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		
0.4.21	9:00:12:15		Tutorial Session T1			
Oct.21	13:30-16:45		Tutorial Session T2			
	8: 30-10: 30	Opening Ceremony & Keynote Session K1 (Grand Ballroom)				
	10: 45-12: 15		Key	vnote Session K2 (Grand Ball	room)	
	13: 30-15: 30	Session A1	Session B1	Session C1	Session D1	Session E1
Oct.22	13: 30-15: 30	Advanced Devices	AI & Neural Network I	Digital Circuit I	EDA & FPGA I	ESD & Reliability I
Oct.22	15: 45-17: 45	Special Section A2	Session B2	Session C2	Session D2	Session E2
	15; 45-17; 45	5: 45-17: 45 Special Session A2 The FET 100th Forum	AI & Neural Network II	Digital Circuit II		
	17: 45-18: 45	The FET Toom Forum			EDA & FPGA II	ESD & Reliability II
	19: 00-21: 00	Reception (Atrium Cafe)				
	8: 30-10: 00		Ke	eynote Session K3 (Grand Ballr	oom)	
	10: 15-12: 15	Session A3	Session B3	Session C3	Session D3	Session E3
	10: 15-12: 15	Processing and Material	Advanced Memory I	Analog Circuit I	Mixed-signal Circuit I	High Speed Interface
		Session A4	Session B4	Session C4	Session D4	Session E4
Oct.23	13: 30-15: 30	Power & Compound Device I	Advanced Memory II	Analog Circuit II	Mixed-signal Circuit II	Image Sensor & Optoelectronics I
		Session A5	Session B5	Session C5	Session D5	Session E5
	15: 45-17: 45	Power & Compound Device II	Advanced Memory II	Analog Circuit III	Analog Computing & CIM I	Image Sensor & Optoelectronics II
	17: 45-18: 45	Poster Session				
	8: 30-10: 00	Keynote Session K4 (Grand Ballroom)				
Opt 24	10: 15-12: 45	Session A6	Session B6	Session C6	Session D6	Session E6
Oct.24		DTCO	Security	RF Circuit	Analog Computing & CIM II	MEMS & Bioelectronics
	19: 00-21: 00		Banque	t & 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

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Xiaona Zhu, Fudan University, China

T1-1	Compact Modeling for Technology Development and Chip Design		
9: 00 ~10: 30	Prof. Xing Zhou, IEEE EDS, Singapore		
TT1 2			
T1 2	Basics and Advances towards Wideband Continuous-time Delta-Sigma ADCs:		
T1-2	Basics and Advances towards Wideband Continuous-time Delta-Sigma ADCs: Fundamentals, Recent Trends, and Perspectives		
T1-2			

Tuesday, October 21, 13: 30 – 16: 45

Tutorial Session T2

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Liang Qi, Shanghai JiaoTong University, China

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**

Grand Ballroom

Session Chair: Prof. Bin Zhao, IEEE EDS, China

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

Wednesday, October 22, 10: 45–12: 15

Wednesday, October 22, 10: 45-12: 15

Keynote Session K2

Grand Ballroom

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

Wednesday, October 22, 13: 30 – 15: 30 **Session A1: Advanced Devices**

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Mansun Chan, Hong Kong University of Science and Technology, Hong Kong, China

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

Wednesday, October 22, 13: 30 – 15: 30

Session B1: AI & Neural Network I

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Ningmu Zou, Nanjing University, China

	Title	
D1 1	0504: Full-spiking Bio-inspired Target Detection Vision Algorithm based on	
B1-1	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	Meng Li, Tong Xie, Zuodong Zhang, and Runsheng Wang (Peking University, China;	
~14:22	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	Wanwan Zhao, Yichu Yao, Qiang Niu, Qian Li, Chen Zhao (Northwestern	
~14:49	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	Yifei Lu, Yujie Huang, Mingyu Wang, Ming'e Jing, Wenhong Li, Xiaoyang Zeng	
~15:16	(Fudan University, China)	
B1-7	0445: GraphFlow-PIM: Annotated Execution Graphs of DNN Workloads across Diverse PIM Configurations	
15:16	Syeda Munazza Marium, Song Chen (University of Science and Technology of China,	
~15:30	China)	

Wednesday, October 22, 13: 30 – 15: 30

Session C1: Digital Circuit I

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Makoto Ikeda, The University of Tokyo, Japan

	Title
C1-1	0221: Hardware-Efficient Doppler Estimation and Compensation in PDSCH for
C1-1	5G Non-Terrestrial Networks (Invited)
13:30	Chih-Chen Chen, Yi-Shan Huang, Chung-Lun Tu, Shyh-Jye Jou (Yang Ming Chiao
~14:00	Tung University, Taiwan, China)
C1-2	0011: FPGA Bitstream Modification Attacks on Crystals Kyber
14:00	Lei Chen, Jiahao Lu, Tianze Huang, Aobo Li, Shengfei Gu, Ang Hu, Dongsheng Liu
~14:15	(Huazhong University of Science and Technology, China; JinYinHu Laboratory, China)
C1-3	0239: BIND: A Batch Cache-Invalidation Framework Based on Doorbell
C1-3	Mechanism
14:15	Jialin Liu, Zhiyuan Zhang, Chao Fu, Jun Han (Fudan University, China; Shao-Chip
~14:30	Laboratory, China)
C1-4	0326: High-Throughput Multiplier-Free FPGA Implementation for Pure-Number
C1-4	Discrete Fractional Complex Hadamard Transform
14:30	Chengqi Zhao, Zi-chen Fan, Shan Cao, Susanto Rahardja (Shanghai University, China;
~14:45	Northwestern Polytechnical University, China; Singapore Institute of Technology,
714.43	Singapore)
C1-5	0332: Design and Implementation of a Bilateral Filtering Accelerator Based on
C1-3	RISC-V
14:45	Zhengyao Shi, Yushan Dai, Angyang Li, Jian Mei, Lei Deng, Rui Yin (Fudan
~15:00	University, China; National Integrated Circuit Innovation Center, China; Jiashan
-13.00	Fudan Institute, China)

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

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Keren Zhu, Fudan University, China

	Title	
D1-1	0359: ATSim: A Fast and Accurate Simulation Framework for 2.5D/3D Chiplet	
D1-1	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	
D1 2	Thermal Analysis (Invited)	
13:57	Yikai Liu, Jindong Zhou, Jiayi Li, Pingqiang Zhou (ShanghaiTech University, China)	
~14:24	Tikar Elu, Jindong Zhou, Jiayi El, I ingqiang Zhou (Shanghai Feth University, China)	
D1-3	0539: Advancing Sparse Matrix Solvers Via Exploring More Parallelism and	
	Random Sketching (Invited)	
14:24	Wenjian Yu, Jiawen Cheng, Baiyu Chen (Tsinghua University, China)	
~14:51		
D1-4	0284: Snow Ablation Optimizer Accelerator Based on High Level Synthesis	
14:51	Maoshuo He, Renjing Hou, Zirui Li, Kang Zhao (Xidian University, China; Beijing	
~15:04	University of Posts and Telecommunications, China)	
D1-5	0311: An MLIR-Based Framework for Efficient Dynamic Circuits Generation	
15:04	0311. All WILIX-Dased Framework for Efficient Dynamic Circuits Generation	
~15:17	Yuxuan Guan, Jiangnan Li, Lingli Wang (Fudan University, China)	
~13:17		
	0384: HybridEPP: Hybrid Numerical and Symbolic Error Probability	
D1-6	Propagation in Logic Network	
15:17		
~15:30	Gaopeng Shen, Chang Wu (Fudan University, China)	

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

Lounge Meeting 2, 4th Fl.

Session Chair: Prof. Xiaoxi Li, Xidian University, China

	Title
T2.1 1	0249: ESD Reliability Roadmap Considerations for 3D Heterogeneous Integration
E1-1	Microsystems (Invited)
13:30	Zijin Pan, Xunyu Li, Weiquan Hao, Runyu Miao, Zijian Yue, Albert Wang (University
~13:55	of California, USA)
E1-2	0483: Tiny Chiplets Enabled by Packaging Scaling: Opportunities in ESD
E1-2	Protection and Signal Integrity (invited)
13:55	Emad Haque, Pragnya Sudershan Nalla, Jeff Zhang, Sachin S. Sapatnekar, Chaitali
~14:20	Chakrabarti, Yu Cao (Arizona State University, USA; University of Minnesota, USA)
E1-3	0524: Time-dependent Dielectric Breakdown in Advanced MOSFET: From
E1-3	Theoretical Models to Experimental Findings (invited)
14:20	Chu Yan, GuoQiXin Huang, Yiming Qu, Yi Zhao (Zhejiang University, China; Huada
~14:45	Semiconductor, China; East China Normal University, China)
E1-4	0315: Mechanical Stress Induced by Temperature Cycling: Impact of MOSFET
151-4	Placement on Bandgap Reference Voltage Offset
14:45	Fengbo Zhang, Yancong He, Zhinong Liu, Shuang Jiao, Yang Li, Zhigang Ji
~15:00	(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
	Xinghao Wang, Haitao Dong, Yujiao Ding, Yining Zhou, Haotian Li, Xuesong Zheng,
15:00	Yuhang Wang, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Chaoming Liu, Jiezhi Chen
~15:15	(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	Kaiming Hao, Yan Li, Xu Cheng, Qiong Wu, Wenfa Zhan, Yujie Huang (Anqing Normal
~15:30	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

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Cor Claeys, IEEE/EDS, Belgium

	Title
A2-1	Advancing Emerging Device and Architecture Innovations in the AI Era (invited)
15:45	Prof. Ming Liu (Fudan University, China)
~16:30	Fior. Ming Liu (Fuaun Oniversity, China)
A2-2	Role of Dielectrics from Field Effect Transistors to Nano-Systems (invited)
16:30	Prof. Durga Misra (New Jersey Institute of Technology, USA)
~17:15	1 101. Durga Misia (New Jersey Insulute of Technology, OSA)
A2-3	Evolution of High-resolution ADC Efficiency over the Years (invited)
17:15	Prof. Maurits Ortmanns (<i>University of Ulm, Germany</i>)
~18:00	Fior. Maurits Ordinamis (University of Utm, Germany)
A2-4	Design Automation of Analog Integrated Circuits-From SPICE to ChatGPT
A2-4	(invited)
18:00	Prof. Jos éM. de la Rosa (<i>University of Seville, Spain</i>)
~18:45	1 101. Jos ewi. de la Rosa (Omversuy of Seville, Spain)

Wednesday, October 22, 15: 45-17: 45

Session B2: AI & Neural Network II

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Jianguo Yang, Zhangjiang Laboratory, China

	Title
B2-1	0529: Optimizing LLM inference for FPGAs (invited)
15:45	Jorge R. de Freitas, Jose G. F. Coutinho, Ce Guo, Suleyman Demirsoy, Wayne Luk,
~16:15	Zhiqiang Que (Altera, United Kingdom; Imperial College London, United Kingdom)
B2-2	0292: Fine-Grained Layer Scheduling and Mapping for Chiplet-Based LLM Inference
16:15	Hongyang Gu, Lei Xu, Haochen Zhao, Naifeng Jing (Shanghai Jiao Tong University,
~16:30	China)
B2-3	0320: A 16×16 High-Utilization Systolic Array Hardware Accelerator for Long-
	Sequence Flash-Attention Computation in Transformer
16:30	Zhenkun Li, Liji Wu, Yi Yang, Tianling Ren, Le Wu, Xiangmin Zhang (Tsinghua
~16:45	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	Lanqi Ma, Zifeng Zhao, Xiaoxing Wu, Gengsheng Chen, Wenbo Yin (Fudan
~17:00	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	Yujia Sun, Ruicong Zhang, Yuanfeng Chen, Qiang Zhou, Xiaoyong Xue, Xiaoyang
~17:15	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	Bing Wu, Shan Cao, Zhiyuan Jiang (Shanghai University, China)
17.00	

Wednesday, October 22, 15: 45-17: 45

Session C2: Digital Circuit II

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Li Xiong, HeXi University, China

	Title			
C2-1	0309: Skip-Zero Strategy: A Latency and Power Optimization for SRT Divider			
15:45	Ke Xu, Ping Yin, Jun Han (Fudan University, China; China Mobile (SuZhou)			
~16:00	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			
C2-3	5 - 2			
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	Yiting Guo, Yuejun Zhang, Shutong Zhang, Mengfan Xu, Zhenkai Zhou, Hui Li			
~17:15	(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)
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Wednesday, October 22, 15: 45-18: 45

Session D2:EDA & FPGA II

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Zhiang Wang, Fudan University, China

	Title	
	0517: Success-Rate Improvement of Analog Circuit Topology Generation By	
D2-1	Large Reasoning Model (Invited)	
15:45	Koutaro Hachiya, Kentaro Yoshikawa, Atsushi Kurokawa (Teikyo Hesei University,	
~16:15	Japan; Hirosaki University, Japan)	
D2-2	0501: Radio Frequency Integrated Circuits Generated by AI-based Design Automation (Invited)	
16:15	Ruoyu Wang, Meijun Hou, Jun Wu, Hongtao Xu, Ye Lu (Fudan University, China; IC	
~16:45	Prophet Microelectronics, China)	
D2-3	0515: Systematic Design for Coupled Heterogeneous Accelerators (Invited)	
16:45 ~17:15	Tim Todman, Wayne Luk (Imperial College London, United Kingdom)	
D2-4	0545: TorchLitho 2.0: Differentiable Lithography Simulation Engine for Large-Scale Layouts (Invited)	
17:15	Shuo Yin, Su Zheng, Ziyang Yu, Bei Yu (The Chinese University of Hong Kong, Hong	
~17:45	Kong, China)	
D2-5	0282: Hierarchical Residual Fitting for Enhanced S-Parameter Accuracy in Devices Exhibiting Complex Delay	
17:45	Jiaxin Wei, Haonan Wang, Ting-Jung Lin, Lei He (Shanghai Jiao Tong University,	
~18:00	China; BTD.Tech Inc., China; Ningbo Institute of Digital Twin, Eastern Institute of Technology, China)	
D2-6	0310: Hybrid Model-Based Hardware Acceleration for Diesel Engine NC Emission Prediction	
18:00	Xinlei Su, Shanqiang Yang, Tianliang Xu, Xiaozhen Yan, Jianfeng Li, Tian Rong,	
~18:15	Chenxu Wang, Yuhang Wang, Zhiwei Han (Harbin Institute of Technology, Weihai,	
10.13	China; Shandong Huayi Micro-Electronics Technology Co., Ltd, China)	
D2-7	0362: Extending Straight-Through Estimation for Robust Neural Networks on	
I	Analog CIM Hardware	
18:15	Yuannuo Feng, Wenyong Zhou, Yuexi Lyu, Yixiang Zhang, Zhengwu Liu, Ngai Wong,	
~18:30	Wang Kang (Beihang University, China; The University of Hong Kong, Hong Kong,	
23.00	China; Zhicun Research Lab, China)	
D2-8	0356: A Parallel Level-Set Based Approach for Etching Topography Simulation in	
	Process Emulation	

18:30	Yin Cheang Ng, Xin Wen, Boyuan Yu, Wenjian Yu (Tsinghua University, China; Hubei
~18:45	NineCube Microelectronics Co. Ltd, China)

Wednesday, October 22, 15: 45-18: 30

Session E2: ESD & Reliability II

Lounge Meeting 2, 4th Fl.

Session Chair: Prof. Zheng Chai, Xi'an JiaoTong University, China

	Title
E2-1	0335: Microstructural Evolution and Reliability Analysis of RDL Copper
	Interconnects under HighTemperature Conditions (invited)
15:45	Peng Xu, Lan Li, Jialu Huang, Yu Yao, Hengchang Bi, Jiang Xia, Zongyi Li, Zuoyuan
~16:15	Dong, Xing Wu (East China Normal University, China; Peking University, China;
10.13	JCET Semiconductor Integration, China)
E2-2	0523: Reliability Screening for Yield Improvement in IC Design Industry:
	Progress, Challenges and Prospects (invited)
16:15	Yixian Wang, Xiaoxiao Qiu, Zhigang Ji (Shanghai Jiaotong University, China)
~16:45	
E2-3	0357: Impact of Thermal Shock on the Threshold Voltage and Transconductance
E2-3	of FinFET I/O Devices
	Yaolin Wang, Kun Chen, Wendi Wei, Zhao Yang, Zhiteng Zhang, Zhuming Wang,
16:45	Chen Wang, David Wei Zhang (Fudan University, China; National Integrated Circuit
~17:00	Innovation Center, China)
E2-4	0401: Effects of Total lonizing Dose on ESD Performance in High-Voltage SCR
	with Double Snapback Characteristics
17:00	Yujie Liu, Xiangliang Jin (Hunan Normal University, China; College of Hunan
~17:15	Province, China)
E2-5	0474: A New Surge Protection Circuit with Low Dynamic Leakage Current
17:15	Zhiqiang Hu, Ran Ye, Qiao Kang, Ke Cui, Hao Luo, Weipeng Ye, Siyang Liu, Weifeng
~17:30	Sun (Southeast University, China)
E2-6	0547: Multi-scale ab initio Reliability Simulator (MARS) for Advanced MOSFETs
122-0	(invited)
17:30	Yue-Yang Liu (Institute of Semiconductors, Chinese Academy of Sciences, China)
~18:00	1 uc-1 ang Liu (Institute of Semiconductors, Chinese Academy of Sciences, China)
E2-7	0546: Interface Dipole Engineering in Advanced Logic Devices (invited)
18:00	Vicene Thu (Fudan University China)
~18:30	Xiaona Zhu (Fudan University, China)

Thursday, October 23, 2025

Thursday, October 23, 8: 30 – 10: 00

Thursday, October 23, 8: 30 – 10: 00 **Keynote Session K3**

Grand Ballroom

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	Snapdragon Platform for High Performance 5G Mobile SOC & Computing & AI Application Manufactured with 3nm EUV Fin-FET Technology and Beyond
9: 15 ~10: 00	Dr. Jun Yuan, Senior Director of Engineering, Qualcomm, USA

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

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Zhigang Ji, Shanghai JiaoTong University, China

	Title
A3-1	0201: Improving EUV Patterning Fidelity and Aberration Control through
A3-1	Source-Mask Co-Optimization (invited)
10:15	Qi Wang, Qiang Wu, Ying Li, Xianhe Liu, Yanli li (Fudan University, China; National
~10:45	Integrated Circuit Innovation Center, China)
A3-2	0355: From Technology to Circuit Design in Stacked Complementary Field-Effect Transistors (invited)
10: 45	Mansun Chan, Yutian Zhang, Shangdong Zhang (The Hong Kong University of Science
~11:15	and Technology, Hong Kong, China; Peking University, China)
A3-3	0519: Enhancement of HfO ₂ -Based Ferroelectric Thin Film Performance via
A3-3	Interface and Defect Engineering (invited)
	Xiao Yu, Peiyuan Du, Huan Liu, Dongya Li, Fei Yu, Bing Chen, Ran Cheng, Mengnan
11:15	Ke, Yan Liu, and Genquan Han (Hangzhou Institute of Technology, Xidian University,
~11:45	China; Xidian University, China; Zhejiang University, China; Yokohama National
	University, Japan)
A3-4	0383: Threshold Voltage Swing Caused by Intense Phonon-Electron Interaction
713-4	in High-k Dielectrics
11:45	Jinchen Wei, Mansun Chan (The Hong Kong University of Science and Technology,
~12:00	Hong Kong, China)
A3-5	0410: A Ti/ITO Bilayer Gate Electrode Strategy for Improving Subthreshold
	Swing of Oxide Transistors
	Chuanlin Sun, Tingchen Yi, Han Gao, Jiakang Zhang, Junchen Dong, Kai Zhao,
12:00	Dedong Han, Xing Zhang (Peking University, China; Southern University of Science
~12:15	and Technology, China; Beijing Information Science and Technology University,
_	China)

Session B3: Advanced Memory I

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Yannan Xu, Xiamen University, China

	Title
B3-1	0456: Doped GT/ST Multilayer Chalcogenide for Multi-Level Phase-Change Device (invited)
10:15	W. W. (C. H.: Y.)
~10:39	You Yin (Gunma University, Japan)
B3-2	0544: Scanning Nonlinear Dielectric Microscopy for Developing Next-generation High-performance Electronic Devices (invited)
10: 39	Yasuo Cho (Tohoku University, Japan)
~11:03	Tasuo Cho (Tonoka University, Japan)
B3-3	0365: A Study on Dwell Time Impacts in Charge-trapping 3D NAND Flash Memory
	Yining Zhou, Ruidong Li, Xuepeng Zhan, Guangkuo Yang, Yujiao Ding, Xinghao
11:03	Wang, Pengpeng Sang, Peng Guo, Jixuan Wu, Jiezhi Chen (Shandong University,
~11:15	China; Cloud Computing Equipment Industry Innovation Co. Ltd., China; Shandong
	Sinochip Semiconductors Co. Ltd., China)
B3-4	0366: Access Mode Impacts on 3D Charge-trapping (CT) QLC (4bit/cell) Raw NAND Chip
	Guangkuo Yang, Ruidong Li, Yining Zhou, Yujiao Ding, Xinghao Wang, Pengpeng
11:15	Sang, Peng Guo, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen (Shandong University, China;
~11:27	Cloud Computing Equipment Industry Innovation Co. Ltd., China; Shandong Sinochip
	Semiconductors Co. Ltd., China)
B3-5	0370: The Influence of Radiation on Reliability of Cold Data in 3D CT NAND Flash Memory
11:27 ~11:39	Haitao Dong, Xinghao Wang, Haotian Li, Xuesong Zheng, Pengpeng Sang, Xuepeng
	Zhan, Jixuan Wu, Jiezhi Chen (Shandong University, China; Harbin Institute of
~11.37	Technology, China; China Aerospace Components Engineering Center, China)
B3-6	0376: Process Co-Optimization of Void Suppression in ULK Dielectric Layers for 28 nm RRAM Arrays Towards High-density Integration
11:39	Zhenchao Sui, Yanqing Wu, Xing Zhang (Peking University, China; Semiconductor
~11:51	Manufacturing Beijing Corporation, China)
11.71	managacianing Deijing Corporation, China)
B3-7	0402: A Study on Performance Enhancement of TiO2/HfO2 Memristors through Rapid Thermal Annealing
11:51	Yifan Wu, Yuzhe Hu, Yuewei Qu, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Jiezhi
~12:03	Chen (Shandong University, China)

В3-8	0455: Investigation of Self-Heating Effects in InGaZnO Vertical Channel Transistors for DRAM Application	
	Transistors for DKAW Application	
12:03	Throng Vone Vighen Liv Linford Vone Viceyon Liv (Deline University Chica)	
~12:15	Zhuoran Kong, Yizhan Liu, Jinfeng Kang, Xiaoyan Liu (Peking University, China)	

Session C3: Analog Circuit I

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Jing Wang, Nanjing University of Posts and Telecommunications, China

	Title
G2 1	0507: Analysis and Design of Regulating Rectifier with Multiple Outputs for
C3-1	Wirelessly Powered Biomedical Devices (invited)
10:15	Quanrong Zhuang, Junyi Sun, Bo Li, Jie Lu, Yi Shi, Hao Qiu (Nanjing University,
~10:40	China)
C3-2	0482: Noise Notch Frequency Design for EMI Mitigation in DC-DC Converters Using Digital-to-Time Converter (Invited)
	Yasunori Kobori, Yifei Sun, Guiyi Dong, Nobukazu Tsukiji, Ramin Khatami, Takuya
10:40	Arafune, Shogo Katayama, Anna Kuwana, Jianglin Wei, Haruo Kobayashi (Maebashi
	Institute of Technology, Japan; Shenyang University of Chemical Technology, China;
~11:05	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	Yuhua Chen, Qianhui Liu, Yixing Wang, Yuming Zhang, Yimeng Zhang (Xidian
~11:19	University, China)
C3-4	0306: A 280-nA, 85.8% Efficiency Boost Converter with Optimal Inductor
C5-4	Current in Burst Mode for Brain Stimulation
11:19	Dejian Li, Xin Jin, LianXi Liu, Gang Dong, Xufeng Liao, Shihao Xiao, Xincai Liu
~11:33	(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	Tao Ren, Xufeng Liao, Gefu Wang, Jiatong Wu, Lianxi Liu (Xidian University, China;
~11:47	Chongqing Integrated Circuits Innovation Institute, China)
	0313: A 400V High-speed Level-Shifting Gate Driver with Adaptive Signal-Path
C3-6	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
	Yutao Geng, Ji Shu, Tao Chen, Yan Cheng, Yat Hon Ng, and Kevin J. Chen (<i>The Hong</i>
12:01	Kong University of Science and Technology Shenzhen Research Institute, China; The
~12:15	Hong Kong University of Science and Technology, Hong Kong, China)

Session D3: Mixed-signal Circuit I

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Zhang Zhang, Hefei University of Technology, China

D3-1 D3-1 D484: Some Signal Processing Techniques for Testing Wireless Commun LSIs (invited) 10:15	ications Macao,
LSIs (invited) 10:15 ~10:40 Color	Macao,
Time Gain Compensation for 3D Ultrasound Probes (invited) 10:40 D3-2 Koji Asami (The University of Tokyo, Japan) 0506: Voltage-Domain vs. Time-Domain: Trade-offs in High-Speed Appl (invited) Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, China) 0508: A Pitch-Matched Transceiver ASIC with Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited) Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, I Liang Yihu Yu, Zhong Zhang Kejun Wu, Ning Ning Qi Yu (University of Element ADC)	Macao,
D3-2 0506: Voltage-Domain vs. Time-Domain: Trade-offs in High-Speed Appl (invited) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 0508: A Pitch-Matched Transceiver ASIC with Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited) 11:05 Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, I Jiang Yihu Yu, Zhong Zhang Kejun Wu, Ning Ning Qi Yu (University of Element ADC)	Macao,
10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China) 10:40 Haoyu Li, Sai-Weng Sin, Rui P. Martins, Mingqiang Guo (University of Macau, ~11:05 China)	Macao,
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D3-3 O508: A Pitch-Matched Transceiver ASIC with Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited) Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, I Liang Yihu Yu, Zhong Zhang Kejun Wu, Ning Ning Qi Yu (University of Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited)	inuous-
D3-3 0508: A Pitch-Matched Transceiver ASIC with Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited) Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, I Jiang Yihu Yu, Zhong Zhang, Kejun Wu, Ning Ning, Qi Yu, (University of Element ADC and Cont Time Gain Compensation for 3D Ultrasound Probes (invited)	
Time Gain Compensation for 3D Ultrasound Probes (invited) Jing Li, Tianci Zhang, Li Dai, Yingchen Liu, Jinlai Fu, Zhongshan Wang, I Jiang Yihu Yu Zhong Zhang Kejun Wu Ning Ning Qi Yu (University of El	
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11:05 Jiang Yihu Yu Zhong Zhang Kejun Wu Ning Ning Oi Yu (University of El	
Iiang Yihu Yu Zhong Zhang Kejun Wu Ning Ning Oi Yu (University of Fl	•
1 ~11:30 1	ectronic
Science and Technology of China, China)	
0254: A Low-Power-Consumption Capacitance to Digital Converter with	h Novel
D3-4 Calibration Technology	ii itovei
11:30 Xiwen Zhu, Yufeng Zhang, Xiaoming Teng, Yihan Wang (Harbin Inst	titute of
~11:45 Technology, China)	
D3-5 0302: A 10-bit 4 GS/s 67.79-dBc SFDR Switched-Capacitor DAC with Ro	eservoir
Capacitor-based Reference Generation	
11:45 Yitao Wang, Meng Xu, Qiang Pan, Jize Liu, Yuekang Guo, Jing jin (Shanga	hai Jiao
~12:00 Tong University, China)	
0479: A 16-channel Neural Signal Acquisition Analog Front-End with Fore	oround
D3-6 Calibration for High Precision Backend SAR ADC	ground
12:00 Chun Feng, Junfeng Tang, Longhao Chen, Songping Mai, Xian Tang (S	henzhen
~12:15 International Graduate School, Tsinghua University, China)	

Session E3: High Speed Interface

Lounge Meeting 2, 4th Fl.

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

	Title
E2 1	0012: A PVT-Tolerant Quick Startup CMOS Crystal Oscillator with Chirp-
E3-1	Assisted Fixed Injection
10:15	Hao Luo, Yue Lin, Jian Xu, Hongtao Xu (Fudan University, China; ICLegend Micro,
~10:30	China)
E3-2	0258: A 20 Gb/s/Wire Short-Reach Simultaneous BiDirectional Transceiver with
E5-2	DuoBinary Coding for Die-to-Die Interface in 28 nm CMOS
10:30	Bohui Bai, Fangxu Lv, Zhengbin Pang, Geng Zhang, Ruixiao Kuai, Liangyong Yuan,
~10:45	Ruotian Yin, Jiliang Liu (National University of Defense Technology, China)
E3-3	0265: A 56Gb/s PAM4 Transceiver Based on BSS-LMS Algorithm with 3-Taps
	Adaptive TX FFE
10:45	Xianchao Zeng, Fangxu Lv, Liquan Xiao, Jiaqing Xu, Zhouhao Yang, Liangyong Yuan,
~11:00	Cewen Liu, Xiaoyue Hu, Yingjie Zhang (National University of Defense Technology,
	China)
E3-4	0286: A Low-Power Gm-Boosted VCO with MultiTransformer in 40nm CMOS
11:00	Zilong Wu, Bowen Chen, Yue Lin, Hongtao Xu (Fudan University, China; ICLegend
~11:15	Micro, China)
	0207 A CA CL 10 MY 0 0001 2 L 4 D 1 CTM D D 1 CTM D D 1
E3-5	0296: A 64 Gbps 10 mW 0.0081 mm ² Inverter-Based CTLE Employing Power- Efficient Split Biasing Topology in 40 nm CMOS
11:15	Fang Ding, Huzhi Tang, Ke Wu, Yuekang Guo, Jing Jin, Jianjun Zhou (Shanghai Jiao
~11:30	Tong University, China)
11.50	Tong Chirothiy, China)
E3-6	0434: Low-Power Area-Efficient Serializer for CMOS Image Sensors
	Jingyang Chen, Nanbo Chen, Gang Wang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan
11:30	Liu (Institute of Semiconductors, Chinese Academy of Sciences, China; Ningbo
~11:45	University, China; University of Chinese Academy of Sciences, China)
E2 5	0447: A 6b 14GHz Phase Interpolator with 2-Stage Injection-Locked Ring
E3-7	Oscillators in 28nm CMOS
11:45	Danqi Ding, Bingyi Ye, Weixin Gai (Peking University, China; East China Normal
~12:00	University, China; Beijing Advanced Innovation Center for Integrated Circuits, China)

Thursday, October 23, 13: 30 – 15: 30

Session A4: Power & Compound Device I

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Wai Tung Ng, University of Toronto, Canada

	Title
A 1 1	0516: Fabrication of High-Performance β-Ga ₂ O ₃ MOSFETs via Ohmic Contact
A4-1	Optimization (invited)
13:30	Hui Li, Qihao Zhang, Haodong Fu, Jianguo Li, Dongyuan Zhai, Yi Zhao, Jiwu Lu
~14:00	(Hunan University, China; Huada Semiconductor, China; Zhejiang University, China)
A4-2	0371: Experimental Study on 1.2kV/40m Ω SiC MOSFET with Integrated JBS Diode (invited)
14:00	Moufu Kong, Qizhi Feng, Hongfei Deng, Yufeng Dong, Wei Han, Xuequan Yin, Jiakai
~14:30	You (University of Electronic Science and Technology of China, China; The 54th
~14.30	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	Yuchu Ge, Wei Jia Zhang (The Hong Kong University of Science and Technology, Hong
~15:00	Kong, China)
A 4 4	0014: A Quadruple RESURF LDMOS with Enhanced Hot-Carrier-Induced
A4-4	Degradation Immunity
15,00	Wenliang Liu, Ming Qiao, Penglong Xu, Chunxia Ma, Feng Lin, Bo Zhang (University
15:00 ~15:15	of Electronic Science and Technology of China, China; CSMC Technologies Co. Ltd,
	China)
	0218: Investigation of Dual-Mode R _{on} Degradation Mechanisms in LOCOS-Based
A4-5	LDMOS
15:15	Wenliang Liu, Ming Qiao, Penglong Xu, Chunxia Ma, Feng Lin, Bo Zhang (University
~15:30	of Electronic Science and Technology of China, China; CSMC Technologies Co. Ltd, China)

Session B4: Advanced Memory II

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Xiaohua Yu, Fudan University, China

	Title
B4-1	0018: A Low-Temperature Ferroelectric Domain Wall Memory (invited)
13:30 ~13:57	Anquan Jiang, Di Hu, Wendi Zhang, Xianyu Hu (Fudan University, China)
B4-2	0436: On the Reliability of Sub-10nm Ultra-thin Ferroelectric HZO Thin Film (invited)
13:57	Xiaopeng Li, Yang Feng, Pengpeng Sang, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen
~14:24	(Shandong University, China)
B4-3	0491: High Dielectric Permittivity in Size-scaled Hf0.5Zr0.5O2 Thin-film Capacitors (invited)
14:24 ~14:51	Wendi Zhang, Anquan Jiang (Fudan University, China)
B4-4	0264: 1.2 V Operation of Hf0.5Zr0.5O2 Ferroelectric Thin-film Capacitors for Low-Power ASICs after Interfacial-layer Engineering
14:51	Xianyu Hu, Di Hu, Wendi Zhang, Bowen Shen, Anquan Jiang (Fudan University,
~15:04	China; Tsinghua University, China)
B4-5	0314: Reliability Enhancement of Hf0.5Zr0.5O2-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)

Session C4: Analog Circuit II

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Hao Qiu, Nanjing University, China

	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)
~14.20	Oniversity, Supun)
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	Qianhui Liu, Yuhua Chen, Yixing Wang, Yuming Zhang, Yimeng Zhang (Xidian
~15:15	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)
L	

Session D4: Mixed-signal Circuit II

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Jing Li, University of Electronic Science and Technology of China, China

	Title
D4-1	0229: An 18-bit 1MS/s SAR ADC with Weight-Fitting Digital Calibration and
D4-1	High-Linearity Capacitor Array Design
13:30	Baoyi Zheng, Guoao Wang, Zongmin Wang, Jin Qian, Bosen Liu, Zhaohang Bing,
~13:45	Tieliang Zhang (Tsinghua University, China; Beijing Microelectronics Technology
~13.43	Institute, China; Beihang University, China)
D4-2	0237: A Digital Front-end Self-calibration Algorithm for SAR ADC
13:45	Fuming Liu, Jie Ding, Jiangfeng Wu, Yongzhen Chen (Tongji University, China)
~14:00	Tunning Eta, sie Ding, stangteng wa, Tongzhen Chen (Tong) University, China)
D4-3	0252: Bitwise Bayesian Optimization for SAR ADC Calibration
14:00	Yu Shi, Shen Ye, Yihang Luan, Jiahao Wang, Ting Yi (Fudan University, China)
~14:15	
D4-4	0289: An Area-Efficient C2C SAR ADC with Hybrid Switching Mode for
14:15	Ultrasound Miniature Probes Tianci Zhang, Jinlai Fu, Li Dai, Dongxu Li, Yingchen Liu, Jing Li, Zhong Zhang, Ning
~14:13	Ning, Qi Yu (University of Electronic Science and Technology of China, China)
~14.30	Ning, Qi Tu (Oniversity of Electronic Science and Technology of China, China)
	0301: A Reconfigurable 9-to-14b 15MS/s 4th-Order NSSAR ADC with Self-
D4-5	Calibrated Open-loop FIA
14:30	Chaoran Chen, Mingzong Lin, Jian Xu, Yue Lin, Wei Li, Hongtao Xu (Fudan
~14:45	University, China; ICLegend Micro, China)
D4-6	0393: A 16-bit 4-MS/s Deadlock-free Asynchronous SAR ADC Using High-level
D4-0	First Transmission Gate
14:45	Xiaokun Zhou, Baijie Zhang, Xu Cheng (Fudan University, China)
~15:00	
D4-7	0424: A Differential SAR-SS ADC with Gain-Scaled Ramp Quantization for High-
	Speed CMOS Image Sensors
15:00	Nanbo Chen, Jingyang Chen, Gang Wang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan
~15:15	Liu (Institute of Semiconductors, Chinese Academy of Sciences, China; Ningbo
	University, China; University of Chinese Academy of Sciences, China)
	0452: A 79.2dB-SNDR 12.5MHz-BW Pipelined SAR ADC with Analog-Domain
D4-8	Gain Error Shaping
15:15	
	Qiaoyu Hu, Guolong Fu, Yanbo Zhang, Zhangming Zhu (Xidian University, China)
15:15 ~15:30	Qiaoyu Hu, Guolong Fu, Yanbo Zhang, Zhangming Zhu (Xidian University, China)

Session E4: Image Sensor & Optoelectronics I

Lounge Meeting 2, 4th Fl.

Session Chair: Prof. Peng Feng, Institute of Semiconductors, Chinese Academy of Sciences, China

	Title
E4-1	0425: Boosting Self-Powered Properties of 2D MaterialBased Photodetectors via
E4-1	Asymmetry Engineering (Invited)
13:30	Ran Huo, Han Zhang, Yihong Sun, Shijun Ou, Changming Pi, Mansun Chan, Changjian
~14:00	Zhou (South China University of Technology, China; Fudan University, China; The
~14.00	Hong Kong University of Science and Technology, China)
E4-2	0514: Interfacial Adhesion Enhancement Enabled Mechanically Durable Flexible
£4-2	Organic Optoelectronics (Invited)
14:00	Ziqi Wang, Xiangzhe Li, Huimin Wu, Kai Wang, Sixing Xiong, Jin Qian (Zhejiang
~14:30	University, China)
E4-3	0261: Image Flare Removal via Stable Diffusion Framework
14:30	Jiazheng Lian, Ruoxi Zhu, Jiaming Liu, Ming'e Jing, Xiaoyang Zeng, Yibo Fan (Fudan
~14:45	University, China)
7.4.4	
E4-4	0266: AI-Assisted Droplet Splitting on a Parallel-Plate Optoelectrowetting Chip
14:45	Junyan Tian, Shang Gao, Tengpu Zhu, Enqing Liu, Gaifang Chen, Jia Zhou (Fudan
~15:00	University, China)

Thursday, October 23, 15: 45 – 17: 45

Session A5: Power & Compound Device II

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Moufu Kong, University of Electronic Science and Technology of China, China

	Title
A5-1	0498: Advanced Gate Driver Solutions for Fast-Switching SiC Power Device
A3-1	Applications (invited)
15:45	Yu Qing, Zhihao Yan, Zekun Zhou, Jiaxing Mao, Zijun Zhou, Yun Dai, Rongxing Lai,
~16:15	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	Wai Tung Ng, Jingyuan Liang, Wentao Cui, Chun Yin Au Yueng, Namjee Kim, Wei Jia
~16:45	Zhang (University of Toronto, Canada; The Hong Kong University of Science and
~10.43	Technology, Hong Kong, China)
A5-3	0520: Investigation of Threshold Voltage Instability in GaN HEMTs Using Rapid
A3-3	Ramp Sweeping Technique (invited)
16:45	Diangang Hu, Yutian Gan, Shufu Yu, Sai Liu, Lirong Zhang, Weijing Wu, Hongyu Yu
~17:15	(South China University of Technology, China; Southern University of Science and
~17.13	Technology, China; Shenzhen Polytechnic University, China)
A5-4	0248: Design and Kirk Effect Improvement of 30V NLDMOS Base on 0.18μm
A3-4	BCD Platform
17:15	Qi Ding, Ning Ning, Renxiong Li, Jun Huang, Yutuo Guo, Yu Wang, Kunqin He, Yaxin
~17:13	Liu, Ziyi Zeng, Ming Qiao, Lulu Peng, Bo Zhang (University of Electronic Science and
~17.30	Technology of China, China; United Microelectronics Center Co., Ltd, China)

Session B5: Advanced Memory \coprod

Meeting Room 2, 3rd Fl.

Session Chair: Prof. Xiao Yu, Xidian University, China

	Title
D.5. 1	0307: Systematic Review of Write Reliability in Spin-Transfer Torque Magnetic
B5-1	Random-Access Memory (invited)
15:45	Yuhao Chen, Yiming Qu, Ziyuan Chen, Choonghyun Lee, Yi Zhao(Zhejiang University,
~16:11	China; East China Normal University, China; Huada Semiconductor Co., Ltd., China;
~10.11	Zhejiang Li-ryder Technology Co., Ltd., China)
B5-2	0509: Emerging Magnetoresistive Memories (invited)
16:11	Viktor Sverdlov, Nils Petter Jørstad, Bernhard Pruckner, Mario Bendra, Siegfried
~16:37	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
1607	Yilin Hou, Jixuan Wu, Xiaopeng Li, Xiaoyu Dou, Yaoyu He, Pengpeng Sang, Xuepeng
16:37	Zhan, Yuqi Gao, Linhui Hu, Feng Wang, Yushi Hu, Qian Tao, Jiezhi Chen (Shandong
~16:51	University, China; GTA Semiconductor Co., Ltd., China; Wuxi Smart Memories
	Technologies, Co., Ltd., China)
	0465: Reliability Enhancement in HfO2-Based FeRAM: Circuit-Level Solutions
B5-4	for Insufficient Polarization and Memory Window Degradation
	Changnan Shi, Taoran Shen, Li Xiong, Shuyang Lv, Yuanfeng Chen, Xiaoyong Xue,
16:51	Xiaoyang Zeng (Fudan University, China; Transcputing Technology LTD, China; Hexi
~17:04	University, China)
	· · · · · · · · · · · · · · · · · · ·
	0500: WOx interlayer employed to improve the imprint effect on HfZrO2
B5-5	ferroelectric capacitors
17:04	Zibo Dong, Zeping Weng, Jianguo Li, Lijian Chen, Ziyuan Chen, Yi Zhao, Daolin Cai
~17:04	(East China Normal University, China; Zhejiang University, China; Huada
~17.10	Semiconductor Co. LTD, China)
B5-6	0502: Understanding the Physical Mechanism of Endurance Cycling in
	Antiferroelectric Memories
17:18	Y. Qu, Y. Ding, Y. Huo, Z. Weng, Y. Zhao (Research Center of Integrated Circuits,
~17:31	Huada Semiconductor, China; Zhejiang University, China; East China Normal
	University, China)
D	0503: Accelerated Polarization Switching Speed and Durable Endurance Enabled
B5-7	by Confined Domain Size and Solid Defect Migration Barrier in FE/AFE
	Multilayer Stacked HfxZr1-xO2 Ferroelectric Capacitor

17:31	Wenhao Wu, Xinyu Xie, Zeping Weng, Yi Zhao, Jiabin Qi (Huada Semiconductor Co.,
~17:45	Ltd., China; Zhejiang University, China)

Session C5: Analog Circuit III

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Nobuhiko Nakano, Keio University, Japan

	Title
C5-1	0255: A 455mV-Hysteresis, 120 nA, Bandgap less Power-on-Reset Circuit for IoT in 40nm CMOS
15:45	Mingzong Lin , Chaoran Chen , Jian Xu , Yue Lin , Wei Li , Hongtao Xu (Fudan
~15:58	University, China; ICLegend Micro, China)
C5-2	0272: An Anti-Single Particle Effect Over Temperature Protection Circuit Based on Dual Detectors
15:58	Ping Luo, Hong Zhao, Hao Wang, Fulin Yao, Kai Luo(University of Electronic
~16:11	Science and Technology of China, China; the 24th Research Institute of China
~10.11	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	Jie Zheng, Qiang Li, Hao Min (Fudan University, China; Shanghai Quanray Electronics
~16:24	Co.,Ltd., China)
C5-4	0319: A 0.067 mm2 PNP-Based Temperature Sensor with ± 0.6 °C (3 σ) 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	Yixin Zhang, Hanze Liu, Jing Li, Zhong Zhang, Ning Ning, Qi Yu (University of
~16:50	Electronic Science and Technology of China, China)
C5-6	0330: 77K Modeling and Implementation of a Cryogenic OTA for Infrared Sensors
16:50	Zhuokai Wang, Lei Deng, Rui Yin, Jian Mei, Jiaming Zhang, Zhicheng Shi (National
~17:03	Integrated Circuit Innovation Center, China; Fudan University, China; Jiashan Fudan
	Institute, China; Beijing Institute of Space Mechanics and Electricity, China)
	0442: Design and Analysis of DI Controller for Descript Drive Circuits with ACC
C5-7	0442: Design and Analysis of PI Controller for Resonant Drive Circuits with AGC- PI Architecture
17:03	Yichen Lu, Tao Yin, Ying Liu, Jian Liu, Nanjian Wu, Liyuan Liu (University of Chinese
17:03 ~17:16	Academy of Sciences, China; Institute of Semiconductors, Chinese Academy of
~17.10	Sciences, China; Beijing Information Science and Technology University, China)
C5-8	0471: Design of 11MHz Isolated Current Sense Amplifier Based on FDDA and
	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)
	0472. A Chausa Danier Danier I Cannot Cana Anni 1:6: anni 41, 20 V 42 40 V I anni
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)

Session D5: Analog Computing & CIM I

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Minoru Fujishima, Hiroshima University, Japan

	Title
D5-1	0499: RAC-NAF: A Reconfigurable Analog Circuitry for Nonlinear Activation
D2-1	Function Computation in Computing-in-Memory (Invited)
15:45	Li Du (Nanjing University, China)
~16:10	Li Du (Wanjing Oniversity, China)
D5-2	0360: A Deep Reservoir Computing System based on IGZO Electrical-Double-
	Layer Transistors (Invited)
16:10	M. Han, Y. Chen, H. Cui, Y. Wan, C. Wan (Nanjing University, China)
~16:35	The Film, Tr. Clar, Tr. Wall, Cr. Wall (Flanging Chirefolly, Chiral)
D5-3	0532: High-density and High-reliability (H ² DR) RRAM for Energy-efficient AI
	Computing (Invited)
16:35	Yimao Cai, Yiyun Chen, Lin Bao, Ling Liang, Zheng Zhou, Zongwei Wang (Peking
~17:00	University, China; Beijing University of Posts and Telecommunications, China)
D5-4	0275: The Digital Coupled Ring Oscillator Ising Machine
17:00	Yue Han, Ranjith R Unnithan, Robin Evans, Efstratios Skafidas (The University of
~17:15	Melbourne, Australia)
D5-5	0378: Nanocrystal-Si Flash Memory-based Engergy-efficient Multi-bit Compute-
	in-Memory Design for Edge Neural Networks
17:15	Xianping Liu, Jian Huang, Zihan Zheng, Xinrui Zhang, Ruibin Zhou, Zhiyi Yu,
~17:30	Zhongyuan Ma, Kunji Chen, Yuhan Wang, Jian Cheng, Peng Zhang (Sun Yat-sen
	University, China; Peng Cheng Laboratory, China; Nanjing University, China)
	0422. A Multi lavel DDAM haged Jaing Masking for Calving Combinatorial
D5-6	0423: A Multi-level RRAM-based Ising Machine for Solving Combinatorial
	Optimization Problems Thanchao Sui, Vigovin Vu, Changchuo Vu, Jingvin Dang, Vu Thang, Changyua Li,
17:30	Zhenchao Sui, Xiaoxin Xu, Chengshuo Yu, Jingxin Deng, Xu Zheng, Chengyue Li, Hailan Yi, Jianguo Yang, Xing Zhang (Peking University, China; Institute of
~17:45	Microelectronics, Chinese Academy of Sciences, China; Zhangjiang Laboratory,
~17.43	China; Semiconductor Manufacturing Beijing Corporation, China)
	China, Semiconductor managaciaring Deguig Corporation, China)

Session E5: Image Sensor & Optoelectronics II

Lounge Meeting 2, 4th Fl.

Session Chair: Prof. Tomoyuki Yokota, The University of Tokyo, Japan

	Title
E5-1	0492: FD SOI-Based 1-T Image Sensor for IN-Pixel Computing (Invited)
15:45	Viceyon Lin (Deking University Ching)
~16:15	Xiaoyan Liu (Peking University, China)
E5-2	0505: Vision Chips (Invited)
16:15	Liyuan Liu (Institute of Semiconductors, Chinese Academy of Sciences, China)
~16:45	Liyuan Liu (Institute of Semiconductors, Chinese Academy of Sciences, China)
E5-3	0526: Recent Development of High Speed CMOS Image Sensor (Invited)
16:45	Peng Feng (Institute of semiconductors, Chinese Academy of Sciences, China)
~17:15	Teng Teng (Institute of Semiconductors, Chinese Academy of Sciences, China)
E5-4	0215: A Sub-1mV Voltage-Variation Pixel Power Supply Architecture with
123-7	Radiation-Hardened Built-In LDO for Pixel Readout ASIC
17:15	Lei Li, Jinxiang Wang, Yini Hong, Yuxiao Zhao, Yongsheng Wang (Harbin Institute of
~17:30	Technology, China)
E5-5	0468: A CMOS Pixel with Gradient-Doped PPD and LOFIC for 1.7ns Charge Transfer Time and 92 dB Dynamic Range
17:30	Tianjing Qiu, Jinglei Du, Junli Zhang, Peng Feng, Jian Liu, Nanjian Wu, Liyuan Liu
~17:45	(Lanzhou University, China; Institute of Semiconductors, Chinese Academy of Sciences,
~17.43	China; University of Chinese Academy of Sciences, China)
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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, Fumei Liang, Dagang Li (Chengdu Sino
	Microelectronics Technology Co., Ltd, China)
P1-4	0223: A 12-bit 1MS/s SAR ADC Design for High-Temperature MEMS
P1-4	Accelerometers
	Yanlin Mo, Min Qi (The Institute of Acoustics of the Chinese Academy of Sciences,
	China)
P1-5	0542: A Low-Noise Ultrasound Analog Front-End with Low Gain Error Time- Gain Compensation
	Xiangchen Wan, Fan Ye (Fudan University, China)
	Alangenen wan, I an Te (Fudun Oniversity, China)
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, Haifeng Chen, 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)
	0400 Aladi a di Garante Barata
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)
	0021: Design of CRFF-B Loop Filter Architecture for Wideband Continuous
P1-19	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)
	0290: A 14-bit R-2R DAC with All-Digital Foreground Calibration based on
P1-21	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
11 20	Closed-loop Residual Amplifier in 28 nm CMOS
	Shuai Liu, Yi Hu, Guoyu Li, Conyang Sun, Yidong Yuan, Hao Xu, Na Yan (Fudan
	University, China; Beijing Smartchip Microelectronics Technology Co., Ltd, China;
	Beijing Smartchip Semiconductor Technology Co., Ltd, China)
D4 44	0450: A Novel RA Architecture and Digital Calibration Method for SAR-assisted
P1-24	Pipeline ADCs
	Jieqiong Zeng, Hao Min (Fudan University, China; CRM ICBG (wuxi) Co., ltd,
	China)
	0467: An 8-bit 0.4-mW 740-μm ² DS Digital-to-Analog Converter in 28nm CMOS
P1-25	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)
D1 40	0287: A 0.2–7.3-GHz Compact LNA with Super Linearity for 5G NR in 22-nm
P1-28	CMOS Technology
	Kaiyun Deng, Zan Zhou, Yingqi Liu, Haoyu Dong, Haigang Feng (Shenzhen
	International Graduate School, Tsinghua University, Shenzhen, China)
	0254 A A FOR A ADI II A A A DA LAMA E SCANDI AO
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)
	0367: A16~46-GHz, >77-dB IRR, Low-Amplitude and Phase-Error IQ Generator
P1-31	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)
	0343: Impact of Process Parameter Variations on the Random Values of SRAM-
P1-32	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)
	0236: MIVO: Operator-Level On-Chip Memory System with Dynamic Bank
P1-33	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)
	0400: An Enterprise Solid-State Drive Controller Supporting Spin-transfer
P1-35	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)
D1 26	0461: An IO Die with Collective-Aware Routing and In-Situ Processing for Data
P1-36	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)
D1 20	0222 A L
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)
	0277: Design of a MobileNetV2 FPGA Accelerator for Low-Power Real-Time
P1-40	Identification of Plant Nematodes
	Ying Zhu, Pengjun Wang, Qikang Li, Huihong Zhang (Ningbo University, China;
	Wenzhou University, China)
	0324: A 65nm Analog-Computing Chip With Reconfigurable Charge-Pump-
P1-41	Based Adders for 5.26nJ/Decision Retrainless Keyword-Spotting
	Lichen Feng, Rundong Cai, Lin Wu, Zhangming Zhu (Xidian University, China)
D1 42	0331: HAMP: Head-Aware Mixed-Precision Token Pruning and Quantization for
P1-42	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
11-43	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)
	0241: A General and Modular FPGA Hardware Architecture for Enhanced
P1-48	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)
	Development Co., Eta, China, Isinghaa Chivershy, 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)
	0 7 7 7
	0276: Design and Implementation of an FPGA-based MIPI DSI Interface for
P1-50	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)
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D1 #1	0312: A Sub-100 μ s-Latency Visual-Cortex-Mimicking Heterogeneous Multi-
P1-51	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)
	0325: An Energy-Optimized FPGA Implementation for Convolutional Neural
P1-52	Networks Accelerator
	Yujie Zhu, Jianxuan Yin, Jingjing Liu, Jianhua Zhang (Shanghai University, China)
	J -,

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)
	2
P1-58	0486: A 71 TOPS/W 24.2 TOPS/mm ² 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)
	0253: Data-Centric Automatic Design Migration of Low Voltage CMOS Bandgap
P1-59	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
11-00	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)
	Zangung vi (vinis v e, vinin, shanghar viae iong vinivisus), vinia)
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)
P1-66	0336: Research on Radiation-Hardened High-Voltage Gate Driver Circuit Based
11-00	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)
	0470 AM W.G. L.D.L.E. 6 771 C.L. 6 771 C.L.
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)
	Xiaona Zhu (Fudan University, China)

P1-72	0245: Design of RF Microsystem Based on Silicon-based Stereoscopic Integration
11-72	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 (<i>National</i>
	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
11-73	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)
	0418: Mechanism of Leakage Current Enhancement Induced by La Doping in
P1-76	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**

Grand Ballroom

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: 45

Friday, October 24, 10: 15 – 12: 45 **Session A6: DTCO**

Meeting Room 1, 3rd Fl.

Session Chair: Prof. Xiaoyan Liu, Peking University, China

	Title
A6-1	0298: Device Modeling Based on Residual Neural Network with Ensemble-Based
	Active Learning (invited)
10:15	Hongfei Su, Yutong Wu, Jithish Jayarajan, Bharatha Kumar Thangarasu, Nagarajan
	Mahalingam, Fanyi Meng, Kaixue Ma, Kiat Seng Yeo (Tianjin University, China;
~10:40	Singapore University of Technology and Design, Singapore)
A6-2	0490: Performance Benchmark of Gate-All-Around Nanosheets Transistors Based
	on DTCO Simulation (invited)
10:40	Chunlei Wu, Jian Ma, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Jiayi Wu, Boqian Shen,
~11:05	Qingqing Sun, David Wei Zhang (Fudan University, China; Shanghai Integrated
	Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute, China)
	0439: The Impact of Back-Gate Biasing and Layout on Temperature Sensitivity of
A6-3	Transistors in FD-SOI CMOS Technology (invited)
11:05	Yann Deval, Maxime Guillot, Herv éLapuyade, Fran ois Rivet (University of Bordeaux,
~11:30	France; CNRS, France)
~11.50	France, Civis, France)
	0541: Considerations for Low Temperature High-Performance Computing:
A6-4	Design Technology Co-optimization, Device Variation, and Hot Carrier Injection
	(invited)
	Yuanxi Liao, Keyang Zhu, Ran Tao, Yongyu Wu, Qinglan Jiang, Yaxiong Liu, Kai Xu,
11:30	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang
11:30 ~11:55	
	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang
	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China)
	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection
~11:55	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN
~11:55	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN Pengyu Ren, Bojie Ma, Yajuan Su, Xiaojing Su, Xin Hong, Yuqin Wang, Yujie Jiang,
~11:55 A6-5	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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
~11:55 A6-5 11:55	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN Pengyu Ren, Bojie Ma, Yajuan Su, Xiaojing Su, Xin Hong, Yuqin Wang, Yujie Jiang,
~11:55 A6-5 11:55 ~12:07	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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)
~11:55 A6-5 11:55	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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)
~11:55 A6-5 11:55 ~12:07 A6-6	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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) 0385: A New TCAD Simulation Framework for Strain-Aware Quantum Tunneling Current Modeling
~11:55 A6-5 11:55 ~12:07 A6-6 12:07	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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) 0385: A New TCAD Simulation Framework for Strain-Aware Quantum Tunneling
~11:55 A6-5 11:55 ~12:07 A6-6	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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) 0385: A New TCAD Simulation Framework for Strain-Aware Quantum Tunneling Current Modeling Jian Ma, Chunlei Wu, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Jiayi Wu, Qingqing Sun,
~11:55 A6-5 11:55 ~12:07 A6-6 12:07	Chen Shen, Dong Liu, Dawei Gao, Ran Cheng (Zhejiang University, China; Zhejiang ICsprout Semiconductor, China; ZJU-Hangzhou Global Scientific and Technological Innovation Center, China; Suzhou Peifeng Tunan Semiconductor Co., Ltd., China) 0213: Feature clustering-driven data augmentation in multi-level hotspot detection for integrated circuits based on GAN 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) 0385: A New TCAD Simulation Framework for Strain-Aware Quantum Tunneling Current Modeling Jian Ma, Chunlei Wu, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Jiayi Wu, Qingqing Sun, David Wei Zhang (Fudan University, China; Shanghai Integrated Manufacturing

A6-7	0386: DTCO-based Hybrid Rail 8T Complementary FET SRAM Design towards
	advanced node
12:19	Yutian Zhang, Khawar Sarfraz, Mansun Chan (The Hong Kong University of Science
~12:31	and Technology, Hong Kong, China)
A6-8	0430: Design of VCM Motor Coil Based on Five Factor Integration
10.01	Shengxian Quan, Huihong Zhang, Yuejun Zhang, Qiang Wang, Guanglong Xu,
12:31	Jinsheng Yang (Ningbo University, China; Ningbo Huayuan Electronic Technology Co.,
~12:43	Ltd, China)

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

Meeting Room 2, 3rd Fl.

Prof. Ziyu Guo, Fudan University, China

	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	Yizhi Liu, Jierui Liao, Hao Xing, Pengpeng Sang, Jixuan Wu, Jiezhi Chen, Xuepeng
~11:00	Zhan, Xiangye Wei (Shandong University, China; TAF Circuits Co., Ltd., China)
В6-3	0428: A Lightweight Arbiter PUF Design Based on Threshold Loss in Transmission Gates
11:00	Haoxuan Yan, Yitian Su, Qiwen Wu, Yong Ding, Hui Li, Yuejun Zhang (Ningbo
~11:15	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	Dong Lu, Pengjun Wang, Gang Li, Hao Ye (Wenzhou University, China)
B6-7	0358: A Sequential Obfuscation PUF Resistant to Machine Learning Attacks Based on AES Key Expansion
12:00	Xuejiao Ma, Yimeng Jin, Shuyang Ren, Ziyu Zhou (Wenzhou University of Technology,
~12:15	China; Ningbo University, China)

Friday, October 24, 10: 15 – 12: 15

Session C6: RF Circuit

Meeting Room 3, 3rd Fl.

Session Chair: Prof. Francois Rivet, IMS Laboratory, France

ted) pois Rivet, Pierre Ferrer, Maxandre Fellmann, Nathalie Deltimple, Hervé yade, Eric Kerhervé, Yann Deval (University of Bordeaux, France; CNRS,
•
ce; Bordeaux INP, France; IMS, France; UMR 5218, France)
: 300-GHz Phased-Array Transceiver in 40-nm CMOS with Interpolated ing and OTA Metrics (invited)
ru Fujishima (Hiroshima University, Japan)
: A Polar-Modulation OFDM Backscatter System for Passive IoT munication (invited)
g Xiao, Xin Hu, Weixiao Wang, Yuxuan Luo, Bo Zhao (Zhejiang University, a)
: A Compact Q/V Band Bidirectional Phase Shifter with 0.32° Phase Error
rui Li, Yan Wang, Lei Zhang (Tsinghua University, China)
: A 300GHz Coherent Radiator Array with Multifunctional Antenna in 65nm
i Yan, Kaizhe Guo (Southeast University, China)
: Design of a 300GHz Wideband On-Chip Antenna in 28nm CMOS
ao Zhang, Chen Jiang (Fudan University, China)

Friday, October 24, 10: 15 – 12: 15

Session D6: Analog Computing & CIM II

Lounge Meeting 1, 4th Fl.

Session Chair: Prof. Yuejun Zhang, Ningbo University, China

	Title
D6-1	0511: DRAM-Centric Near-Data Processing: A Survey of Architectures,
	Technologies, and Trends (invited)
10:15	Taoran Shen, Yujia Sun, Tingyi Xu, Li Xiong, Xiaoyong Xue, Xiaoyang Zeng (Fudan
~10:40	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	Guoxiang Li, Tianhang Zhou, Xinyu Qu, Zecheng Zhou, Yufei Ma (Peking University,
~11:30	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)
	0291, ADC Free DDAM Dored VNOD Ditagrant Analyticature for Hand Continue
D6-6	0381: ADC-Free RRAM-Based XNOR-Bitcount Architecture for Hand Gesture
12.00	Recognition
12:00	Lixun Wang, Yuejun Zhang, Qikang Li, Liang Wen (Ningbo University, China; China)
~12:15	Coast Guard Academy, China)

Friday, October 24, 10: 15 – 12: 15

Session E6: MEMS & Bioelectronics

Lounge Meeting 2, 4th Fl.

Session Chair: Prof. Liyuan Liu, Institute of Semiconductors, Chinese Academy of Sciences, China

	Title
E6-1	0528: Flexible Organic Electronics for the Bio-signal Measurement (invited)
10:15	T
~10:45	Tomoyuki Yokota (The University of Tokyo, Japan)
E6-2	0489: Stacked 2D materials Nanopore Sensors (invited)
10:45	Candong Zhao, Qinjie Pan, Guangyi Yang, Peng Cheng, Fuwei Zhuge, Yuhui He
~11:15	(Huazhong University of Science and Technology, China)
E6-3	0527: On-chip Contact Angle Sensor Using Coplanar Capacitors for Digital
E0-3	Microfluidic Systems (invited)
11:15	Akira Tsuchiya, Hayato Fukui, Tsubasa Furuta, Toshiyuki Inoue, Keiji Kishine (The
~11:45	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	Gaifang Chen, Enqing Liu, Junyan Tian, Shang Gao, Jia Zhou (Fudan University,
~12:00	China; University of Twente, Netherlands)
E6-5	0463: A MEMS Rectenna for RF Energy Harvesting Around 2.4GHz
12:00	Xiaoqiang Liu, Tiancong Wang (Harbin Institute of Technology, China)
~12:15	Maoqiang Liu, Tiancong wang (Harom Insulate of Technology, China)