title
C1-1	**0221: Hardware-Efficient Doppler Estimation and Compensation in PDSCH for 5G Non-Terrestrial Networks (Invited)**
13:30 ~14:00	Chih-Chen Chen, Yi-Shan Huang, Chung-Lun Tu, Shyh-Jye Jou (*Yang Ming Chiao Tung University, Taiwan, China*)
C1-2	**0011: FPGA Bitstream Modification Attacks on Crystals Kyber**
14:00 ~14:15	Lei Chen, Jiahao Lu, Tianze Huang, Aobo Li, Shengfei Gu, Ang Hu, Dongsheng Liu (*Huazhong University of Science and Technology, China; JinYinHu Laboratory, China*)
C1-3	**0239: BIND: A Batch Cache-Invalidation Framework Based on Doorbell Mechanism**
14:15 ~14:30	Jialin Liu, Zhiyuan Zhang, Chao Fu, Jun Han (*Fudan University, China; Shao-Chip Laboratory, China*)
C1-4	**0326: High-Throughput Multiplier-Free FPGA Implementation for Pure-Number Discrete Fractional Complex Hadamard Transform**
14:30 ~14:45	Chengqi Zhao, Zi-chen Fan, Shan Cao, Susanto Rahardja (*Shanghai University, China; Northwestern Polytechnical University, China; Singapore Institute of Technology, Singapore*)
C1-5	**0332: Design and Implementation of a Bilateral Filtering Accelerator Based on RISC-V**
14:45 ~15:00	Zhengyao Shi, Yushan Dai, Angyang Li, Jian Mei, Lei Deng, Rui Yin (*Fudan University, China; National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China*)

	Wednesday, October 22, 13: 30 – 15: 30 **Session D1: EDA & FPGA I**

	Title
D1-1	**0359: ATSim: A Fast and Accurate Simulation Framework for 2.5D/3D Chiplet Thermal Design Optimization (Invited)**
13:30 ~13:57	Qipan Wang, Tianxiang Zhu, Jiajia Cui, Yicheng Wei, Linxiao Shen, Zhe Cheng, Runsheng Wang, Ru Huang, Yibo Lin *(Peking University, China; Institute of Electronic Design Automation, Peking University, Wuxi, China; Beijing Advanced Innovation Center for Integrated Circuits, China)*
D1-2	**0531: Fast Thermal-driven 3D Fixed-outline Floorplanning By Learning-based Thermal Analysis (Invited)**
13:57 ~14:24	Yikai Liu, Jindong Zhou, Jiayi Li, Pingqiang Zhou *(ShanghaiTech University, China)*
D1-3	**0539: Advancing Sparse Matrix Solvers Via Exploring More Parallelism and Random Sketching (Invited)**
14:24 ~14:51	Wenjian Yu, Jiawen Cheng, Baiyu Chen *(Tsinghua University, China)*
D1-4	**0284: Snow Ablation Optimizer Accelerator Based on High Level Synthesis**
14:51 ~15:04	Maoshuo He, Renjing Hou, Zirui Li, Kang Zhao *(Xidian University, China; Beijing University of Posts and Telecommunications, China)*
D1-5	**0311: An MLIR-Based Framework for Efficient Dynamic Circuits Generation**
15:04 ~15:17	Yuxuan Guan, Jiangnan Li, Lingli Wang *(Fudan University, China)*
D1-6	**0384: HybridEPP: Hybrid Numerical and Symbolic Error Probability Propagation in Logic Network**
15:17 ~15:30	Gaopeng Shen, Chang Wu *(Fudan University, China)*

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Wednesday, October 22, 13: 30 – 15: 30
Session E1: ESD & Reliability I

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	Title
E1-1	**0249: ESD Reliability Roadmap Considerations for 3D Heterogeneous Integration Microsystems (Invited)**
13:30 ~13:55	Zijin Pan, Xunyu Li, Weiquan Hao, Runyu Miao, Zijian Yue, Albert Wang *(University of California, USA)*
E1-2	**0483: Tiny Chiplets Enabled by Packaging Scaling: Opportunities in ESD Protection and Signal Integrity (invited)**
13:55 ~14:20	Emad Haque, Pragnya Sudershan Nalla, Jeff Zhang, Sachin S. Sapatnekar, Chaitali Chakrabarti, Yu Cao *(Arizona State University, USA; University of Minnesota, USA)*
E1-3	**0524: Time-dependent Dielectric Breakdown in Advanced MOSFET: From Theoretical Models to Experimental Findings (invited)**
14:20 ~14:45	Chu Yan, GuoQiXin Huang, Yiming Qu, Yi Zhao *(Zhejiang University, China; Huada Semiconductor, China; East China Normal University, China)*
E1-4	**0315: Mechanical Stress Induced by Temperature Cycling: Impact of MOSFET Placement on Bandgap Reference Voltage Offset**
14:45 ~15:00	Fengbo Zhang, Yancong He, Zhinong Liu, Shuang Jiao, Yang Li, Zhigang Ji *(UNISOC(Shanghai)Technologies Co., China; Shanghai Jiao Tong University, China)*
E1-5	**0394: Experimental and Theoretical Study of Single Event Latchup in a 3D TLC NAND Flash Memory Under Heavy Ion Irradiation**
15:00 ~15:15	Xinghao Wang, Haitao Dong, Yujiao Ding, Yining Zhou, Haotian Li, Xuesong Zheng, Yuhang Wang, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Chaoming Liu, Jiezhi Chen *(Shandong University, China; Harbin Institute of Technology, China; China Aerospace Components Engineering Center, China)*
E1-6	**0397: A Data Hierarchy-Based Adaptive Testing Method for Integrated Circuit Parameter Sets**
15:15 ~15:30	Kaiming Hao, Yan Li, Xu Cheng, Qiong Wu, Wenfa Zhan, Yujie Huang *(Anqing Normal University, China; Ningbo University, China; University of Chinese Academy of Sciences, China; Fudan University, China)*

Wednesday, October 22, 15: 45-18: 45

Wednesday, October 22, 15: 45-18: 45
Special Session A2: The FET 100th Forum

	Title
A2-1	**Device and architecture innovation in AI era (invited)**
15:45 ~16:30	Prof. Ming Liu (*Fudan University, China*)
A2-2	**Role of Dielectrics from Field Effect Transistors to Nano-Systems (invited)**
16:30 ~17:15	Prof. Durga Misra (*New Jersey Institute of Technology, USA*)
A2-3	**Evolution of high-resolution ADC efficiency over the years (invited)**
17:15 ~18:00	Prof. Maurits Ortmanns (*University of Ulm, Germany*)
A2-4	**Design Automation of Analog Integrated Circuits-From SPICE to ChatGPT (invited)**
18:00 ~18:45	Prof. José M. de la Rosa (*University of Seville, Spain*)

	Title
B2-1	**0529: Optimizing LLM inference for FPGAs (invited)**
15:45 ~16:15	Jorge R. De Freitas, Jose G. F. Coutinho, Ce Guo, Wayne Luk, Zhiqiang Que *(Imperial College London, United Kingdom)*
B2-2	**0292: Fine-Grained Layer Scheduling and Mapping for Chiplet-Based LLM Inference**
16:15 ~16:30	Hongyang Gu, Lei Xu, Haochen Zhao, Naifeng Jing *(Shanghai Jiao Tong University, China)*
B2-3	**0320: A 16×16 High-Utilization Systolic Array Hardware Accelerator for Long-Sequence Flash-Attention Computation in Transformer**
16:30 ~16:45	Zhenkun Li, Liji Wu, Yi Yang, Tianling Ren, Le Wu, Xiangmin Zhang *(Tsinghua University, China; Beijing National Research Center for Information Science and Technology, China)*
B2-4	**0333: Sparse Approximation of Softmax: HardwareEfficient Acceleration for Long Sequence Inference**
16:45 ~17:00	Lanqi Ma, Zifeng Zhao, Xiaoxing Wu, Gengsheng Chen, Wenbo Yin *(Fudan University, China; Jiashan Fudan Institute, China)*
B2-5	**0441: A Hybrid Processing-in-Memory and Computing in-Memory Architecture for Large Language Model Inference in Edge Devices**
17:00 ~17:15	Yujia Sun, Ruicong Zhang, Yuanfeng Chen, Qiang Zhou, Xiaoyong Xue, Xiaoyang Zeng *(Fudan University, China; TRANSCPUTING Technology LTD, China)*
B2-6	**0281: MCDC: A Memory-efficient and Computationefficient Architecture for Deformable Convolutions**
17:15 ~17:30	Zhiyi Shu, Xinhua Shi, Jun Han *(Fudan University, China)*
B2-7	**0375: Hardware-Efficient Lightweight Feature Map Compression for Convolutional Neural Networks**
17:30 ~17:45	Bing Wu, Shan Cao, Zhiyuan Jiang *(Shanghai University, China)*

	Title
C2-1	**0309: Skip-Zero Strategy: A Latency and Power Optimization for SRT Divider**
15:45 ~16:00	Ke Xu, Ping Yin, Jun Han *(Fudan University, China; China Mobile (SuZhou) Software Technology Co.,Ltd, China)*
C2-2	**0340: A High-precision Stochastic Computing Multiplier with Co-optimization of Area and Latency**
16:00 ~16:15	Qiang He, Yudi Zhao, Zhihuai Zhang, Xiaofei Nie, Shisheng Xiong, Kai Zhao *(Beijing Information Science & Technology University, China; Zhangjiang Laboratory, China; Fudan University, China)*
C2-3	**0348: A Low-Overhead Fault-Tolerant Design for Quantized CNN Accelerators**
16:15 ~16:30	Shanqiang Yang, Chenxu Wang, Lexiang Shen, Xinlei Su, Min Luo, Tianliang Xu, Ruoshi Li, Siyuan Wang *(Harbin Institute of Technology, Weihai, China; Shandong Provincial Key Laboratory of Marine Electronic Information and Intelligent Unmanned Systems, China)*
C2-4	**0427: A Real-Time and Reconfigurable Pre-Driver Design for ABS Solenoid Valve Applications**
16:30 ~16:45	Zhinan Li, Yitian Su, Shaochen Han, Huihong Zhang, Yuejun Zhang, Cang Liu *(Ningbo University, China; Ningbo Yonghua Innovation Science and Technology Development Co., Ltd, China; Tsinghua University, China)*
C2-5	**0429: Real-Time Highly Flexible Wheel Speed Sensing Interface IP Design**
16:45 ~17:00	Yitian Su, Zhinan Li, Haoxuan Yan, Zhenkai Zhou, Yuejun Zhang, Cang Liu *(Ningbo University, China; Ningbo Yonghua Innovation Science and Technology Development Co., Ltd, China; Tsinghua University, China)*
C2-6	**0457: Design of Secure Storage Circuit Based on Reversible Logic XOR-Toffoli Gate**
17:00 ~17:15	Yiting Guo, Yuejun Zhang, Shutong Zhang, Mengfan Xu, Zhenkai Zhou, Hui Li *(Ningbo University, China; Dahua Technology Co., Ltd, China)*
C2-7	**0469: A Hierarchical Approximate Floating Point MAC Unit with Precision-Adaptive Self-Configuration**
17:15 ~17:30	Xianghui Fu, Yike Wang, Chaojie Wei, Yu Gong *(Nanjing University of Aeronautics and Astronautics, China; Key Laboratory of Aerospace Integrated Circuits and Microsystem, China)*
C2-8	**0488: High-Performance Radiation-Hardened Flip-flop for Reliable Systems**
17:30 ~17:45	Jie Li, Xiaoming Teng, Yufeng Zhang *(Harbin Institute of Technology, China)*

	Title
D2-1	**0517: Success-Rate Improvement of Analog Circuit Topology Generation By Large Reasoning Model (Invited)**
15:45 ~16:09	Koutaro Hachiya *(Teikyo Hesei University, Japan)*
D2-2	**0501: Radio Frequency Integrated Circuits Generated by AI-based Design Automation (Invited)**
16:09 ~16:33	Ruoyu Wang, Meijun Hou, Jun Wu, Hongtao Xu, Ye Lu *(Fudan University, China; IC Prophet Microelectronics, China)*
D2-3	**0515: Systematic Design for Coupled Heterogeneous Accelerators (Invited)**
16:33 ~16:57	Tim Todman, Wayne Luk *(Imperial College London, United Kingdom)*
D2-4	**0282: Hierarchical Residual Fitting for Enhanced S-Parameter Accuracy in Devices Exhibiting Complex Delay**
16:57 ~17:09	Jiaxin Wei, Haonan Wang, Ting-Jung Lin, Lei He *(Shanghai Jiao Tong University, China; BTD.Tech Inc., China; Ningbo Institute of Digital Twin, Eastern Institute of Technology, China)*
D2-5	**0310: Hybrid Model-Based Hardware Acceleration for Diesel Engine NOx Emission Prediction**
17:09 ~17:21	Xinlei Su, Shanqiang Yang, Tianliang Xu, Xiaozhen Yan, Jianfeng Li, Tian Rong, Chenxu Wang, Yuhang Wang, Zhiwei Han *(Harbin Institute of Technology, Weihai, China; Shandong Huayi Micro-Electronics Technology Co., Ltd, China)*
D2-6	**0362: Extending Straight-Through Estimation for Robust Neural Networks on Analog CIM Hardware**
17:21 ~17:33	Yuannuo Feng, Wenyong Zhou, Yuexi Lyu, Yixiang Zhang, Zhengwu Liu, Ngai Wong, Wang Kang *(Beihang University, China; The University of Hong Kong, Hong Kong, China; Zhicun Research Lab, China)*
D2-7	**0356: A Parallel Level-Set Based Approach for Etching Topography Simulation in Process Emulation**
17:33 ~17:45	Yin Cheang Ng, Xin Wen, Boyuan Yu, Wenjian Yu *(Tsinghua University, China; Hubei NineCube Microelectronics Co. Ltd, China)*

	Title
E2-1	**0335: Microstructural Evolution and Reliability Analysis of RDL Copper Interconnects under HighTemperature Conditions (invited)**
15:45 ~16:15	Peng Xu, Lan Li, Jialu Huang, Yu Yao, Hengchang Bi, Jiang Xia, Zongyi Li, Zuoyuan Dong, Xing Wu *(East China Normal University,China; Peking University,China; JCET Semiconductor Integration,China)*
E2-2	**0523: Reliability Screening for Yield Improvement in IC Design Industry: Progress, Challenges and Prospects (invited)**
16:15 ~16:45	Yixian Wang, Xiaoxiao Qiu, Zhigang Ji *(Shanghai Jiaotong University, China)*
E2-3	**0357: Impact of Thermal Shock on the Threshold Voltage and Transconductance of FinFET I/O Devices**
16:45 ~17:00	Yaolin Wang, Kun Chen, Wendi Wei, Zhao Yang, Zhiteng Zhang, Zhuming Wang, Chen Wang and David Wei Zhang *(Fudan University, China; National Integrated Circuit Innovation Center, China)*
E2-4	**0401: Effects of Total Ionizing Dose on ESD Performance in High-Voltage SCR with Double Snapback Characteristics**
17:00 ~17:15	*Yujie Liu, Xiangliang Jin (Hunan Normal University, China; College of Hunan Province, China)*
E2-5	**0474: A New Surge Protection Circuit with Low Dynamic Leakage Current**
17:15 ~17:30	Zhiqiang Hu, Ran Ye, Qiao Kang, Ke Cui, Hao Luo, Weipeng Ye, Siyang Liu, Weifeng Sun *(Southeast University, China)*

Thursday, October 23, 2025

Thursday, October 23, 8: 30 – 10: 00

Thursday, October 23, 8: 30 – 10: 00
Keynote Session K3
Session Chair: Prof. Haruo Kobayashi, Gunma University, Japan

K3-1	**The Design of Frequency Generation Units with FD-SOI Technologies Under Low-Power Constraints**
8: 30 ~9: 15	Prof. Yann Deval, University of Bordeaux, France
K3-2	**High Performance 5G-Mobile-SOC/ Computing Chip for Edge AI Application Manufactured with 3nm EUV FinFET Technology**
9: 15 ~10: 00	Dr. Jun Yuan, Senior Director of Engineering，Qualcomm, USA

Thursday, October 23, 10: 15 – 12: 15

Thursday, October 23, 10: 15 – 12: 15
Session A3: Processing and Material

	Title
A3-1	**0201: Improving EUV Patterning Fidelity and Aberration Control through Source-Mask Co-Optimization (invited)**
10:15 ~10:45	Qi Wang, Qiang Wu, Ying Li, Xianhe Liu, Yanli li *(Fudan University, China; National Integrated Circuit Innovation Center, China)*
A3-2	**0355: From Technology to Circuit Design in Stacked Complementary Field-Effect Transistors (invited)**
10: 45 ~11:15	Mansun Chan, Yutian Zhang, Shangdong Zhang *(The Hong Kong University of Science and Technology, Hong Kong, China; Peking University, China)*
A3-3	**0519: Enhancement of HfO_2-Based Ferroelectric Thin Film Performance via Interface and Defect Engineering (invited)**
11:15 ~11:45	Xiao Yu, Peiyuan Du, Huan Liu, Dongya Li, Fei Yu, Bing Chen, Ran Cheng, Mengnan Ke, Yan Liu, and Genquan Han *(Hangzhou Institute of Technology, Xidian University, China; Xidian University, China; Zhejiang University, China; Yokohama National University, Japan)*
A3-4	**0383: Threshold Voltage Swing Caused by Intense Phonon-Electron Interaction in High-k Dielectrics**
11:45 ~12:00	Jinchen Wei, Mansun Chan *(The Hong Kong University of Science and Technology, Hong Kong, China)*
A3-5	**0410: A Ti/ITO Bilayer Gate Electrode Strategy for Improving Subthreshold Swing of Oxide Transistors**
12:00 ~12:15	Chuanlin Sun, Tingchen Yi, Han Gao, Jiakang Zhang, Junchen Dong, Kai Zhao, Dedong Han, Xing Zhang *(Peking University, China; Beijing Information Science and Technology University, China; Southern University of Science and Technology, China)*

	Title
B3-1	**0456: Doped GT/ST Multilayer Chalcogenide for Multi-Level Phase-Change Device (invited)**
10:15 ~10:45	You Yin *(Gunma University, Japan)*
B3-2	**0365: A Study on Dwell Time Impacts in Charge-trapping 3D NAND Flash Memory**
10: 45 ~11:00	Yining Zhou, Ruidong Li, Xuepeng Zhan, Guangkuo Yang, Yujiao Ding, Xinghao Wang, Pengpeng Sang, Peng Guo, Jixuan Wu, Jiezhi Chen *(Shandong University, China; Cloud Computing Equipment Industry Innovation Co. Ltd., China; Shandong Sinochip Semiconductors Co. Ltd., China)*
B3-3	**0366: Access Mode Impacts on 3D Charge-trapping (CT) QLC (4bit/cell) Raw NAND Chip**
11:00 ~11:15	Guangkuo Yang, Ruidong Li, Yining Zhou, Yujiao Ding, Xinghao Wang, Pengpeng Sang, Peng Guo, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen *(Shandong University, China; Cloud Computing Equipment Industry Innovation Co. Ltd., China; Shandong Sinochip Semiconductors Co. Ltd., China)*
B3-4	**0370: The Influence of Radiation on Reliability of Cold Data in 3D CT NAND Flash Memory**
11:15 ~11:30	Haitao Dong, Xinghao Wang, Haotian Li, Xuesong Zheng, Pengpeng Sang, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen *(Shandong University, China; Harbin Institute of Technology, China; China Aerospace Components Engineering Center, China)*
B3-5	**0376: Process Co-Optimization of Void Suppression in ULK Dielectric Layers for 28 nm RRAM Arrays Towards High-density Integration**
11:30 ~11:45	Zhenchao Sui, Yanqing Wu, Xing Zhang *(Peking University, China; Semiconductor Manufacturing Beijing Corporation, China)*
B3-6	**0402: A Study on Performance Enhancement of TiO2/HfO2 Memristors through Rapid Thermal Annealing**
11:45 ~12:00	Yifan Wu, Yuzhe Hu, Yuewei Qu, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Jiezhi Chen *(Shandong University, China)*
B3-7	**0455: Investigation of Self-Heating Effects in InGaZnO Vertical Channel Transistors for DRAM Application**
12:00 ~12:15	Zhuoran Kong, Yizhan Liu, Jinfeng Kang, Xiaoyan Liu *(Peking University, China)*

	Thursday, October 23, 10: 15 – 12: 15 **Session C3: Analog Circuit I**

	Title
C3-1	**0507: Analysis and Design of Regulating Rectifier with Multiple Outputs for Wirelessly Powered Biomedical Devices (invited)**
10:15 ~10:40	Hao Qiu *(Nanjing University, China)*
C3-2	**0482: Noise Notch Frequency Design for EMI Mitigation in DC-DC Converters Using Digital-to-Time Converter (Invited)**
10:40 ~11:05	Yasunori Kobori, Yifei Sun, Guiyi Dong, Nobukazu Tsukiji, Ramin Khatami, Takuya Arafune, Shogo Katayama, Anna Kuwana, Jianglin Wei, Haruo Kobayashi *(Maebashi Institute of Technology, Japan; Shenyang University of Chemical Technology, China; Gunma University, Japan; National Institute of Technology (KOSEN), Gunma College, Japan; Yibin University, China)*
C3-3	**0244: A 240nA-1µA Quiescent SIMO Converter Featuring 3mV Undershoot under 30mA/µs Transients**
11:05 ~11:19	Yuhua Chen, Qianhui Liu, Yixing Wang, Yuming Zhang, Yimeng Zhang *(Xidian University, China)*
C3-4	**0306: A 280-nA, 85.8% Efficiency Boost Converter with Optimal Inductor Current in Burst Mode for Brain Stimulation**
11:19 ~11:33	Dejian Li, Xin Jin, LianXi Liu, Gang Dong, Xufeng Liao, Shihao Xiao, Xincai Liu *(Beijing Smart-Chip Microelectronics Technology Co., Ltd., China; Xidian University, China)*
C3-5	**0308: A High-Efficiency Low-Ripple Buck Converter with Adaptive Load Frequency Control**
11:33 ~11:47	Tao Ren, Xufeng Liao, Gefu Wang，Jiatong Wu, Lianxi Liu *(Xidian University, China; Chongqing Integrated Circuits Innovation Institute, China)*
C3-6	**0313: A 400V High-speed Level-Shifting Gate Driver with Adaptive Signal-Path Disconnection for 278V/ns dv/dt Immunity in Soft-Switching Converters**
11:47 ~12:01	Yile Xie, Hanyu Shi, Ting Yi, Zhiliang Hong *(Fudan University, China)*
C3-7	**0477: GaN-based complementary logic sawtooth generator for smart power ICs**
12:01 ~12:15	Yutao Geng, Ji Shu, Tao Chen, Yan Cheng, Yat Hon Ng, and Kevin J. Chen *(The Hong Kong University of Science and Technology Shenzhen Research Institute, China; The Hong Kong University of Science and Technology, Hong Kong, China)*

	Thursday, October 23, 10: 15 – 12: 15
	Session D3: Mixed-signal Circuit I

	Title
D3-1	**0484: Some Signal Processing Techniques for Testing Wireless Communication LSIs (invited)**
10:15 ~10:40	Koji Asami *(The University of Tokyo, Japan)*
D3-2	**0506: Voltage-Domain vs. Time-Domain: Trade-offs in High-Speed Applications (invited)**
10:40 ~11:05	Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo *(University of Macau, Macao, China)*
D3-3	**0508: A Pitch-Matched Transceiver ASIC with Element ADC and Continuous-Time Gain Compensation for 3D Ultrasound Probes (invited)**
11:05 ~11:30	Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, Penghao Jiang, Yihu Yu, Zhong Zhang, Kejun Wu, Ning Ning, Qi Yu *(University of Electronic Science and Technology of China, China)*
D3-4	**0254: A Low-Power-Consumption Capacitance to Digital Converter with Novel Calibration Technology**
11:30 ~11:45	Xiwen Zhu, Yufeng Zhang, Xiaoming Teng, Yihan Wang *(Harbin Institute of Technology, China)*
D3-5	**0302: A 10-bit 4 GS/s 67.79-dBc SFDR Switched-Capacitor DAC with Reservoir Capacitor-based Reference Generation**
11:45 ~12:00	Yitao Wang, Meng Xu, Qiang Pan, Jize Liu, Yuekang Guo, Jing jin *(Shanghai Jiao Tong University, China)*
D3-6	**0479: A 16-channel Neural Signal Acquisition Analog Front-End with Foreground Calibration for High Precision Backend SAR ADC**
12:00 ~12:15	Chun Feng, Junfeng Tang, Longhao Chen, Songping Mai, Xian Tang *(Shenzhen International Graduate School, Tsinghua University, China)*

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Thursday, October 24, 10: 15 – 12: 15

Session E3: Image Sensor & Optoelectronics I

</div>

	Title
E3-1	**0492: FD SOI-Based 1-T Image Sensor for IN-Pixel Computing (Invited)**
10:15 ~10:45	Xiaoyan Liu *(Peking University, China)*
E3-2	**0505: Vision Chips (Invited)**
10:45 ~11:15	Liyuan Liu *(Institute of Semiconductors, Chinese Academy of Sciences, China)*
E3-3	**0526: Recent Development of High Speed Cmos Image Sensor (Invited)**
11:15 ~11:45	Peng Feng *(Institute of semiconductors, Chinese Academy of Sciences, China)*
E3-4	**0215: A Sub-1mV Voltage-Variation Pixel Power Supply Architecture with Radiation-Hardened Built-In LDO for Pixel Readout ASIC**
11:45 ~12:00	Lei Li, Jinxiang Wang, Yini Hong, Yuxiao Zhao, Yongsheng Wang *(Harbin Institute of Technology, China)*
E3-5	**0468: A CMOS Pixel with Gradient-Doped PPD and LOFIC for 1.7ns Charge Transfer Time and 92 dB Dynamic Range**
12:00 ~12:15	Tianjing Qiu, Jinglei Du, Junli Zhang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan Liu *(Lanzhou University, China; Institute of Semiconductors, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China)*

Thursday, October 23, 13: 30 – 15: 30

Thursday, October 23, 13: 30 – 15: 30
Session A4: Power & Compound Device I

	Title
A4-1	**0516: Fabrication of High-Performance β-Ga$_2$O$_3$ MOSFETs via Ohmic Contact Optimization (invited)**
13:30 ~14:00	Hui Li, Qihao Zhang, Haodong Fu, Jianguo Li, Dongyuan Zhai, Yi Zhao, Jiwu Lu *(Hunan University, China; Huada Semiconductor, China; Zhejiang University, China)*
A4-2	**0371: Experimental Study on 1.2kV/40mΩ SiC MOSFET with Integrated JBS Diode (invited)**
14:00 ~14:30	Moufu Kong, Qizhi Feng, Hongfei Deng, Yufeng Dong, Wei Han, Xuequan Yin, Jiakai You *(University of Electronic Science and Technology of China, China; The 54th Research Institute of China Electronics Technology Group Corporation, China)*
A4-3	**0510: A Review of Active Gate Drivers for SiC Power MOSFETs (invited)**
14:30 ~15:00	Yuchu Ge, Wei Jia Zhang *(The Hong Kong University of Science and Technology, Hong Kong, China)*
A4-4	**0014: A Quadruple RESURF LDMOS with Enhanced Hot-Carrier-Induced Degradation Immunity**
15:00 ~15:15	Wenliang Liu, Ming Qiao, Penglong Xu, Chunxia Ma, Feng Lin, Bo Zhang *(University of Electronic Science and Technology of China, China; CSMC Technologies Co. Ltd, China)*
A4-5	**0218: Investigation of Dual-Mode R$_{on}$ Degradation Mechanisms in LOCOS-Based LDMOS**
15:15 ~15:30	Wenliang Liu, Ming Qiao, Penglong Xu, Chunxia Ma, Feng Lin, Bo Zhang *(University of Electronic Science and Technology of China, China; CSMC Technologies Co. Ltd, China)*

	Title
B4-1	**0018: A Low-Temperature Ferroelectric Domain Wall Memory (invited)**
13:30 ~13:57	An Quan Jiang, Di Hu, Wen Di Zhang, Xian Yu Hu *(Fudan University, China)*
B4-2	**0436: On the reliability of Sub-10nm Ultra-thin Ferroelectric HZO Thin Film (invited)**
13:57 ~14:24	Xiaopeng Li, Yang Feng, Pengpeng Sang, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen *(Shandong University, China)*
B4-3	**0491: High Dielectric Permittivity in Size-scaled $Hf_{0.5}Zr_{0.5}O_2$ Thin-film Capacitors (invited)**
14:24 ~14:51	Wendi Zhang, Anquan Jiang *(Fudan University, China)*
B4-4	**0264: 1.2 V Operation of $Hf_{0.5}Zr_{0.5}O_2$ Ferroelectric Thin-film Capacitors for Low-Power ASICs after Interfacial-layer Engineering**
14:51 ~15:04	Xianyu Hu, Di Hu, Wendi Zhang, Bowen Shen, Anquan Jiang *(Fudan University, China; Tsinghua University, China)*
B4-5	**0314: Reliability Enhancement of $Hf_{0.5}Zr_{0.5}O_2$-Based Ferroelectric Capacitors via Argon Plasma Treatment**
15:04 ~15:17	Hongrui Zhang, Xiu Yang, Rongzong Shen, Yian Ding, Haoji Qian, Jiajia Chen, Chengji Jin, Ran Cheng, Bing Chen, Xiao Yu, Yan Liu, Genquan Han *(Xidian University, China; Shenzhen Xinkailai Technology Co., Ltd,. China; Zhejiang University, China)*
B4-6	**0387: Cryogenic Ferroelectricity (10-298 K) of Superlattice and Solid-solution HZO Films**
15:17 ~15:30	Yiming Xia, Chunlei Wu, Jian Ma, Hanzhi Gu, Yueyuan Yu, Jiayi Wu, Qingqing Sun, David Wei Zhang *(Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute, China)*

	Thursday, October 23, 13: 30 – 15: 30 **Session C4: Analog Circuit II**
	Title
C4-1	**0538: Self-Powered Chips Integrating On-Chip Solar Cell in Standard CMOS Technology (Invited)**
13:30 ~13:55	Nobuhiko Nakano *(KEIO University, Japan; Waseda University, Japan)*
C4-2	**0380: Battery Charger Designs for Low-Voltage Energy Harvesting Based on the Return-on-Investment Concept (Invited)**
13:55 ~14:20	W. Saito, A. Higuchi, T. Yamano, T. Tanzawa *(Shizuoka University, Japan; Waseda University, Japan)*
C4-3	**0497: High-Efficiency Energy Extraction Interface for Piezoelectric Energy Harvesting (Invited)**
14:20 ~14:45	Chenghao Zhang, Junkai Chen, Jingjie Huang, Yue Shi, Zekun Zhou, Bo Zhang *(University of Electronic Science and Technology of China, China; Chengdu University of Information Technology, China)*
C4-4	**0202: PWM Scheme Selection Strategy for Fast Ramp-Up DC-DC Boost Converters in SSD Applications**
14:45 ~15:00	Yuji Kanayama, Toru Tanzawa *(Shizuoka University, Japan; Waseda University, Japan)*
C4-5	**0246: A 98.5% Efficiency Single-Mode Buck-Boost Converter with All-1.8-V-Switch and Non-Stopping Output Current Delivery**
15:00 ~15:15	Qianhui Liu, Yuhua Chen, Yixing Wang, Yuming Zhang, Yimeng Zhang *(Xidian University, China)*
C4-6	**0303: Design of a Fully Integrated Low Dropout Linear Regulator with Bandgap Reference**
15:15 ~15:30	Jiao Liu, Yiyun Mao, Haoyuan Gao, Fan He, Xianhui Wang, Yubing Zhang , Hao Xu, Na Yan *(Fudan University, China; Beijing Smartchip Microelectronics Technology Co.,Ltd, China; Beijing SmartChip Semiconductor Technology Co., Ltd, China)*

	Title
D4-1	**0229: An 18-bit 1MS/s SAR ADC with Weight-Fitting Digital Calibration and High-Linearity Capacitor Array Design**
13:30 ~13:45	Baoyi Zheng, Guoao Wang, Zongmin Wang, Jin Qian, Bosen Liu, Zhaohang Bing, Tieliang Zhang *(Tsinghua University, China; Beijing Microelectronics Technology Institute, China; Beihang University, China)*
D4-2	**0237: A digital front-end self-calibration algorithm for SAR ADC**
13:45 ~14:00	Fuming Liu, Jie Ding, Jiangfeng Wu, Yongzhen Chen *(Tongji University, China)*
D4-3	**0252: Bitwise Bayesian Optimization for SAR ADC Calibration**
14:00 ~14:15	Yu Shi, Shen Ye, Yihang Luan, Jiahao Wang, Ting Yi *(Fudan University, China)*
D4-4	**0289: An Area-Efficient C2C SAR ADC with Hybrid Switching Mode for Ultrasound Miniature Probes**
14:15 ~14:30	Tianci Zhang, Jinlai Fu, Li Dai, Dongxu Li, Yingchen Liu, Jing Li, Zhong Zhang, Ning Ning, Qi Yu *(University of Electronic Science and Technology of China, China)*
D4-5	**0301: A Reconfigurable 9-to-14b 15MS/s 4th-Order NSSAR ADC with Self-Calibrated Open-loop FIA**
14:30 ~14:45	Chaoran Chen, Mingzong Lin, Jian Xu, Yue Lin, Wei Li, Hongtao Xu *(Fudan University, China; ICLegend Micro, China)*
D4-6	**0393: A 16-bit 4-MS/s Deadlock-free Asynchronous SAR ADC Using High-level First Transmission Gate**
14:45 ~15:00	Xiaokun Zhou, Baijie Zhang, Xu Cheng *(Fudan University, China)*
D4-7	**0424: A Differential SAR-SS ADC with Gain-Scaled Ramp Quantization for High-Speed CMOS Image Sensors**
15:00 ~15:15	Nanbo Chen, Jingyang Chen, Gang Wang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan Liu *(Institute of Semiconductors, Chinese Academy of Sciences, China; Ningbo University, China; University of Chinese Academy of Sciences, China)*
D4-8	**0452: A 79.2dB-SNDR 12.5MHz-BW Pipelined SAR ADC with Analog-Domain Gain Error Shaping**
15:15 ~15:30	Qiaoyu Hu, Guolong Fu, Yanbo Zhang, Zhangming Zhu *(Xidian University, China)*

	Thursday, October 23, 13: 30 – 15: 30 **Session E4: Image Sensor & Optoelectronics II**

	Title
E4-1	**0425: Boosting Self-Powered Properties of 2D MaterialBased Photodetectors via Asymmetry Engineering (Invited)**
13:30 ~14:00	Ran Huo, Han Zhang, Yihong Sun, Shijun Ou, Changming Pi, Mansun Chan, Changjian Zhou *(South China University of Technology, China; Fudan University, China; The Hong Kong University of Science and Technology, China)*
E4-2	**0541: Interfacial adhesion enhancement enabled mechanically durable flexible organic optoelectronics (Invited)**
14:00 ~14:30	Ziqi Wang, Xiangzhe Li, Huimin Wu, Kai Wang *(Zhejiang University, China)*
E4-3	**0261: Image Flare Removal via Stable Diffusion Framework**
14:30 ~14:45	Jiazheng Lian, Ruoxi Zhu, Jiaming Liu, Ming'e Jing, Xiaoyang Zeng, Yibo Fan *(Fudan University, China)*
E4-4	**0266: AI-Assisted Droplet Splitting on a Parallel-Plate Optoelectrowetting Chip**
14:45 ~15:00	Junyan Tian, Shang Gao, Tengpu Zhu, Enqing Liu, Gaifang Chen, Jia Zhou *(Fudan University, China)*

Thursday, October 23, 15: 45 – 17: 45

Session A5: Power & Compound Device II

	Title
A5-1	**0498: Advanced Gate Driver Solutions for Fast-Switching SiC Power Device Applications (invited)**
15:45 ~16:15	Yu Qing, Zhihao Yan, Zekun Zhou, Jiaxing Mao, Zijun Zhou, Yun Dai, Rongxing Lai, Yue Shi, Bo Zhang *(University of Electronic Science and Technology of China, China)*
A5-2	**0512: Design Considerations for Smart Gate Drivers (invited)**
16:15 ~16:45	Wai Tung Ng, Jingyuan Liang, Wentao Cui, Chun Yin Au Yueng, Namjee Kim, Wei Jia Zhang *(University of Toronto, Canada; The Hong Kong University of Science and Technology, Hong Kong, China)*
A5-3	**0520: Investigation of Threshold Voltage Instability in GaN HEMTs Using Rapid Ramp Sweeping Technique (invited)**
16:45 ~17:15	Diangang Hu, Yutian Gan, Shufu Yu, Sai Liu, Lirong Zhang, Weijing Wu, Hongyu Yu *(South China University of Technology, China; Southern University of Science and Technology, China; Shenzhen Polytechnic University, China)*
A5-4	**0248: Design and Kirk Effect Improvement of 30V NLDMOS Base on 0.18μm BCD Platform**
17:15 ~17:30	Qi Ding, Ning Ning, Renxiong Li, Jun Huang, Yutuo Guo, Yu Wang, Kunqin He, Yaxin Liu, Ziyi Zeng, Ming Qiao, Lulu Peng, Bo Zhang *(University of Electronic Science and Technology of China, China; United Microelectronics Center Co., Ltd, China)*

	Thursday, October 23, 15: 45 – 17: 45 **Session B5: Advanced Memory Ⅲ**

	Title
B5-1	**0307: Systematic Review of Write Reliability in Spin-Transfer Torque Magnetic Random-Access Memory (invited)**
15:45 ~16:11	Yuhao Chen, Yiming Qu, Ziyuan Chen, Choonghyun Lee, Yi Zhao*(Zhejiang University, China; East China Normal University, China; Huada Semiconductor Co., Ltd., China; Zhejiang Li-ryder Technology Co., Ltd., China)*
B5-2	**0509: Emerging Magnetoresistive Memories (invited)**
16:11 ~16:37	Viktor Sverdlov, Nils Petter Jørstad, Bernhard Pruckner, Mario Bendra, Siegfried Selberherr, Wolfgang Goes *(Institute for Microelectronics, TU Wien Vienna, Austria; Silvaco Europe Ltd., United Kingdom)*
B5-3	**0435: Comprehensive Characterizations of Polarization Switching Dynamics in HfO2-based FRAM across a Broad Temperature Spectrum**
16:37 ~16:51	Yilin Hou, Jixuan Wu, Xiaopeng Li, Xiaoyu Dou, Yaoyu He, Pengpeng Sang, Xuepeng Zhan, Yuqi Gao, Linhui Hu, Feng Wang, Yushi Hu, Qian Tao, Jiezhi Chen *(Shandong University, Qingdao, China; GTA Semiconductor Co., Ltd., China; Wuxi Smart Memories Technologies, Co., Ltd., China)*
B5-4	**0465: Reliability Enhancement in HfO2-Based FeRAM: Circuit-Level Solutions for Insufficient Polarization and Memory Window Degradation**
16:51 ~17:04	Changnan Shi, Taoran Shen, Li Xiong, Shuyang Lv, Yuanfeng Chen, Xiaoyong Xue, Xiaoyang Zeng *(Fudan University, China; TRANSCPUTING Technology LTD, China; Hexi University, China)*
B5-5	**0500: WOx interlayer employed to improve the imprint effect on HfZrO2 ferroelectric capacitors**
17:04 ~17:18	Zibo Dong, Zeping Weng, Jianguo Li, Lijian Chen, Ziyuan Chen, Yi Zhao, Daolin Cai *(East China Normal University, China; Zhejiang University, China; Huada Semiconductor Co. LTD, China)*
B5-6	**0502: Understanding the Physical Mechanism of Endurance Cycling in Antiferroelectric Memories**
17:18 ~17:31	Y. Qu, Y. Ding, Y. Huo, Z. Weng, Y. Zhao *(Research Center of Integrated Circuits, Huada Semiconductor, China; Zhejiang University, China; East China Normal University, China)*
B5-7	**0503: Accelerated Polarization Switching Speed and Durable Endurance Enabled by Confined Domain Size and Solid Defect Migration Barrier in FE/AFE Multilayer Stacked HfxZr1-xO2 Ferroelectric Capacitor**
17:31 ~17:45	Wenhao Wu, Xinyu Xie, Zeping Weng, Yi Zhao, Jiabin Qi *(Huada Semiconductor Co., Ltd., China; Zhejiang University, China)*

	Title
C5-1	**0255: A 455mV-Hysteresis, 120 nA, Bandgap less Power-on-Reset Circuit for IoT in 40nm CMOS**
15:45 ~15:58	Mingzong Lin , Chaoran Chen , Jian Xu , Yue Lin , Wei Li , Hongtao Xu *(Fudan University, China; ICLegend Micro, China)*
C5-2	**0272: An Anti-Single Particle Effect Over Temperature Protection Circuit Based on Dual Detectors**
15:58 ~16:11	Ping Luo, Hong Zhao, Hao Wang, Fulin Yao, Kai Luo*(University of Electronic Science and Technology of China, China; the 24th Research Institute of China Electronics Technology Group Corporation, China)*
C5-3	**0274: A Fast Start-Up and Low-Power 32-kHz Crystal Oscillator for Real-Time Clock and Frequency Calibration**
16:11 ~16:24	Jie Zheng, Qiang Li , Hao Min *(Fudan University, China; Shanghai Quanray Electronics Co.,Ltd., China)*
C5-4	**0319: A 0.067 mm2 PNP-Based Temperature Sensor with ±0.6∘C (3σ) Inaccuracy from −20∘C to 80∘C**
16:24 ~16:37	Letian Li, Peilin Xiao, Xuyang Lu *(Shanghai Jiao Tong University, Shanghai, China)*
C5-5	**0323: A Cryogenic Voltage Reference with Diode-Based Sensing and Substrate Resistor Compensation Compensation in 180-nm CMOS Process**
16:37 ~16:50	Yixin Zhang, Hanze Liu, Jing Li, Zhong Zhang, Ning Ning, Qi Yu *(University of Electronic Science and Technology of China, China)*
C5-6	**0330: 77K Modeling and Implementation of a Cryogenic OTA for Infrared Sensors**
16:50 ~17:03	Zhuokai Wang, Lei Deng, Rui Yin, Jian Mei, Jiaming Zhang, Zhicheng Shi *(National Integrated Circuit Innovation Center, China; Fudan University, China; Jiashan Fudan Institute, China; Beijing Institute of Space Mechanics and Electricity, China)*
C5-7	**0442: Design and Analysis of PI Controller for Resonant Drive Circuits with AGC-PI Architecture**
17:03 ~17:16	Yichen Lu, Tao Yin, Ying Liu, Jian Liu, Nanjian Wu, Liyuan Liu *(University of Chinese Academy of Sciences, China; Institute of Semiconductors, Chinese Academy of Sciences, China; Beijing Information Science and Technology University, China)*
C5-8	**0471: Design of 11MHz Isolated Current SenseAmplifier Based on FDDAand Current Feedback Frequency Modulation Loop**
17:16 ~17:29	Xinghong Chen, Shaowei Zhen, Hongwei Shen, Jingying Sun, Zupei Gu, Yongwang Ma, Yidong Yuan, Bo Zhang *(University of Electronic Science and technology of China,*

	China; Beijing Smartchip Microelectronics Technology Co., Ltd., China)
C5-9	**0472: A Charge Pump Powered Current Sense Amplifier with -20 V to 40 V Input Common-Mode Range**
17:29 ~17:42	Dejian Li, Hongwei Shen, Jinzhao Li, Jiahui Liu, Lixing Wang, Shaowei Zhen, Bo Zhang *(Beijing Smartchip Microelectronics Technology Co., Ltd., China; University of Electronic Science and Technology of China, China*)

	Title
D5-1	**0499: RAC-NAF: A Reconfigurable Analog Circuitry for Nonlinear Activation Function Computation in Computing-In-Memory (Invited)**
15:45 ~16:10	Li Du *(Nanjing University, China)*
D5-2	**0360: A Deep Reservoir Computing System based on IGZO Electrical-Double-Layer Transistors (Invited)**
16:10 ~16:35	M. Han, Y. Chen, H. Cui, Y. Wan, C. Wan *(Nanjing University, China)*
D5-3	**0532: High-density and High-reliability (H^2DR) RRAM for Energy-efficient AI Computing (Invited)**
16:35 ~17:00	Yimao Cai, Yiyun Chen, Lin Bao, Ling Liang, Zheng Zhou, Zongwei Wang *(Peking University, China; Beijing University of Posts and Telecommunications, China)*
D5-4	**0275: The Digital Coupled Ring Oscillator Ising Machine**
17:00 ~17:15	Yue Han, Ranjith R Unnithan, Robin Evans, Efstratios Skafidas *(The University of Melbourne, Australia)*
D5-5	**0378: Nanocrystal-Si Flash Memory-based Engergy-efficient Multi-bit Compute-in-Memory Design for Edge Neural Networks**
17:15 ~17:30	Xianping Liu, Jian Huang, Longbin Chen, Zihan Zheng, Xinrui Zhang, Ruibin Zhou, Haobin Li, Zhongyuan Ma, Kunji Chen, Jian Cheng, Peng Zhang, Zhiyi Yu *(Sun Yat-sen University, China; Nanjing University, China; Peng Cheng laboratory, China)*
D5-6	**0423: A Multi-level RRAM-based Ising Machine for Solving Combinatorial Optimization Problems**
17:30 ~17:45	Zhenchao Sui, Xiaoxin Xu, Chengshuo Yu, Jingxin Deng, Xu Zheng, Chengyue Li, Hailan Yi, Jianguo Yang, Xing Zhang *(Peking University, China; Institute of Microelectronics, Chinese Academy of Sciences, China; Zhangjiang Laboratory, China; Semiconductor Manufacturing Beijing Corporation, China)*

	Thursday, October 23, 15: 45 – 17: 45 **Session E5: High Speed Interface**

	Title
E5-1	**0012: A PVT-Tolerant Quick Startup CMOS Crystal Oscillator with Chirp-Assisted Fixed Injection**
15:45 ~16:00	Hao Luo, Yue Lin, Jian Xu, Hongtao Xu (*Fudan University, China; ICLegend Micro, China*)
E5-2	**0258: A 20 Gb/s/Wire Short-Reach Simultaneous BiDirectional Transceiver with DuoBinary Coding for Die-to-Die Interface in 28 nm CMOS**
16:00 ~16:15	Bohui Bai, Fangxu Lv, Zhengbin Pang, Geng Zhang, Ruixiao Kuai, Liangyong Yuan, Ruotian Yin, Jiliang Liu (*National University of Defense Technology, China*)
E5-3	**0265: A 56Gb/s PAM4 Transceiver Based on BSS-LMS Algorithm with 3-Taps Adaptive TX FFE**
16:15 ~16:30	Xianchao Zeng, Fangxu Lv, Liquan Xiao, Jiaqing Xu, Zhouhao Yang, Liangyong Yuan, Cewen Liu, Xiaoyue Hu, Yingjie Zhang (*National University of Defense Technology, China*)
E5-4	**0286: A Low-Power Gm-Boosted VCO with MultiTransformer in 40nm CMOS**
16:30 ~16:45	Zilong Wu, Bowen Chen, Yue Lin, Hongtao Xu (*Fudan University, China; ICLegend Micro, China*)
E5-5	**0296: A 64 Gbps 10 mW 0.0081 mm^2 Inverter-Based CTLE Employing Power-Efffcient Split Biasing Topology in 40 nm CMOS**
16:45 ~17:00	Fang Ding, Huzhi Tang, Ke Wu, Yuekang Guo, Jing Jin, Jianjun Zhou (*Shanghai Jiao Tong University, China*)
E5-6	**0434: Low-Power Area-Efficient Serializer for CMOS Image Sensors**
17:00 ~17:15	Jingyang Chen, Nanbo Chen, Gang Wang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan Liu (*Institute of Semiconductors, Chinese Academy of Sciences, China; Ningbo University, China; University of Chinese Academy of Sciences, China*)
E5-7	**0447: A 6b 14GHz Phase Interpolator with 2-Stage Injection-Locked Ring Oscillators in 28nm CMOS**
17:15 ~17:30	Danqi Ding, Bingyi Ye, Weixin Gai (*Peking University, China; East China Normal University, China; Beijing Advanced Innovation Center for Integrated Circuits, China*)

Thursday, October 23, 17: 45 - 18: 45

Thursday, October 23, 17: 45 – 18: 45
Poster Session

	Title
P1-1	**0537: Design and Implementation of Shared Storage Communication Architecture for MCCSIP-RAA**
	Longmei Nan, Yu Jin, Yiran Du, Tao Chen, Lin Chen, Yanjiang Liu, Wei Li, Weiquan Sang *(Information Engineering University, China)*
P1-2	**0413: A Fully Quantized LeNet-5 accelerator for Edge Computing with Quantization-Aware Training**
	Yushan Dai, Angyang Li, Jian Mei, Rui Yin *(Fudan University, China; National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China)*
P1-3	**0210: A High-Voltage and High-Precision Operational Amplifier**
	Juan Wei, Zonglin Li, Hongrui Che, Dagang Li, Juan Wei *(Chengdu Sino Microelectronics Technology Co., Ltd, China)*
P1-4	**0223: A 12-bit 1MS/s SAR ADC Design for High-Temperature MEMS Accelerometers**
	Yanlin Mo, Quan Sun, Min Qi *(The Institute of Acoustics of the Chinese Academy of Sciences, China)*
P1-5	**0226: Novel Parasitic Extraction Methodologies for MOSCAP in Charge Pump Circuits**
	Mukul Agarwal, Nikhil Chourasiya, Sai Sumanth Pothuri, Subodh Prakash Taigor *(Samsung Electronics, Korea)*
P1-6	**0247: Adaptive Frequency Modulation Buck Converter Based on Valley Current Mode ACOT Control**
	Bowen Jiang, Hong Ren, Ningning Wang *(Hangzhou Dianzi University, China)*
P1-7	**0251: A High-Voltage Level Shifter for BMS Chip in EV with 0-80V Input Range**
	Kunning Mao, Liji Wu, Jing Hu, Zhiwei Li, Xiangmin Zhang *(Heilongjiang University, China; Beijing National Research Center for Information Science and Technology, China)*
P1-8	**0257: A New Circuit for Generating Half of VDD**
	Li Zeng, Ming Wang, Peng Bo, Zhangwen Tang *(Fudan University, China)*
P1-9	**0316: A Boost DC-DC Converter with Low Power and High Efficiency for Portable Device Applications**
	Jing Cao, Bingjie Chen, Hongfei Ye, Jianhua Feng *(Peking University, China)*

P1-10	**0328: A Hybrid Complex-Filtering Scheme with High Image Rejection and Efficient Channel Selection for Low-IF Receivers**
	Yue Yin, Guanlin Zhang, Haobo Qi, Haodong Lu, Xinbing Zhang, Ziting Feng, Ye Zhang *(Northwestern Polytechnical University, China; China Electronic Product Reliability and Environmental Testing Research Institute, China)*
P1-11	**0342: Design of a Nonlinear Temperature Compensated Bandgap Reference in 55nm Process**
	Hezhuang Nie, Ningning Li, Jian Mei, Rui Yin *(Fudan University, China; Jiashan Fudan Institute, China; National Integrated Circuit Innovation Center, China)*
P1-12	**0379: A Novel Light-load Control Method for Switching Converters in Portable Devices**
	Jie He, Shuyu Zhang, Langyuan Wang, Suyi Yao, Kejia Zhu *(Common Mode Semiconductor Technology (Suzhou) Co., Ltd, China)*
P1-13	**0408: Adaptive on-time Control Buck Converter Based on Phase-locked-loop and Dynamic Calibration of DC Offset**
	Xinyu Zhang, Sujuan Liu, Kun Liu, Bingxue Zhang, Yahua Shi *(Beijing University of Technology, China)*
P1-14	**0409: Design of a Fast Transient Response LDO Circuit Based on Transient Enhancement Structure**
	Xudong Sun, Sujuan Liu, Kun Liu, Junchao Zhao *(Beijing University of Technology, China)*
P1-15	**0421: A 32-MHz FLL-Based RC Oscillator with PVT Compensation Using Frequency Tripler**
	Ikhwan Kim, Yajie Qin *(Fudan University, China)*
P1-16	**0437: A Constant On-Time Buck Converter with VCO-based DC Offset Calibration Technique**
	Bingxue Zhang, Sujuan Liu, Kun Liu, Xinyu Zhang, Yahua Shi *(Beijing University of Technology, China)*
P1-17	**0438: A Low-Power High-Precision Impedance Measurement Circuit Using DC Servo Loop for Closed-Loop DBS Systems**
	Ziqi Tan, Yijun Ye, Yutao Mao, Hui Wu, Xiaofei Kuang, Jie Yang *(Hangzhou Dianzi University, China; Westlake Institute for Optoelectronics, China; Westlake University, China; Integrated-on-Chips Brain-Computer Interfaces Zhejiang Engineering Research Center, China)*
P1-18	**0453: A Low-Power BJT-Based Thermal Shutdown Circuit with Hysteresis for BMS chip in EV**

	Zonghuan Wu, Xiangmin Zhang, Liji Wu *(Tsinghua University, China; Beijing National Research Center for Information Science and Technology, China)*
P1-19	**0021: Design of CRFF-B Loop Filter Architecture for Wideband Continuous Time Sigma-Delta Modulators in TSMC 28 nm**
	Zhihao Hou, Yuqi Fan, Yifei Gao, Chuan Liu, Chuan Qin, Maliang Liu, Yintang Yang *(Xidian University, China)*
P1-20	**0280: An Open-Loop Residue Amplifier with SSF Structure Achieving 69dBc SFDR for High-Speed and High-Precision PSAR ADCs**
	Chengjun Liu, Deng Luo, Hanbing Liu, Chengchao Mou, Bin Liang, Yaqing Chi, Jianjun Chen, Kai Tang, Jing Xiao, Ming Tao *(Hunan University, China; National University of Defense Technology, China)*
P1-21	**0290: A 14-bit R-2R DAC with All-Digital Foreground Calibration based on Redundant LSB**
	Hanbing Liu, Deng Luo, Chengjun Liu, Chengchao Mou, Bin Liang, Yaqing Chi, Jianjun Chen, Kai Tang, Jing Xia, Ming Tao *(Hunan University, China; National University of Defense Technology, China)*
P1-22	**0297: A Multi-Channel Reconfiguration and Combination Technique for Timing Mismatch Calibration in Time-Interleaved ADCs**
	Jize Liu, Jinwei Wu, Jiayi Chen, Xinqi Liu, Yuekang Guo, Jing Jin *(Shanghai Jiao Tong University, China)*
P1-23	**0304: A 12-bit 620 MS/s Pipelined-SAR ADC with Feed-forward Compensation Closed-loop Residual Amplifier in 28 nm CMOS**
	Shuai Liu, Guoyu Li, Conyang Sun, Yi Hu, Yidong Yuan, Hao Xu, Na Yan *(Fudan University, China; Beijing Smartchip Microelectronics Technology Co., Ltd, China; Beijing Smartchip Semiconductor Technology Co., Ltd, China)*
P1-24	**0450: A Novel RA Architecture and Digital Calibration Method for SAR-assisted Pipeline ADCs**
	Jieqiong Zeng, Hao Min *(Fudan University, China)*
P1-25	**0467: An 8-bit 0.4-mW 740-μm² DS Digital-to-Analog Converter in 28nm CMOS with 60.89-dBc SFDR**
	Xiongfeng Bi, Bingyi Ye, Weixin Gai *(Peking University, China; East China Normal University, China; Beijing Advanced Innovation Center for Integrated Circuits, China)*
P1-26	**0006: A K-Band CMOS Switched-Type Attenuator with Temperature Compensation Technique**
	Xiaodong Zhao, Kai Zhang *(Southwest China Institute of Electronic Technology, China)*

P1-27	**0279: An Ultra-Wideband 1.5–18.5 GHz MMIC Phase Shifter in 0.25-μm GaAs Technology**
	Bo Fu, Xuan Ding, Xuesong Han, Xiao Ding *(University of Electronic Science and Technology of China, China; Georgia Institute of Technology, USA; Chengdu Huaxing Dadi Technology Co., Ltd, China)*
P1-28	**0287: A 0.2–7.3-GHz Compact LNA with Super Linearity for 5G NR in 22-nm CMOS Technology**
	Kaiyun Deng, Zan Zhou, Yingqi Li, Haoyu Dong, Haigang Feng *(Shenzhen International Graduate School, Tsinghua University, Shenzhen, China)*
P1-29	**0354: An Area-Efficient Bi-directional Cascode PA-LNA For 5G NR in 28-nm CMOS**
	Yue Wu, Wei Li, Shijiao Dong, Hongtao Xu *(Fudan University, China)*
P1-30	**0361: A223M-235MHz Fully-Integrated Differential Class-E Power Amplifier with 45.5% PAE and 22.8dBm**
	Chaoyang Zheng, Yanxiang Chen, Jianhua Lu, Yan Ma, Zhiliang Hong, Yumei Huang *(Fudan University, China; Beijing Smartchip Microelectronics Technology Co., Ltd, China; Beijing Smartchip Semiconductor Technology Co., Ltd, China)*
P1-31	**0367: A16~46-GHz, >77-dB IRR, Low-Amplitude and Phase-Error IQ Generator with Self-Adaptive I/Q Calibration in 28-nm CMOS**
	Lijiang Zhang, Wei Li, Bowen Yu, Chengzhang Cai, Yue Wu, Bowen Chen, Yue Lin, Hongtao Xu *(Fudan University, China; ICLegend Micro, China)*
P1-32	**0343: Impact of Process Parameter Variations on the Random Values of SRAM-Based PUFs**
	Jinjin Shao, Ruiqiang Song, Chunmei Hu, Biwei Liu, Bin Liang, Yaqing Chi, Yaohua Wang *(National University of Defense Technology, China; Key Laboratory of Advanced Microprocessor Chips and Systems, China)*
P1-33	**0236: MIVO: Operator-Level On-Chip Memory System with Dynamic Bank Scheduling for Many-Core Neural Processing Unit**
	Xinghao Zhu, Zifeng Zhao, Xiaoxing Wu, Gengsheng Chen, Xiaofang Zhou *(Fudan University, China; Jiashan Fudan Institute, China)*
P1-34	**0317: DyQRA: A Deadlock-free Routing Algorithm for Large-Scale Mesh NoCs**
	Haoxiang Sun, Aoyun Feng, Hongfei Ye, Jianhua Feng *(Peking University, China)*
P1-35	**0400: An Enterprise Solid-State Drive Controller Supporting Spin-transfer Torque Magnetoresistive Random Access Memory**

	Chao Song, Qihao Liu, Yunzhe Wang, Rufa Su (*Shandong Yunhai Guochuang Innovative Technology Co., Ltd, China; Shandong SinoChip Semiconductors Co., Ltd, China*)
P1-36	**0461: An IO Die with Collective-Aware Routing and In-Situ Processing for Data Synchronization in Multi-Chiplet Systems**
	Qi Luo, Chen Mu, Chixiao Chen, Shiwei Liu (*Fudan University, China; Fudan Shaoxin Laboratory, China*)
P1-37	**0285: An STT-MRAM Last Level Cache Management Method Based on Write Intensity Prediction for GPUs**
	Yujie Pu, Qiaoran Zhang, Shitong He, Fanchen Wu, Chen Zhao (*Northwestern Polytechnical University, China*)
P1-38	**0372: Towards Scalable and High-Throughput NTT Acceleration On Hybrid-Bonding Architecture**
	Wenxuan Zhang, Yi Sun, Xinglong Yu, Yifan Zhao, Jun Han (*Fudan University, China*)
P1-39	**0233: A Low-cost Multiplier-free Accelerator for Binary Neural Network**
	Z.W.You, J. H. Wu, R. C. Ma, G.C.Qiao (*University of Electronic Science and Technology of China, China*)
P1-40	**0277: Design of a MobileNetV2 FPGA Accelerator for Low-Power Real-Time Identification of Plant Nematodes**
	Ying Zhu, Pengjun Wang, Qikang Li, Huihong Zhang (*Ningbo University, China; Wenzhou University, China*)
P1-41	**0324: A 65nm Analog-Computing Chip With Reconfigurable Charge-Pump-Based Adders for 5.26nJ/Decision Retrainless Keyword-Spotting**
	Lichen Feng, Rundong Cai, Lin Wu, Zhangming Zhu (*Xidian University, China*)
P1-42	**0331: HAMP: Head-Aware Mixed-Precision Token Pruning and Quantization for Efficient ASR**
	Xiaoxing Wu, Xinghao Zhu, Lanqi Ma, Gengsheng Chen, Wenbo Yin (*Fudan University, China; Jiashan Fudan Institute, China*)
P1-43	**0407: A Compressed Sensing Spiking Neural Network System for Radar-Based HGR**
	Liyu Qian, Zikai Zhu, Yuhan He, Jie Lu, Yaojie Sun, Lirong Zheng, Zhuo Zou (*Fudan University, China*)
P1-44	**0416: FlexiCore-DNN: A Configurable and Templated Architecture for End-to-End FPGA Acceleration of Deep Neural Networks**

	Rao Fu, Wenhao Huang, Aiwu Ruan, Huiyun Li, Yongqing Wang *(University of Electronic Science and Technology of China, China; Shenzhen University of Advanced Technology, China)*
P1-45	**0022: A 7-bit 6.25-GHz Low Power High Linearity DPC for CDR Applications**
	Jingsong Cui, Kai Li, Chengyu Yang, Jiahao Lu, Hao Li, Ang Hu, Dongsheng Liu *(Huazhong University of Science and Technology, China)*
P1-46	**0403: Design of Low-Voltage Differential Signaling Driver for Image Sensor**
	Zhongwei Lin, Ningning Li, Angyang Li, Jian Mei, Rui Yin, Jiaming Zhang, Zhicheng Shi *(Fudan University, China; Jiashan Fudan Institute, China; National Integrated Circuit Innovation Center, China; Beijing Institute of Space Mechanics and Electricity, China)*
P1-47	**0206: Exploring The Further Fracturability of Intel ALM**
	Chenyu Jiang, Xianfeng Cao, Lingli Wang *(Fudan University, China)*
P1-48	**0241: A General and Modular FPGA Hardware Architecture for Enhanced Scalability and Flexibility**
	ZiRui Qin, ZhiNan Li, YaBo Xiao, Hui Zhang, Cang Liu *(Beihang University, China; Ningbo University, China; Ningbo Yonghua Innovation Science and Technology Development Co., Ltd, China; Tsinghua University, China)*
P1-49	**0260: Pipelined Parallel Design of SIFT Algorithm on FPGA**
	Yuanhao Zhang, Tianliang Xu, Jianfeng Li, Zhenbin Lv, Shanqiang Yang, Chenxu Wang, Yuhang Wang, Bo Chu, Zhiwei Han *(Harbin Institute of Technology, China; Key Laboratory of Application Specific IC and System for Ocean Equipments, China; Shandong Huayi Micro-Electronics Technology Co., Ltd, China)*
P1-50	**0276: Design and Implementation of an FPGA-based MIPI DSI Interface for Micro-LED Displays**
	Runfeng Yao, Xinyi Liu, Kaisong Zhu, Jinbo Liang, Zhaojun Liu *(Southern University of Science and Technology, China; Shenzhen Sitan Technology Limited, China)*
P1-51	**0312: A Sub-100 μ s-Latency Visual-Cortex-Mimicking Heterogeneous Multi-Core Edge Neuromorphic Processor Enabling On-Chip High-Accuracy Learning**
	Junxian He, Ying Jiang, Zhengqing Zhong, Mingju Chen, Liyuan Liu, Cong Shi *(Chongqing University, China; Sichuan University of Science and Engineering, China; Institute of Semiconductors, Chinese Academy of Sciences, China)*
P1-52	**0325: An Energy-Optimized FPGA Implementation for Convolutional Neural Networks Accelerator**
	Yujie Zhu, Jianxuan Yin, Jingjing Liu, Jianhua Zhang *(Shanghai University, China)*

P1-53	**0338: A Lightweight Low-Latency Hardware Architecture for Dual Attention Super-Resolution Network**
	Haocan Jiang, Aiying Guo, Jianhua Zhang, Jingjing Liu *(Shanghai Collaborative Innovation Center for Intelligent Sensing Chip Technology, China; Shanghai University, China)*
P1-54	**0345: A Scalable Channel-Parallel Accelerator for Spiking Neural Network**
	Yuchun Wu, Lingling Miu, Jingjing Liu, Jianhua Zhang *(Shanghai University, China)*
P1-55	**0390: Low-PVT-Sensitive Two-Stage Time-to-Digital Converter with Time Amplifier**
	Duo Sheng, Yen-Ling Wang *(Fu Jen Catholic University, Taiwan, China)*
P1-56	**0481: A precise current-controlled resistor and its applications in zero-pole tracking frequency compensation for LDO**
	Guanting Liu, Guijuan Zhao, Feng Shi, Xiaohuan You, Shuhai Chen *(Lanzhou University, China; Chengdu Enjixin Technology Company, China; University of Electronic Science and Technology of China, China)*
P1-57	**0485: ASSVD: A Self-Supervised Surgical Video Desmoking Network with Sparse Attention**
	Yinna Zhu, Wanyi Zhou, Zijing Zhang, Gengsheng Chen, Wei Xu *(Fudan University, China; Jiashan Fudan Institute, China)*
P1-58	**0486: A 71 TOPS/W 24.2 TOPS/mm2 14nm SRAM CIM Macro with a Capacitor-less ADC for Edge AI**
	Zexing Chen, Siyao Jia, Chixiao Chen *(Fudan University, China; Fudan Shaoxin Laboratory, China)*
P1-59	**0253: Data-Centric Automatic Design Migration of Low Voltage CMOS Bandgap Reference Circuit**
	Shun-Qi Dai, Yuan Lei, Bei-Ping Yan *(Hong Kong Applied Science and Technology Research Institute (ASTRI), Hong Kong, China)*
P1-60	**0240: Innovative Detection Capacitor Utilization in ESD Power Clamp Circuits for HBM Residual Voltage Suppression**
	Zelong Huang, Guangyi Lu, Haoyu Xia, Qi Wu, Haiming Wang *(Southeast University, China; National Center of Technology Innovation for EDA, China)*
P1-61	**0305: High Efficient Efuse Full Process Burning Solution Based on ATE**
	Qian Zhai, Yichen Xiao, Xin Song, Haobin Wang, Yuyuan Wang, Xuxin Chen *(UniSoC, China; Advantest, China; Shanghai Dianji University, China)*
P1-62	**0318: Study of Reliability Screening Method to Improve the DPPM of IC Products**

	Yancong He, Zhiyong Yang, Zhinong Liu, Shuang Jiao, Chuyuan He, Yixian Wang, Zhigang Ji *(UNISOC, China; Shanghai Jiao Tong University, China)*
P1-63	**0464: Weight Bit Sensitivity Analysis and FPRH-Based Hardening Strategy for CNN Accelerators**
	Jinghao Chen, Shanqiang Yang, Tianliang Xu, Congan Xu, Yuehong Gong, Chenxu Wang *(Harbin Institute of Technology, China; Naval Aeronautical University, China; Shandong Jiaotong University, China; Shandong Provincial Key Laboratory of Marine Electronic Information and Intelligent Unmanned Systems, China)*
P1-64	**0295: An effective method for low-contrast high-noise lithography SEM image contour extraction**
	Ruirui Zhang，Gongyan Ye, Xianhe Liu *(Fudan University, China; National Integrated Circuit Innovation Center, China)*
P1-65	**0205: A Novel Isolated PLDMOS with Segmented Buried Layer and Metal Field Plate**
	Jun Huang, Qiuyue Huo, Huaishan Wang, Juan Tang, Bojin Pan, Renxiong Li, Qi Ding, Yutuo Guo, Yu Wang, Kunqin He, Yaxin Liu, Ziyi Zeng, Ning Ning, Lulu Peng *(United Microelectronics Center Co., Ltd, China)*
P1-66	**0336: Research on Radiation-Hardened High-Voltage Gate Driver Circuit Based on 0.8μm 1200V Bulk Silicon BCD Process**
	Xiaohui Li, Yi Zhang, Qiang Wang, Qiankun Xiong, Bo Zhang, Ming Qiao *(University of Electronic Science and Technology of China, China; Chengdu Huanyuxin Technology Co., Ltd, China)*
P1-67	**0377: Parameter identification of single-phase inverter digital twin system**
	Ao Shen, Hui Li, Jie Kang, Jiahao Lv *(Xiangtan University, China)*
P1-68	**0422: Optimization of Three-dimensional High-k Superjunction under Non-Punch-Through Mode: Theoretical Modeling and Comparison**
	Zhentao Xiao, Chenxing Wang, Zonghao Zhang, Haimeng Huang *(University of Electronic Science and Technology of China, China)*
P1-69	**0337: Smart Adaptive Perception for High-Precision Lightweight Infrared UAV Detection and Tracking**
	Shiyu Mei, Lei Deng, Rui Yin *(National Integrated Circuit Innovation Center, China; Fudan University, China; Jiashan Fudan Institute, China)*
P1-70	**0406: Design and validation of fluorescence lifetime solving algorithm for fiber-optic temperature sensor**
	Yuxuan Yang, Xiangliang Jin *(Hunan Normal University, China; College of Hunan Province, China)*

P1-71	0470: A Multi-Cycle Pulse Transfer Timing Scheme for Enhancing Charge Efficiency in CMOS Image Sensors
	Zhenhao Zhang, Chiang Zhu, Haiyang Liu, Peng Peng, Sikai Wang, Junjie Hao, Xiaona Zhu *(Fudan University, China)*
P1-72	0245: Design of RF Microsystem Based on Silicon-based Stereoscopic Integration Technology
	Xiaoqing Zhang, Lei Shi, Mengmeng Yin, Cui Jing, Dexi Liu *(Beijing Institute of Telemetry, China)*
P1-73	0446: A Novel Pretreatment Approach to High-quality SiO2 Surface Applied for C2W Cu/SiO2 Hybrid Bonding
	Han Jiang, Xianlong Wang, Ziyu Liu, Yabin Sun *(Fudan University, China; East China Normal University, China)*
P1-74	0368: Approximately Timed Scalable DSP Model Based on SystemC
	Yongwang Qin, Yang Zhang, Xing Hu, Sheng Liu, Shangqian Chen *(National University of Defense Technology, China; Key Laboratory of Advanced Microprocessor Chips and Systems, China)*
P1-75	0396: Microscopic Mechanisms of Bias Temperature Instability Induced by Defects in Si/SiO2/HfO2 Gate Stacks: A DFT and NEGF Study
	Yantao Huang, Yunzhi Lin, Yixin Zhang, Junlong Li, Xiaoxu Kang, Fengying Yao, Shaojian Hu, Qing Shi, Tao Wu *(ShanghaiTech University, China; Shanghai Engineering Research Center of Energy Efficient and Custom AI IC, China)*
P1-76	0418: Mechanism of Leakage Current Enhancement Induced by La Doping in HfO2 Gate Stacks: A DFT Investigation
	Yunzhi Lin, Yantao Huang, Yixin Zhang, Qing Shi, Fengying Yao, Junlong Li, Shaojian Hu, Xiaoxu Kang, Tao Wu *(ShanghaiTech University, China; School Engineering Research Center of Energy Efficient and Custom AI IC, China)*
P1-77	0419: Layout-Aware Performance Analysis of the CFET based NAND2 constructed Ring Oscillator
	Junjie Hao, Chiang Zhu, Huawei Tang, Xiaona Zhu, Shaofeng Yu *(Fudan University, China)*

Friday, October 24, 2025

Friday, October 24, 8: 30 – 10: 00

Thursday, October 24, 8: 30 – 10: 00
Keynote Session K4
Session Chair: Prof. Francois Rivet, IMS Laboratory, France

K4-1	**Integrated Circuits for Battery Diagnosis and Management Systems: Now and Future**
8: 30 ~9: 15	Dr. Young-Suk Son, CTO and Head of Research Center, Autosilicon, Seoul, Korea
K4-2	**Artificial Intelligence Driving Innovation of Computing Architecture**
9: 15 ~10: 00	Prof. Shaojun Wei, School of Integrated Circuits, Tsinghua university, China

Friday, October 24, 10: 15– 12: 15

Friday, October 24, 10: 15 – 12: 15
Session A6: DTCO

	Title
A6-1	**0298: Device Modeling Based on Residual Neural Network with Ensemble-Based Active Learning (invited)**
10:15 ~10:39	Hongfei Su, Yutong Wu, Jithish Jayarajan, Bharatha Kumar Thangarasu, Nagarajan Mahalingam, Fanyi Meng, Kaixue Ma, Kiat Seng Yeo *(Tianjin University, China; Singapore University of Technology and Design, Singapore)*
A6-2	**0490: Performance Benchmark of Gate-All-Around Nanosheets Transistors Based on DTCO Simulation (invited)**
10:39 ~11:03	Chunlei Wu, Jian Ma, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Jiayi Wu, Boqian Shen, Qingqing Sun, David Wei Zhang *(Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute; China)*
A6-3	**0439: The impact of Back-Gate biasing and layout on temperature sensitivity of transistors in FD-SOI CMOS technology (invited)**
11:03 ~11:27	Yann Deval, Maxime Guillot, Herve Lapuyade, Francois Rivet *(University of Bordeaux, France; CNRS, France)*
A6-4	**0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN**
11:27 ~11:39	Pengyu Ren, Bojie Ma, Yajuan Su, Xiaojing Su, Xin Hong, Yuqin Wang, Yujie Jiang, Zhanzi Chen, Tianao Chen, and Yayi Wei *(Institute of Microelectronics of the Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China)*
A6-5	**0385: A New TCAD Simulation Framework for Strain-Aware Quantum Tunneling Current Modeling**
11:39 ~11:51	Jian Ma, Chunlei Wu, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Jiayi Wu, Qingqing Sun, David Wei Zhang *(Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute; China)*
A6-6	**0386: DTCO-based Hybrid Rail 8T Complementary FET SRAM Design towards advanced node**
11:51 ~12:03	JYutian Zhang, Khawar Sarfraz, Mansun Chan *(The Hong Kong University of Science and Technology, Hong Kong, China)*
A6-7	**0430: Design of VCM Motor Coil Based on Five FactorIntegration**
12:03 ~12:15	Shengxian Quan, Huihong Zhang, Yuejun Zhang, Qiang Wang, Guanglong Xu, Jinsheng Yang *(Ningbo University, China; Ningbo Huayuan Electronic Technology Co., Ltd, China)*

	Friday, October 24, 10: 15 – 12: 15 **Session B6: Security**

	Title
B6-1	**0493: Hardware Accelerator Design for Functional Encryption (invited)**
10:15 ~10:45	Makoto Ikeda *(The University of Tokyo, Japan)*
B6-2	**0399: A High-Speed Dual-Entropy Sources True Random Number Generator Implemented on FPGA**
10: 45 ~11:00	Yizhi Liu, Jierui Liao, Hao Xing, Pengpeng Sang, Jixuan Wu, Jiezhi Chen, Xuepeng Zhan, Xiangye Wei *(Shandong University, China; TAF Circuits Co., Ltd., China)*
B6-3	**0428: A Lightweight Arbiter PUF Design Based on Threshold Loss in Transmission Gates**
11:00 ~11:15	Haoxuan Yan, Yitian Su, Qiwen Wu, Yong Ding, Hui Li, Yuejun Zhang *(Ningbo University, China; Zhejiang University, China; Dahua Technology Co., Ltd, China)*
B6-4	**0250: Destruction-Free Soft PUF Architecture: Merging Security and Efficiency in 4T2M TCAM Without Data Migration**
11:15 ~11:30	Shimao Ren, Pengjun Wang, Bo Chen, Zhenhong Chen *(Wenzhou University, China)*
B6-5	**0268: An RRAM-Based Soft PUF Achieving Near-Zero BER through Skewed Voltage Masking**
11:30 ~11:45	Xinrong Yang, Pengjun Wang,Cailong Jin, Yixin Lu*(Wenzhou University, China)*
B6-6	**0288: A Performance Enhancement Strategy for Strong PUF Circuits to Improve IoT Authentication Security**
11:45 ~12:00	Yifan Wu, Yuzhe Hu, Yuewei Qu, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Jiezhi Chen *(Wenzhou University, China)*
B6-7	**0358: A Sequential Obfuscation PUF Resistant to Machine Learning Attacks Based on AES Key Expansion**
12:00 ~12:15	Xuejiao Ma, Yimeng Jin, Shuyang Ren, Ziyu Zhou *(Wenzhou University of Technology, China; Ningbo University, China)*

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Friday, October 24, 10: 15 – 12: 15
Session C6: RF Circuit

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	Title
C6-1	**0020: The Sequency Domain: A New Approach for Radio Frequency Front End (invited)**
10:15 ~10:40	François Rivet, Pierre Ferrer, Maxandre Fellmann, Nathalie Deltimple, Hervé Lapuyade, Eric Kerhervé, Yann Deval *(University of Bordeaux, France; CNRS, France; Bordeaux INP, France; IMS, France; UMR 5218, France)*
C6-2	**0388: 300-GHz Phased-Array Transceiver in 40-nm CMOS with Interpolated Feeding and OTA Metrics (invited)**
10:40 ~11:05	Minoru Fujishima *(Hiroshima University, Japan)*
C6-3	**0487: A Polar-Modulation OFDM Backscatter System for Passive IoT Communication (invited)**
11:05 ~11:30	Qijing Xiao, Xin Hu, Weixiao Wang, Yuxuan Luo, Bo Zhao *(Zhejiang University, China)*
C6-4	**0019: A Compact Q/V Band Bidirectional Phase Shifter with 0.32° Phase Error**
11:30 ~11:45	Congrui Li, Yan Wang, Lei Zhang *(Tsinghua University, China)*
C6-5	**0382: A 300GHz Coherent Radiator Array with Multifunctional Antenna in 65nm CMOS**
11:45 ~12:00	Houyi Yan, Kaizhe Guo *(Southeast University, China)*
C6-6	**0391: Design of a 300GHz Wideband On-Chip Antenna in 28nm CMOS**
12:00 ~12:15	Jinghao Zhang, Chen Jiang *(Fudan University, China)*

	Title
D6-1	**0511: DRAM-Centric Near-Data Processing: A Survey of Architectures, Technologies, and Trends (invited)**
10:15 ~10:40	Taoran Shen, Yujia Sun, Tingyi Xu, Li Xiong, Xiaoyong Xue, Xiaoyang Zeng *(Fudan University China; Hexi University, China)*
D6-2	**0513: Challenges and Trends of SRAM based Floating Point Computing-in-Memory Circuits (invited)**
10:40 ~11:05	Yuchen Tang, Yanqi Zhang, Zhichao Liu, Xing Wang, Defa Wu, Huaiwen Zhang, Yeqi Sun, Xin Si *(Southeast University, China; National Center of Technology Innovation for EDA, China)*
D6-3	**0530: Mapping of Graph Convolution Network on Sparse-Aware Computing-In-Memory Macros (invited)**
11:05 ~11:30	Guoxiang Li, Tianhang Zhou, Xinyu Qu, Zecheng Zhou, Yufei Ma *(Peking University, China; Anhui University, China)*
D6-4	**0013: CDCC: A High-Efficiency SRAM-Based Charge-Domain Compute-in-Memory Macro with Complement Compensation Design for AI Applications**
11:30 ~11:45	Wanting Zhou, Zihao Xuan, Song Chen, Yi Kang *(University of Science and Technology of China, China; The Hong Kong University of Science and Technology, Hong Kong, China)*
D6-5	**0214: HPD: Hybrid Projection Decomposition for Robust State Space Models on Analog CIM Hardware**
11:45 ~12:00	Yuannuo Feng, Wenyong Zhou, Yuexi Lyu, Hanjie Liu, Zhengwu Liu, Ngai Wong, Wang Kang *(Beihang University, China; The University of Hong Kong, Hong Kong, China; Zhicun Research Lab, China)*
D6-6	**0381: ADC-Free RRAM-Based XNOR-Bitcount Architecture for Hand Gesture Recognition**
12:00 ~12:15	Lixun Wang, Yuejun Zhang, Qikang Li, Liang Wen *(Ningbo University, China; China Coast Guard Academy, China)*

	Friday, October 24, 10: 15 – 12: 15 **Session E6：MEMS & Bioelectronics**

	Title
E6-1	**0528: FLEXIBLE ORGANIC ELECTRONICS FOR THE BIOSIGNAL MEASUREMENT (invited)**
10:15 ~10:45	Hongo 7-3-1, Bunkyo-ku *(The University of Tokyo, Japan)*
E6-2	**0489: Stacked 2D materials Nanopore Sensors (invited)**
10:45 ~11:15	Candong Zhao, Qinjie Pan, Guangyi Yang, Peng Cheng, Fuwei Zhuge, Yuhui He *(Huazhong University of Science and Technology, China)*
E6-3	**0527: On-chip Contact Angle Sensor Using Coplanar Capacitors for Digital Microffuidic Systems (invited)**
11:15 ~11:45	*Akira Tsuchiya, Hayato Fukui, Tsubasa Furuta, Toshiyuki Inoue, Keiji Kishine (The University of Shiga Prefecture Hikone-shi, Japan)*
E6-4	**0334: Selective manipulations of droplets on photo-driven microfluidic chip with virtual electrowetting channels**
11:45 ~12:00	*Gaifang Chen, Enqing Liu, Junyan Tian, Shang Gao, Jia Zhou(Fudan University, China; University of Twente, Netherlands)*
E6-5	**0463: A MEMS Rectenna for RF energy harvesting around 2.4GHz**
12:00 ~12:15	Liu Xiaoqiang, Wang Tiancong, Qiang Pan, Jize Liu, Yuekang Guo, Jing jin *(Harbin Institute of Technology, China)*