

# ICSICT 2024 Technical Sessions Overview

Sheraton Zhuhai Hotel, Zhuhai, China, Oct. 22 ~ Oct. 25, 2024

Date	Time	Meeting Room 1	Meeting Room 2	Meeting Room 3	Meeting Room 4	Meeting Room 5	Meeting Room 6
Oct.22	9:00-12:15	Tutorial Session T1 (Meeting Room 8)					
	13:30-18:30	Tutorial Session T2 (Meeting Room 8)					
Oct.23	8:30-9:00	Opening (Grand Ball Room)					
	9:00-10:30	Keynote Session K1 (Grand Ball Room)					
	10:45-12:15	Keynote Session K2 (Grand Ball Room)					
	13: 30-15: 15	Special Session the Future of AI	Session B1 Analog Circuit I	Session C1 EDA I	Session D1 Novel Device I	Session E1 Power Device I	Session F1 Memory Device I
	15: 30-17: 15		Session B2 Analog Circuit II	Session C2 EDA II	Session D2 Novel Device II	Session E2 Power Device II	Session F2 Memory Device II
	17: 15-18: 30	Poster Session I (1 <sup>st</sup> Fl.)					
	19: 00-21: 00	Reception					
Oct.24	9:00-10: 30	Keynote Session K3 (Grand Ball Room)					
	10: 45-12: 15	Panel Discussion (Grand Ball Room)					
	13: 30-15: 30	Session A1 AI Circuit	Session B3 Analog Circuit III	Session C3 RF Circuit I	Session D3 Novel Device III	Session E3 Power Device III	Session F3 Memory Device III
	15: 30-17: 15	Session A2 Security	Session B4 Mixed Signal I	Session C4 Sensor & MEMS I	Session D4 Novel Device IV	Session E4 Power Device IV	Session F4 Memory Device IV
	17: 15-18: 30	Poster Session II (1 <sup>st</sup> Fl.)					
Oct.25	9:00-10: 30	Keynote Session K4 (Grand Ball Room)					
	10: 45-12: 15	Session A3 Digital & Memory Circuit	Session B5 Mixed Signal II	Session C5 Sensor & MEMS II	Session D5 Process I	Session E5 Reliability I	Session F5 Device Modeling I
	13: 30-15: 30	Session A4 Processor	Session B6 Mixed Signal III	Session C6 RF Circuit II	Session D6 Process II	Session E6 Reliability II	Session F6 Device Modeling II
	15: 30-17: 15	Session A5 FPGA Based Design	Session B7 Chip Test	Session C7 Sensor & MEMS III	Session D7 3D Integration	Session E7 Reliability III	Session F7 Device Modeling III
	19: 00-21: 00	Closing & Banquet					

# Tutorial Session

**Tuesday**

**Tuesday, October 22, 9: 00 – 18: 00**

Tuesday, October 22, 9: 00 – 12: 15 Meeting Room 8  
**Tutorial Session T1** Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor  
**Session Chair:** Dr. Albert Li, Lingyange Semiconductor Inc., China  
Dr. Y.K. Li, Zhuhai Fudan Innovation Institute, China

<b>T1-1</b>	<b>Low-frequency Noise Characterization as a Diagnostic Tool to Characterize Advanced Semiconductor Materials and Devices</b>
9: 00 ~10: 30	Prof. Cor Claeys, Proximus, Belgium
	<b>Coffee Break</b>
<b>T1-2</b>	<b>Power Super-junction Devices</b>
10: 45 ~12: 15	Prof. Wentong Zhang, University of Electronic Science and Technology of China, China

Tuesday, October 22, 13: 30 – 18: 30 Meeting Room 8  
**Tutorial Session T2** Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor  
**Session Chair:** Dr. Yuan Li, AzurEngine Technologies Inc., China

<b>T2-1</b>	<b>In-Memory Neuromorphic Computing Algorithm and Hardware</b>
13:30 ~15:00	Prof. Yufei Ma, Peking University, China
	<b>Coffee Break</b>
<b>T2-2</b>	<b>Artificial Intelligence for 6G: Implementations, Algorithms, and Optimizations</b>
15: 15 ~16: 45	Prof. Chuan Zhang, Southeast University, China
	<b>Coffee Break</b>
<b>T2-3</b>	<b>RF/mm-IC in silicon for wireless communication</b>
17: 00 ~18: 30	Prof. Hao Gao, Eindhoven University of Technology, The Netherlands

# Technical Session

## Wednesday

### Wednesday, October 23, 8: 30 –9: 00

Wednesday, October 23, 8: 30 –9: 00 Grand Ball Room  
**Opening** Sheraton Zhuhai Hotel 1<sup>st</sup> Floor

### Wednesday, October 23, 9: 00 –10: 30

Wednesday, October 23, 9: 00 –10: 30 Grand Ball Room  
**Keynote Session K1** Sheraton Zhuhai Hotel 1<sup>st</sup> Floor  
**Session Chair:** Prof. Bin Zhao, IEEE EDS, USA

<b>K1-1</b>	<b>Low-Power On-Device Computation for Future AI Expansion</b>
9: 00 ~ 9: 45	Dr. Paul Penzes, Vice President, Qualcomm, USA
<b>K1-2</b>	<b>Effective Deep Learning Models using Medical Images for Disease Diagnosis</b>
9: 45 ~10: 30	Prof. Myung Hoon Sunwoo, Ajou University, Korea
	<b>Coffee Break</b>

### Wednesday, October 23, 10: 45– 12: 15

Wednesday, October 23, 10: 45–12: 15 Grand Ball Room  
**Keynote Session K2** Sheraton Zhuhai Hotel 1<sup>st</sup> Floor  
**Session Chair:** Prof. Cor Claeys, Proximus, Belgium

<b>K2-1</b>	<b>Piezotronics of the third- and fourth-generation semiconductors</b>
10: 45 ~11: 30	Prof. Zhong Lin Wang, Georgia Institute of Technology, USA
<b>K2-2</b>	<b>Atomic Layer Processing: Its Evolution, Diverse Applications, and Future Prospects</b>
11: 30 ~12: 15	Prof. Fred Roozeboom, University of Twente, The Netherlands

**Wednesday, October 23, 13: 30 – 17: 15**

Wednesday, October 23, 13: 30 – 17: 15

Meeting Room 1

**Special Session: the Future of AI**Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor**Session Chair:** Prof. Jianguo Yang, Zhangjiang Laboratory, China

	<b>Title</b>
<b>SS-1</b>	<b>Transforming AI: The Impact of Computing-in-Memory on Future Technologies</b>
13:30 ~14:00	Tony Tae-Hyoung Kim ( <i>Nanyang Technological University, Singapore</i> )
<b>SS-2</b>	<b>Ultra-low power multi-core hardware accelerators for AI on Edge</b>
14:00 ~14:30	Do Anh Tuan ( <i>A*STAR, Singapore</i> )
<b>SS-3</b>	<b>Large language Model on Chip</b>
14:30 ~15:00	Hao Yu ( <i>Southern University of Science and Technology, China</i> )
<b>SS-4</b>	<b>Progress and Challenges of Multi-physics Simulation EDA for Chiplet Packaging</b>
15:00 ~15:30	Wenliang Dai ( <i>Xpedic Corp., China</i> )
	Coffee Break
<b>SS-5</b>	<b>Emerging Non-volatile and Non-volatile/Volatile Fused Computing-in-memory Macros for Edge Inference and Learning</b>
15:45 ~16:15	Chunmeng Dou ( <i>University of Chinese Academy of Sciences, China</i> )
<b>SS-6</b>	<b>0459: Memristor Crossbar's Design Technology for Improving PPA (Power-Performance-Area) of Neural Networks</b>
16:15 ~16:45	Kyeong-Sik Min ( <i>Kookmin University, Korea</i> )
<b>SS-7</b>	<b>0462: Reliability of Memristor-based Neuromorphic Computing System</b>
16:45 ~17:15	Michiko Inoue ( <i>Nara Institute of Science and Technology, Japan</i> )

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

Meeting Room 2

**Session B1: Analog Circuit I**Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor**Session Chair:** Prof. Wenning Jiang, Fudan University, China

	Title
<b>B1-1</b>	<b>0014: Design and Verification of Low-Temperature-Drift and Capacitor-Less LDO Based on 110nm Technology (invited)</b>
13:30 ~14:00	Yonggang Fu, Anping He, Zhaobin Wang ( <i>Lanzhou University, China</i> )
<b>B1-2</b>	<b>0056: A Self-adaptive Gamma Voltage Regulation Circuit for AMOLED Displays</b>
14:00 ~14:15	Zhifeng Mao, Fei Gou, Bin Sheng, Jing Xie, Wenwei Xu, Wei Liu, Jun Xu ( <i>Glenfly Tech Co., Ltd., China; Tsinghua University, China</i> )
<b>B1-3</b>	<b>0131: A Reconfigurable Thermoelectric Energy Harvesting Interface Based on OPDC and DSCT</b>
14:15 ~14:30	Peiyuan Fu, Jiabin Wang, Xufeng Liao, Lianxi Liu ( <i>Xidian University, China; Xidian University Chongqing ICs Innovation Institute, China</i> )
<b>B1-4</b>	<b>0325: A Fixed-Peak-Current Single-Inductor-MultipleOutput DC-DC Converter Achieving 92.6% Peak Efficiency</b>
14:30 ~14:45	Fei Liu, Langyuan Wang, Shuyu Zhang, Hanlu Zhang, Na Yan ( <i>Fudan University, China; Common Mode (GONGMO) Semiconductor Co., Ltd., China</i> )
<b>B1-5</b>	<b>0211: Buck-Boost Converter with Stable Transition Mode for Low Average Inductor Current</b>
14:45 ~15:00	Ningning Li, Yibo Zhang, Yushen Zhang, Yizhe Yang, Wenhao Yang, Yimeng Zhang, Yuming Zhang ( <i>Xidian University, China</i> )

Wednesday, October 23, 13: 30 – 15: 15	Meeting Room 3
<b>Session C1: EDA I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Qi Wang, Zhuhai Fudan Innovation Institute, China	

	Title
<b>C1-1</b>	<b>0281: Deep Learning Design-Flow with Static and Dynamic Optimizations (invited)</b>
13:30 ~14:00	Zhiqiang Que, Jose G. F. Coutinho, Wayne Luk ( <i>Imperial College London, UK</i> )
<b>C1-2</b>	<b>0476:A New Era for Ai Processor Design Methodology with High Level Synthesis (invited)</b>
14:00 ~14:30	Yuan Li, Jing Li ( <i>XDL Technologies Inc., China</i> )
<b>C1-3</b>	<b>0270: A QEMU-Based Virtual Platform of MPSoC</b>
14:30 ~14:45	Liangquan Qiao, Lei Li, Xingyu Gao, Jinxiang Wang, Fangfa Fu, Keli Long, Jinghan Zhou ( <i>Harbin Institute of Technology, China; 58th Research Institute of China Electronics Technology Group Corporation, China</i> )

<b>C1-4</b>	<b>0193: A Parallel Harmonic Balance Method Based on GPU for Efficient Periodic Steady-State Analysis</b>
14:45 ~15:00	Zhengzhuo Wang, Yanliang Sha, Lingyun Ouyang, Quan Chen, Jianguo Hu ( <i>Sun Yat-sen University, China; Southern University of Science and Technology, China</i> )
<b>C1-5</b>	<b>0245: Efficient Dynamic Memory Management for High Bandwidth Memory on FPGA</b>
15:00 ~15:15	Yuwei Qu, Yiqing Mao, Wenbo Yin, Lingli Wang ( <i>Fudan University, China</i> )

Wednesday, October 23, 13: 30 – 15: 15	Meeting Room 4
<b>Session D1: Novel Device I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhengji Xu, Sun Yat-sen University, China	

	<b>Title</b>
<b>D1-1</b>	<b>0312: Back End of Line (BEOL) Devices Using IGZO and P-type Oxides(Invited)</b>
13:30 ~14:00	John Robertson, Xuwei Zhang, Qingzhong Gui, Yuzheng Guo ( <i>Cambridge University, UK; Wuhan University, China</i> )
<b>D1-2</b>	<b>0478: Miniaturization of High-speed GaN Based Laser Diodes(Invited)</b>
14:00 ~14:30	Junfei Wang, Chaowen Guan, Leihao Sun, Zhichong Wang, Chao Shen ( <i>Fudan University, China</i> )
<b>D1-3</b>	<b>0122: Impact of Interfacial Layer on the Optoelectronic Performance of MoTe<sub>2</sub>/Ge Heterojunction</b>
14:30 ~14:45	Wenyu Lei, Xiaokun Wen, Boyuan Di, Xinyue Xu, Haixin Chang, Wenfeng Zhang ( <i>Huazhong University of Science and Technology, China</i> )
<b>D1-4</b>	<b>0098: MoS<sub>2</sub>-WS<sub>2</sub> Heterostructure-enabled Optoelectronic Synaptic Diode</b>
14:45 ~15:00	Mingjie Li, Yingtao Ding, Jianzhi Hu, Hankun Zhao, Yilin Sun ( <i>Beijing Institute of Technology, China</i> )
<b>D1-5</b>	<b>0472: Pseudo-Parallel Symmetrical and Crossed Perovskite Solar Cells for Bifacial Applications</b>
15:00 ~15:15	Guang-Wei Huang, Hsing-Mao Cheng, Jyi-Tsong Lin ( <i>Sun Yat-Sen University, Taiwan, China</i> )

Wednesday, October 23, 13: 30 – 15: 15	Meeting Room 5
<b>Session E1: Power Device I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Mikael Östling, KTH Royal Institute of Technology, Sweden	

	Title
<b>E1-1</b>	<b>0282: Gate Driver ICs for Wide Bandgap Power Transistors (invited)</b>
13:30 ~14:00	Wai Tung Ng, Rophina Li, Wentao Cui, Jingyuan Liang ( <i>University of Toronto, Canada</i> )
<b>E1-2</b>	<b>0291: Suppression of Back-Gating Effect by Integrated Substrate Termination Network for 200V Monolithic GaN Half-Bridge Power IC</b>
14:00 ~14:15	Mengyao Zhao, Yifei Zheng, Yanfeng Ma, Yuan Sun, Denggui Wang, Chuanqi Pan, Jianjun Zhou, Sheng Li, Siyang Liu, Long Zhang, Weifeng Sun ( <i>Southeast University, China</i> )
<b>E1-3</b>	<b>0326: High Short-Circuit Capability and Low-Loss SOI-LIGBT with Double-Integrated NMOS</b>
14:15 ~14:30	Jialei Tan, Jie Wei, Jinlong Lu, Xindi Liu, Gaoqiang Deng, Wei Song, Pei Guo, Bo Zhang, Xiaorong Luo ( <i>University of Electronic Science and Technology of China, China; Chengdu University of Information Technology, China</i> )
<b>E1-4</b>	<b>0328: Body Diode Degradation Mechanism Of 1200V SIC Power MOSFETs Under Gamma Rays Total Ionizing Dose Irradiation</b>
14:30 ~14:45	Yu Tian, Zhaoxu Song, Hao Fu, Jiaying Wei, Siyang Liu, Weifeng Sun ( <i>Southeast University, China</i> )
<b>E1-5</b>	<b>0361: Novel Heterojunction Field Plate <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> MOSFET with High Breakdown Voltage</b>
14:45 ~15:00	Xiangnan Li, Jie Wei, Kai Zhao, Linyao Hao, Xiaosong Peng, Yuxi Wei, Renkuan Liu, Wei Song, Pei Guo, Xiaorong Luo ( <i>University of Electronic Science and Technology of China, China; Chengdu University of Information Technology, China</i> )

Wednesday, October 23, 13: 30 – 15: 15	Meeting Room 6
<b>Session F1: Memory Device I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Jian Huang, Sun Yat-sen University, China	

	Title
<b>F1-1</b>	<b>0010: Sub-nanosecond Operation Speeds of Ferroelectric Domain Wall Memory (Invited)</b>
13:30 ~14:00	Anquan Jiang ( <i>Fudan University, China</i> )
<b>F1-2</b>	<b>0096: Optimizing Flash Memory Towards Storage-Class Memory (SCM) Applications (Invited)</b>
14:00 ~14:30	Xinyi Guo, Yang Feng, Jing Liu, Junyu Zhang, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen ( <i>Shandong University, China; Institute of Microelectronics of Chinese Academy</i> )

	<i>of Sciences, China; Neumem Co., Ltd, China)</i>
<b>F1-3</b>	<b>0020: Investigation of Reliability Characteristics of Hf<sub>x</sub>Zr<sub>1-x</sub>O<sub>2</sub>-Based FeFET and AFeFET Non-Volatile Memory</b>
14:30 ~14:45	Min Liao, Xianzhou Shao, Junshuai Chai, Xiaoqing Sun, Xiaoyu Ke, Hao Xu, Jinjuan Xiang, Xiaolei Wang, and Wenwu Wang ( <i>Institute of Microelectronics, Chinese Academy of Sciences, China; Beijing Superstring Academy of Memory Technology, China</i> )
<b>F1-4</b>	<b>0066: Deep Understanding of Charge Trapping Phenomenon in n-FeFET and Endurance Improvement by Interlayer Engineering</b>
14:45 ~15:00	Saifei Dai, Hao Xu, Fengbin Tian, Xianzhou Shao, Xiaoqing Sun, Junshuai Chai, Xiaolei Wang, Wenwu Wang ( <i>Institute of Microelectronics, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China</i> )
<b>F1-5</b>	<b>0407: An FPGA-based Dual-mode SSD for Device-side Performance Optimization</b>
15:00 ~15:15	Xingyu Chen, Sirui Peng, Hankun Lv, Zhangbin Yang, Daixiao Peng, Xi Cai, Xueguang Lian, Yong Ding, Xiaoyong Xue ( <i>Fudan University, China; University of Chinese Academy of Sciences, China; Institute of Electrical Engineering, Chinese Academy of Sciences, China; China Three Gorges Construction Engineering Corporation, China; Zhejiang University, China</i> )

### Wednesday, October 23, 15: 30-17: 15

Wednesday, October 23, 15: 30-17: 15	Meeting Room 2
<b>Session B2: Analog Circuit II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Wenning Jiang, Fudan University, China	

	Title
<b>B2-1</b>	<b>0152: Dual-Loop Reference-less CDR with HLD for Wide Lock-in Range (invited)</b>
15:30 ~16:00	Chua-Chin Wang ( <i>Sun Yat-Sen University, Taiwan, China</i> )
<b>B2-2</b>	<b>0089: A SET Sensitive Model of LC and Ring Voltage Controlled Oscillator in FinFET Technology</b>
16:00 ~16:15	Liu Heyuan, Yuan Hengzhou, Lu Jianzhuang, Chen Xiaowen, Sang Hao, Liu Jingtian, Guo Yang ( <i>National University of Defense Technology, China; Academy of Military Sciences PLA China, China</i> )
<b>B2-3</b>	<b>0093: A Low Spur Wideband PLL in 65nm CMOS</b>
16:15	Zijun Wang, Biao Li, Teng Wang, Hong Li, Ruiting Niu, Jinpeng Lin ( <i>Space Star</i> )



~16:30	<i>Technology Limited Corporation, China)</i>
<b>B2-4</b>	<b>0217: A Low Power PLL Circuit with Signal 50% Duty Cycle Corrected in 180nm CMOS</b>
16:30 ~16:45	Bangtian Li, Xueke Li, Liying Chen, Chuantong Cheng ( <i>Tiangong University, China; Institute of Semiconductors, Chinese Academy of Sciences, China</i> )
<b>B2-5</b>	<b>0156: MTJ based Compensation for Charge Pump Temperature Drift</b>
16:45 ~17:00	Yongliang Zhou, Jingxue Zhong, Chengxing Dai, Yingxue Sun, Xin Li, Chunyu Peng ( <i>Anhui University, China; Anhui Anxin Electronic Technology Co., Ltd, China</i> )
<b>B2-6</b>	<b>0213: A 112-Gb/s Coherent Receiver with a Novel Modulation Format</b>
17:00 ~17:15	Tianyuan Zhong, Boyang Zhang, Weixin Gai ( <i>Peking University, China; Beijing Advanced Innovation Center for Integrated Circuits, China</i> )

Wednesday, October 23, 15: 30-17: 15	Meeting Room 3
<b>Session C2: EDA II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Qi Wang, Zhuhai Fudan Innovation Institute, China	

	<b>Title</b>
<b>C2-1</b>	<b>0292:An Improved Clock-Aware Global Placement Algorithm (invited)</b>
15:30 ~15:55	Ziang Ge, Pingqiang Zhou ( <i>Shanghaitech University, China</i> )
<b>C2-2</b>	<b>0411: Analyzing Timing in Shorter Time: A Journey through Heterogeneous Parallelism for Static Timing Analysis (invited)</b>
15:55 ~16:20	Zizheng Guo, Yibo Lin, Runsheng Wang, Ru Huang ( <i>Peking University, China</i> )
<b>C2-3</b>	<b>0216: TBPART-b: An Effective Hypergraph Partitioning Algorithm Considering Topological Order Balance for Processor-based Hardware Emulation</b>
16:20 ~16:34	Jing Tang, Shunyang Bi, Hailong You ( <i>Xidian University, China</i> )
<b>C2-4</b>	<b>0068: FCE: A Fast CGRA Architecture Exploration Framework</b>
16:34 ~16:48	Sichao Chen, Yiqing Mao, Yuan Dai, Xuchen Gao, Wai-Shing Luk, Wenbo Yin, Lingli Wang ( <i>Fudan University, China</i> )
<b>C2-5</b>	<b>0179: Research on Parametric Subthreshold Cell Delay Modeling Based on ANN</b>
16:48 ~17:02	Xuelian Zhang, Yuping Wu, Zhiqiang Li, Donglin Liu, Shushan Qiao ( <i>Institute of Microelectronics of Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China</i> )
<b>C2-6</b>	<b>0393: A High-Performance Routing Architecture with 16 LUTs per CLB for</b>

	<b>Nanoscale FPGAs</b>
17:02 ~17:15	Sijing Yang, Jide Zhang, Hao Zhou, Lingli Wang ( <i>Fudan University, China</i> )

Wednesday, October 23, 15: 30-17: 15	Meeting Room 4
<b>Session D2: Novel Device II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhengji Xu, Sun Yat-sen University, China	

	Title
<b>D2-1</b>	<b>0450: Cryogenic and RF Modeling of On-Chip Passive Devices for Quantum Computer (Invited)</b>
15:30 ~16:00	Akira Tsuchiya ( <i>The University of Shiga University, Japan</i> )
<b>D2-2</b>	<b>0457: Ferroelectric Transistors Based on Two Dimensional Materials (Invited)</b>
16:00 ~16:30	Wenwu Li ( <i>Fudan university, China</i> )
<b>D2-3</b>	<b>0473: Comparison of Nanosheet and Fin Integration in Stacked Induced Tunnel Field-Effect Transistors</b>
16:30 ~16:45	Ruei-Cheng Tu, Chia-Yo Kuo, Jyi-Tsong Lin ( <i>Sun Yat-Sen University, Taiwan, China</i> )
<b>D2-4</b>	<b>0160: Nonlinear Contact Behavior in MoS<sub>2</sub> Field Effect Transistors at Cryogenic Temperature</b>
16:45 ~17:00	Shihab Ahammed, Mansun Chan ( <i>The Hong Kong University of Science and Technology, Hong Kong, China</i> )
<b>D2-5</b>	<b>0158: Experimental Verification of 1D Transport Model by Quantized Current Spectrum of Si JNT Device</b>
17:00 ~17:15	Zi-Meng Shang, Bo-Wei Wang, Wei-Hua Han ( <i>Institute of Semiconductors, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China</i> )

Wednesday, October 23, 15: 30-17: 15	Meeting Room 5
<b>Session E2: Power Device II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Mikael Östling, KTH Royal Institute of Technology, Sweden	

	Title
<b>E2-1</b>	<b>0401: Investigation of SiON Passivation for High Performance AlGaN/GaN HEMTs (invited)</b>
15:30 ~16:00	Difei Fan, Chenkai Deng, Jiming Zhang, Peiran Wang, Nick Tao, Qing Wang, Hongyu Yu ( <i>Southern University of Science and Technology, China; Maxscend</i> )

	<i>Microelectronics Company Limited, China)</i>
<b>E2-2</b>	<b>0009: 180nm BCD Technology Platform with 8V to 65V Isolated LDMOS</b>
16:00 ~16:15	Qi Ding, Renxiong Li, Ning Ning, Jun Huang, Yutuo Guo, Yu Wang, Kunqin He, Yaxin Li, Huaishan Wang, Juan Tang, Qiuyue Huo, Minghong Yuan, Pan Peng, Ming Qiao, Lulu Peng, Bo Zhang ( <i>United Microelectronics Center Co., Ltd, China; University of Electronic Science and Technology of China, China;</i> )
<b>E2-3</b>	<b>0200: A Novel Insulated Gate-Triggered Thyristor with Integrated Super-Clamp Gate Transient Voltage Suppressor for Ultrahigh di/dt Pulse Switching</b>
16:15 ~16:30	Shiyu Deng, Yuxiao Yang, Xinqi Sun, Pengwei Zhou, Ruize Sun, Chao Liu, Wanjun Chen, Bo Zhang ( <i>University of Electronic Science and Technology of China, China)</i>
<b>E2-4</b>	<b>0210: Device Instability in the Third Quadrant of Schottky-Type p-GaN Gate HEMTs: The Hole Defficiency &amp; Trapping Effect</b>
16:30 ~16:45	Kuangli Chen, Shuting Huang, Jinggui Zhou, Ning Yang, Jianggen Zhu, Enchuan Duan, Bo Zhang, Qi Zhou ( <i>University of Electronic Science and Technology of China (UESTC), China)</i>
<b>E2-5</b>	<b>0236: Static Characteristic Recovery Of SiC MOSFETs Induced By Dynamic Gate Stress After Total Ionizing Dose Irradiation</b>
16:45 ~17:00	Jiahao Hu, Xiaochuan Deng, Xing Zeng, Tao Xu, Haibo Wu, Xuan Li, Bo Zhang ( <i>University of Electronic Science and Technology of China, China)</i>

Wednesday, October 23, 15: 30-17: 15	Meeting Room 6
<b>Session F2: Memory Device II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Jian Huang, Sun Yat-sen University, China	

	<b>Title</b>
<b>F2-1</b>	<b>0141: A Simulation Comparison of Channel-All-Around and Gate-All-Around 3D Vertical Structure FeFET with IGZO Channel</b>
15:30 ~15:45	Xuebin Wang, Zhijian Guo, Yutao Li, Chengji Jin, Jixuan Wu, Guanhua Yang, Yuanxiao Ma, Masaharu Kobayashi, Fei Mo, Yeliang Wang ( <i>Beijing Institute of Technology, China; The University of Tokyo, Japan; Institute of Microelectronics, Chinese Academy of Sciences, China; Shandong University, China; Xidian University, China)</i>
<b>F2-2</b>	<b>0174: Low Operating Voltage in HfO<sub>2</sub>/ZrO<sub>2</sub> Superlattice Ferroelectric Capacitor Achieved by Thickness Scaling</b>
15:45 ~16:00	Dongya Li, Huan Liu, Peiyuan Du, Fei Yu, Chengji Jin, Xiao Yu, Yan Liu, Genquan Han, Yue Hao ( <i>Xidian University, China; Zhejiang Lab, China; Hangzhou Institute of Technology, Xidian University, China)</i>
<b>F2-3</b>	<b>0257: Co-optimization of Oxide Semiconductor-based Ferroelectric Transistors</b>

	<b>Between Electrical Performance and Ambient Stability By Using TiO<sub>2</sub>-IGZO Dual-Channel Layers</b>
16:00 ~16:15	Shangze Li, Xujin Song, Dijiang Sun, Xiaoyan Liu, Jinfeng Kang ( <i>Peking University, China</i> )
<b>F2-4</b>	<b>0340: Enhancing Computational Precision in PLRAM-based In-memory Computing with High-Low Bit Concatenation</b>
16:15 ~16:30	Saike Zhu, Xiang Qiu, Yong Gong, Cimang Lu, Yi Zhao ( <i>Zhejiang University, China; China Nanhu Academy of Electronics and Information Technology, China; East China Normal University, China; Flash Billion Semiconductor Co. Ltd., China</i> )
<b>F2-5</b>	<b>0062: FeFET based Logic-in-Memory Pipeline-Style Circuits</b>
16:30 ~16:45	Yang Li, Zhaohui Yang, Yinshui Xia ( <i>Ningbo University, China</i> )
<b>F2-6</b>	<b>0172: Study of V<sub>T</sub> Degradation Mechanism in FeFET with TiN/Al<sub>2</sub>O<sub>3</sub>/HfO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>/Hf<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub>/SiO<sub>x</sub>/Si Structure</b>
16:45 ~17:00	Runhao Han, Jia Yang, Tao Hu, Mingkai Bai, Yajing Ding, Xianzhou Shao, Saifei Dai, Xiaoqing Sun, Junshuai Chai, Hao Xu, Kai Han, Xiaolei Wang, Wenwu Wang, Tianchun Ye ( <i>Institute of Microelectronics, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China; Weifang University, China</i> )
<b>F2-7</b>	<b>0189: Random Number Generation from 3D-NAND Flash Memory Using Shallow Charge Trap Related Short-Term Retention Errors</b>
17:00 ~17:15	Ruibin Zhou, Jian Huang, Xianping Liu, Yuhan Wang, Xinrui Zhang, Yungen Peng, and Zhiyi Yu ( <i>Sun Yat-sen University, China; Peng Cheng Laboratory, China</i> )

### Wednesday, October 23, 17: 30 – 18: 30

Wednesday, October 23, 17: 30 –18: 30

**Poster Session I**

Sheraton Zhuhai Hotel 1<sup>st</sup> Floor

	Title
<b>P1-1</b>	<b>0007: A Fast-Response Current Source with High Impedance for Zero-Crossing-Based Circuits</b>
	Ruoyu Li, Xianglong Wang, Jianqiang Xu, Yintang Yang ( <i>Xidian University, China</i> )
<b>P1-2</b>	<b>0028: Design of 12-bit Low-Power Single-Slope ADC with 2048 Columns for Infrared Focal Plane Array</b>
	Lixiang Han, Hao Li, Yihui Zhang, Liang Gao, Dongsheng Liu ( <i>Huazhong University of Science and Technology, China; Hubei Optics Valley Laborator, China;</i> )
<b>P1-3</b>	<b>0040: A Low Power Narrow-Band Complex-Bandpass Filter Based on</b>

	<b>Feedforward Compensation Amplifiers for NB-IoT Applications</b>
	Xu Zhao, Ziqiang Wang, Jie Gan ( <i>Beijing Smart-chip Microelectronics Technology Co.,Ltd, China; Tsinghua University, China</i> )
<b>P1-4</b>	<b>0069: A 12V to 1V Tri-state DSD Hybrid Converter by Self-Balanced Dual Flying Capacitors with 0.3mV Output Ripple and 90.09% Peak Efficiency</b>
	Yixing Wang, Qianhui Liu, Yuhua Chen, Yizhe Yang, Yimeng Zhang, Yuming Zhang ( <i>Xidian University, China;</i> )
<b>P1-5</b>	<b>0077: A Multi-Phase Clock Self-Calibrating Circuit</b>
	Zhihuai Li, Li Jiang, Xueming Wei, Zilu Cai, Jiami Tang ( <i>Guilin University of Electronic, China</i> )
<b>P1-6</b>	<b>0090: A 18V, 600mA Load Current, 22MHz High-Voltage Power Amplifier with Over-Temperature Protection and Bidirection Enable Logic</b>
	Yuan Ren, Xin'an Wang ( <i>Peking University, China</i> )
<b>P1-7</b>	<b>0153: A 10-MHz Four-Phase Hysteretic Control DC-DC Converter with Inductor Current Self-balancing</b>
	Yushen Zhang, Yibo Zhang, Yizhe Yang, Ningning Li, Wenhao Yang, Yimeng Zhang, Yuming Zhang ( <i>Xidian University, China</i> )
<b>P1-8</b>	<b>0227: A High Precision -40 °C to 150 °C Bandgap Reference with Dual Temperature Compensation</b>
	Yuhan Zhang, Jianzheng Li, Xiaomeng An, Lina Wang, Yajie Qin ( <i>Fudan University, China</i> )
<b>P1-9</b>	<b>0241: A Biphasic Neural Stimulator with Adaptive Pulse-Width Modulation Charge Balancer</b>
	Hailong Tang, Wenxian Gu, Yifan Song, Hengchang Bi, Xing Wu, Liangjian Lyu ( <i>East China Normal University, China</i> )
<b>P1-10</b>	<b>0250: A PPG Analog Front-End With PVT-Insensitive High-Pass Frequency</b>
	Zhaofeng Huang, Zepeng Huang, Hengchang Bi, Xing Wu, Liangjian Lyu ( <i>East China Normal University, China</i> )
<b>P1-11</b>	<b>0330: A Fully integrated FVF based low-noise voltage buffer for ADC reference</b>
	Ikhwan Kim, Yajie Qin ( <i>Fudan University, China</i> )
<b>P1-12</b>	<b>0387: A Resistor-Free Grounded High-Frequency Memristor Emulator</b>
	Xinying Su, Bingjun Xiong, Junjie Yu and Jingjing Liu ( <i>Sun Yat-Sen University, China</i> )
<b>P1-13</b>	<b>0027: An Ultra-Low-Leakage Current Sensing Interface for Wide Temperature Range</b>

	Jinsheng Tang, Chun Zhao, Lin He ( <i>Nanjing University of Posts and Telecommunications, China</i> )
<b>P1-14</b>	<b>0029: A Global Threshold Voltage Finder Technology for the Readout Circuit of Event-based Vision Sensor</b>
	Yanwen Su, Hao Li, Dongsheng Liu, Ang Hu, Kaiyue Li ( <i>Huazhong University of Science and Technology, China; Hubei Optics Valley Laboratory, China</i> )
<b>P1-15</b>	<b>0107: A Residue Amplifier With 72.27 dB Loop-Gain and 4.64 GHz Closed Loop Bandwidth consuming 6.4 mW for 12-Bit 1-Gsps Pipelined ADC</b>
	Jiangbo Wei, Jin Liu, Wei Tian, Chao Wang, Maliang Liu ( <i>Xi'an Microelectronics Technology Institute, China; Xidian University, China</i> )
<b>P1-16</b>	<b>0124: A 180 mV–1.6 V Thermoelectric Energy Harvesting Converter with Low-Voltage Cold Start and Less than 1 <math>\mu</math>W Power Loss</b>
	Chunlin Wang, Anzhi Yan, Tianyu Guo, Peng Wan, Houfang Liu, Yi Yang, Tianling Ren ( <i>Tsinghua University, China</i> )
<b>P1-17</b>	<b>0150: A Signal Conditioning ASIC With High Precision and Low Noise for MEMS Accelerometers</b>
	Quan Sun, Rui Liu, Zhe Zheng, Lei Dong, Ji-jiang Wang ( <i>Xi'an Aerosemi Technology Co., Ltd., China; Beijing Smart-chip Microelectronics Technology Co., China</i> )
<b>P1-18</b>	<b>0185: Design of a high-precision self-calibration readout circuit for CMOS microbolometer</b>
	Qianhao Zhang, Jie Liu, Sheng Xu, Yiming Liao, Feng Yan, Xiaoli Ji ( <i>Nanjing University, China; Nanjing University of Science and Technology, China</i> )
<b>P1-19</b>	<b>0297: A High-precision Current Detection Circuit for Battery Management System</b>
	Yue Shi, Shi-dong Wang, Zekun Zhou, Bo Zhang, Zhigang Qin ( <i>University of Electronic Science and Technology of China, China; Chengdu University of Information Technology, China; Saitama Institute of Technology, Japan</i> )
<b>P1-20</b>	<b>0327: A High-Voltage Smooth Self-Starting Reference Current Source Circuit</b>
	Dongyan Zhao, Jie Pa, Chenghao Zhang, Yidong Yuan, Yi Hu, Hongwei Shen, Zekun Zhou, Member, IEEE ( <i>Beijing Smart-chip Microelectronics Technology Co., Ltd., China; University of Electronic Science and Technology of China, China</i> )
<b>P1-21</b>	<b>0276: A Temporal and Spatial Reuse Interpolation Hardware for VVC Motion Compensation</b>
	Huanxiang He, Shushi Chen, Leilei Huang, Yibo Fan ( <i>Fudan University, China</i> )
<b>P1-22</b>	<b>0293: A Broadband Digital Beamforming Method Based on FPGA</b>
	Yiwen Tang, Guowen Jia, Zhen Zhang and Yue Zhang ( <i>Sun Yat-Sen University, China</i> )

<b>P1-23</b>	<b>0305: Conditional cycle termination RANSAC</b>
	Tong Jiang, Yujie Huang, Liyuan Peng, Mingyu Wang, Wenhong Li, Minge Jing, Xiaoyang Zeng ( <i>Fudan University, China; Shanghai ExploreX Technology Co., Ltd., China</i> )
<b>P1-24</b>	<b>0371: A multi-resolution propagation algorithm and pixel grouping storage strategy for PatchMatch Stereo</b>
	Kai Liu, Zhenyu Zhang, Haiwei Wang, Leilei Huang, Chunqi Shi, Long Xu, Runxi Zhang ( <i>East China Normal University, China</i> )
<b>P1-25</b>	<b>0378: An XOR Arbiter PUF based on the IGZO TFT Devices</b>
	Xiang Chen, Yongliang Chen, Xiaole Cui ( <i>Peking University Shenzhen Graduate School, China</i> )
<b>P1-26</b>	<b>0052: Design and Implementation of Hierarchical Storage Structure for MCCSIP-RAA</b>
	Longmei Nan, Yu Jin, Yiran Du, Tao Chen, Yanjiang Liu, Wei Li ( <i>Institute of Information Science and Technology, China</i> )
<b>P1-27</b>	<b>0242: A Highly Scalable Hardware HEVC Encoder Based on FPGA</b>
	Guohao Xu, Chenlong He, Shiyang Yi, Leilei Huang, Xiaoyang Zeng, Yibo Fan ( <i>Fudan University, China; East China Normal University, China</i> )
<b>P1-28</b>	<b>0259: A Hardware-friendly Fast Block Partition Decision Algorithm Based on Histogram of Oriented Gradient for AV1</b>
	Guohao Xu, Shiyang Yi, Zhijian Hao, Leilei Huang, Hao Zhang, Xiaoyang Zeng, Yibo Fan ( <i>Fudan University, China; East China Normal University, China</i> )
<b>P1-30</b>	<b>0391: A High-Performance MTJ-LUT Circuit Using 4T1M Architecture</b>
	Yu Pan, Yuejun Zhang, Shuaicheng Guo, Yuanxin Tian, Bo Hong, Rui Fang, Liang Wen ( <i>Ningbo University, China; China Coast Guard Academy, China</i> )
<b>P1-31</b>	<b>0261: Optimizing Communication Efficiency of GNN Inference in Distributed System</b>
	Wenqian Zhou, Qiaosha Zou ( <i>Fudan University, China; Zhejiang Lab, China</i> )
<b>P1-32</b>	<b>0295: SST: Simplified Space-Time Transformer based on Time-assisted Spatial MSA for 3D Human Pose Estimation</b>
	Sheng Lu, Qiyun Dong, Zhenyin Zhang, Gengsheng Chen, Yinna Zhu, Wei Xu ( <i>Fudan University, China; Jiashan Fudan Institute, China</i> )
<b>P1-33</b>	<b>0173: SALTS: An Efficient and Flexible Self-Attention Accelerator with Long Token Support on FPGA</b>
	Kaiqi Chen, Xinhua Shi, Jun Han ( <i>Fudan University, China</i> )

<b>P1-34</b>	<b>0222: RISC-V Neural Network Instruction Design and Simulation with Cache Scheduling via ROCC Interface</b>
	Siyao Dai, Zikang Zhou, Jun Han ( <i>Fudan University, China</i> )
<b>P1-35</b>	<b>0226: Impact of external magnetic interference on the performance of MRAM-based neuromorphic computing</b>
	Yingtong He, Suihuan An, Yu Chen, Xue Zhou, Xihui Yuan, Weidong Zhang, Zheng Chai, Tai Min ( <i>Xi'an Jiaotong University, China; Liverpool John Moores University, UK</i> )
<b>P1-36</b>	<b>0375: A Hardware Accelerator for Image Super Resolution with Algorithm Lightweighting and Custom Fusion Engine</b>
	Menghan Li, Sheng Lu, Jun Han ( <i>Fudan University, China</i> )
<b>P1-37</b>	<b>0268: Hardware Implementation of High Speed Fault Tolerant Parallel Accelerator</b>
	Wenzhe Ma, Wenzhe Ma ( <i>Fudan University, China</i> )
<b>P1-38</b>	<b>0349: Composite Filter-based Bicubic Interpolation Method and FPGA Implementation</b>
	Li Zhang, Jingjing Liu, Yujie Zhu, Jianhua Zhang ( <i>Shanghai University, China</i> )
<b>P1-39</b>	<b>0157: MTJ based Temperature Tracking Read/Write Assist for High Speed SRAM Bitcell</b>
	Yongliang Zhou, Chengxing Dai, Jingxue Zhong, Yingxue Sun, Xin Li, Chunyu Peng ( <i>Anhui University, China; Anhui Anxin Electronic Technology Co., Ltd, China</i> )
<b>P1-40</b>	<b>0353: System-level Evaluation of AOS Gain Cell eDRAMs for Low-power Normally-off Computing</b>
	Long Chen, Yecheng Yang, Wei Li, and Shao Hao Wang ( <i>Fuzhou University, China</i> )
<b>P1-41</b>	<b>0024: A High Sigma Monte Carlo Analysis Solution Via Machine Learning for SRAM Margin Signoff</b>
	Amy Rao ( <i>EBA Center, China</i> )
<b>P1-42</b>	<b>0138: Enhanced Multi-bit Computation using CIM SRAM Technology</b>
	Ruiyong Zhao, Yibo Hu, Zhipeng Ren, Yizhe Yin, Jing Chen ( <i>Shanghai Institute of Microsystem and Information Technology, China</i> )
<b>P1-43</b>	<b>0045: A Compute-in-Memory Macro Based on Complementary 2T2C FeRAM Cell for BNNs</b>
	Jinyu Li, Mingzhang Xie, Shisheng Xiong ( <i>Fudan University, China; China Resources Microelectronics Co., Ltd., China</i> )



<b>P1-44</b>	<b>0057: A Novel High Speed Low Power Differential Circuit-Based FRAM Read Scheme</b>
	Qiuyu Tao, Jiabao Ye, Xuecheng Cui, Nan Jiang, Jiangtao Cao, Xibo Chen, Jiuren Zhou, Bing Chen, Genquan Han ( <i>Zhejiang University, China; Xidian University, China</i> )
<b>P1-45</b>	<b>0023: A 13-bit,1 MS/s Cyclic ADC, for high-speed CMOS Image sensor</b>
	Qi Lv, Rensheng Shen, Yu Cheng, Guoqiang Zhong, Yang Qu, Yuchun ( <i>Dalian University of Technology, China</i> )
<b>P1-46</b>	<b>0110: An Area-Efficient 16-bit Four-channel R-2R DAC Based on Switching On-resistance Adaptive Calibration Technique</b>
	Kejun Wu, Yuchen Liu, Yuhan Hu, Yu He, Zhen Yu, Ning Ning ( <i>University of Electronic Science and Technology of China, China</i> )
<b>P1-47</b>	<b>0215: A Background Calibration Method of Bandwidth Mismatch for Time-Interleaved ADCs Based on Neural Network</b>
	Tianqi Yang, Longsheng Wang, Xin Zhao, Shubin Liu, Dengquan Li, Zhangming Zhu ( <i>Xidian University, China</i> )
<b>P1-48</b>	<b>0352: A Second-Order Dual-Charge-Pump Passive Noise Shaping SAR ADC for Medical Implant Devices</b>
	Kangkang Sun, Xuanxin Ke, Haoning Sun, Yuchen Wang, Feng Yan, Jingjing Liu ( <i>Sun Yat-Sen University, China</i> )
<b>P1-49</b>	<b>0084: A 114.4-dB DR, 26-kHz BW Discrete-Time Incremental Zoom ADC</b>
	Yuanhong Ding, Longjiang Jia, Jian Mei, Lei Deng, Rui Yin ( <i>Fudan University,China; National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China</i> )
<b>P1-50</b>	<b>0087: A High-Resolution Low-Power Extended-Range Incremental <math>\Sigma\Delta</math> ADC For Battery Management System</b>
	Long Zhang, Quan Sun, Rui Liu, Zhe Zheng, Jingjing Zhang, Haitao Liu ( <i>Xi'an Arosemi Technology Company Ltd., China; Beijing Smart-Chip Microelectronics Technology Company Ltd., China</i> )
<b>P1-51</b>	<b>0155: An Infrared AFE Chip and System with Non Invasive Blood Glucose Detection Output</b>
	Bin Li, Jiyuan Guo, Chengzhen Xie, Jian Mei, Lei Deng, Rui Yin ( <i>Fudan University,China; National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China</i> )
<b>P1-52</b>	<b>0183: A 12-BIT 8GS/S TIME-INTERLEAVED PIPELINE-SAR ADC WITH CALIBRATION</b>
	Jie Pu, Jinda Yang, Jianwen Li, Rong Han, Xing Zhu, Lei Chen ( <i>Chengdu Sino Microelectronics Technology Co., Ltd., China</i> )

<b>P1-53</b>	<b>0238: An Ultra-High Frame Rate ROIC for Hyperspectral Detection</b>
	Angyang Li, Ningning Li, Jian Mei, Lei Deng, Rui Yin ( <i>National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China; Fudan University, China</i> )
<b>P1-54</b>	<b>0273: A Background Digital Calibration Method for DTCs Used in Digital PLL Employing Dual-Path DTC</b>
	Renxuan Li, Xiaoyu Shan, Li Wang, Ang Hu, Dongsheng Liu ( <i>Huazhong University of Science and Technology, China</i> )
<b>P1-55</b>	<b>0310: A High-Precision Sigma-Delta ADC for Battery Management System</b>
	Hao Xue, Liji Wu, Jing Hu, Zhiwei Li, Xiangmin Zhang ( <i>Heilongjiang University, China; Tsinghua University, China; Beijing National Research Center for Information Science and Technology, China</i> )
<b>P1-56</b>	<b>0413: Multi-Sampling Mode CDAC Design for a 12-bit 200MS/s Pipelined-SAR ADC</b>
	Tianyu Zhang, Fan Ye, Shunli Ma ( <i>Fudan University, China</i> )
<b>P1-57</b>	<b>0356: DSP-PUF: A Software PUF Based on Digital Signal Processor for IoT Security</b>
	Tengfei Yuan, Pengjun Wang, Yuejun Zhang, Mingze Ren, Shuang Hu ( <i>Ningbo University, China; Wenzhou University, China</i> )
<b>P1-58</b>	<b>0042: 0042: A Q/V Band 49.6-54.5GHz,3.53dB NF,45dB Gain,2.09° Phase Error,2-Way Phased-Array Receiver for Satellite Application</b>
	Congrui Li, Qi Zhao, Ruolan Chen, Shulan Chen, Yan Wang, Lei Zhang ( <i>Tsinghua University, China</i> )
<b>P1-59</b>	<b>0265: A Fractional-N SPLL Using Space-time Averaging and Phase Interpolator for Quantization Noise Reduction</b>
	Shengxiang Liu, Ke Sun, Chengyu Yang, Dongsheng Liu, Ang Hu ( <i>University of Science and Technology, China</i> )
<b>P1-60</b>	<b>0342: A 47 <math>\mu</math>W Wake-Up Receiver With -77dBm Sensitivity Using a Mixer-First Architecture</b>
	Weitao He, Yaxin Zeng, Bin Jia, Hao Min, Hao Xu, Na Yan ( <i>Fudan University, China; EPIC MEMS Corporation, China</i> )
<b>P1-61</b>	<b>0346: A Ka-Band CMOS Broadband Power Amplifier with 35.3% PAE for SATCOM Applications</b>
	Zhiqing Liu, Yu Chu, Yuting Sun ( <i>Southwest China Institute of Electronic Technology, China</i> )
<b>P1-62</b>	<b>0348: RF Front-End Chip Design for Ku-Band with 130nm CMOS Technology</b>

	Huiquan Xie, Ziyu Wang, Tianrui Wang, Yifei Chen, Maliang Liu, Yintang Yang <i>(Xidian University, China)</i>
<b>P1-63</b>	<b>0394: Back-gate Bias Assisting VCRO Design</b>
	Chenglin Ye, Zheng Zhou, Xiaoyan Liu <i>(Peking University, China)</i>
<b>P1-64</b>	<b>0034: A 3.2-to-7.1GHz Quad-Core Dual-Mode Oscillator Achieving 193.6 dBc/Hz Peak FoM</b>
	Xiaoyu Shan, Renxuan Li, Mengming Zhang, Ang Hu, Dongsheng Liu <i>(Huazhong University of Science and Technology, China)</i>
<b>P1-65</b>	<b>0301: A 20.6 to 30.5 GHz Two Stage Cascode LNA in 40nm CMOS for Phase Array Transceiver</b>
	Lei wang, Kefeng Han, Hao Xu, Rui Yin, Na Yan <i>(Fudan University, China; Jiashan Fudan Institute, China)</i>
<b>P1-66</b>	<b>0338: A 12-32 GHz Power Amplifier with 32-dBm Psat and 25% PAE in 0.15 <math>\mu</math> m GaN</b>
	Xiangran Ni, Chunyue Bo, Tianyu Li, Qingyang Dong, Xin Jiang, Weijun Luo <i>(University of Chinese Academy of Sciences, China; Institute of Microelectronics of Chinese Academy of Sciences, China)</i>
<b>P1-67</b>	<b>0427: A source-driven push-push doubler with wideband 2nd harmonic feedback</b>
	Yuyang Chen, Ao Zhang, Jianjun Gao, Jianjun Zhou <i>(Shanghai Jiao Tong University, China; Nantong University, China; East China Normal University, China)</i>
<b>P1-68</b>	<b>0367: Low Power Processor For IoT Device</b>
	Jincheng Li, Jiyuan Bai, Zelin Wang, GengSheng Chen, Xiaofang Zhou <i>(Fudan University, China; Jiashan Fudan Institute, China)</i>
<b>P1-69</b>	<b>0386: A Heterogeneous Integration System of Analog In Memory Computing and Field-Programmable Gate Array</b>
	Hua Chen, Yiming Qu, Wenhao Wu, Yi Zhao <i>(East China Normal University, China; China Nanhu Academy of Electronics and Information Technology, China; Zhejiang University, China)</i>

## Thursday

### Thursday, October 24, 9: 00 – 10: 30

Thursday, October 24, 9: 00 – 10: 30 Grand Ball Room  
**Keynote Session K3** Sheraton Zhuhai Hotel 1<sup>st</sup> Floor  
**Session Chair:** Prof. Francois Rivet, University of Bordeaux, France

<b>K3-1</b>	<b>Integrated Circuit Innovation in the Age of AI</b>
9: 00 ~ 9: 45	Prof. Boris Murmann, University of Hawaii, USA
<b>K3-2</b>	<b>On-Chip ESD Protection: Methodologies, Challenges and Perspectives</b>
9: 45 ~10: 30	Prof. Albert Wang, University of California, Riverside, USA
	<b>Coffee Break</b>

### Thursday, October 24, 10: 30 – 12: 15

Thursday, October 24, 10: 45 – 12: 15 Grand Ball Room  
**Panel Discussion** Sheraton Zhuhai Hotel 1<sup>st</sup> Floor  
**Opportunities and Challenges of Integrated Circuits in the AI Era**  
Wenliang Dai (*Xpeedic Corp., China*), Tony Tae-Hyoung Kim (*Nanyang Technological University, Singapore*), Xiaoyao Liang (*Shanghai Jiaotong University, China*), Do Anh Tuan (*A\*STAR, Singapore*), Hao Yu (*Southern University of Science and Technology, China*)  
**Session Chair:** Prof. Jianguo Yang, Zhangjiang Laboratory, China

## Thursday, October 24, 13: 30 – 15: 15

Thursday, October 24, 13: 30 – 15: 15

Meeting Room 1

**Session A1: AI Circuit**

Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor

**Session Chair:** Prof. Yan Li, Fudan University, China

	Title
<b>A1-1</b>	<b>0468: Towards Efficient Computing Architecture and Chip For Embodied AI (invited)</b>
13:30 ~14:00	Hongbin Sun ( <i>Xi'an Jiaotong University, China</i> )
<b>A1-2</b>	<b>0320: A High-Performance Multicore Testing Platform for Multi-Scenario Applications</b>
14:00 ~14:15	Zipeng Ling, Tianshu Zhuo, Zhuoyuan Yang, Jinhong Ye, JunHan, Jingtao Zhang ( <i>State Key Laboratory of Integrated Chips and Systems, China; ZTE Corporation, China</i> )
<b>A1-3</b>	<b>0317: S-SIFT: A Simple SIFT Algorithm with High Efficiency</b>
14:15 ~14:30	Yixue Wang, Yujie Huang, Liyuan Peng, Mingyu Wang, Wenhong Li, Minge Jing, Xiaoyang Zeng ( <i>Fudan University, China; Shanghai ExploreX Technology Co., Ltd., China</i> )
<b>A1-4</b>	<b>0345: Design of a High-Speed SAR Processor Based on the Chirp Scaling Algorithm</b>
14:30 ~14:45	Xianghe Cui, Yukun Song, Yurun Zhang, Jingyi Hu, Zhenmin Li, Duoli Zhang ( <i>Hefei University of Technology, China</i> )
<b>A1-5</b>	<b>0196: Accelerating Matrix-Vector Multiplications of Large Language Models via Efficient Encoding</b>
14:45 ~15:00	Yongjin Tao, Wendi Sun, Song Chen, Yi Kang ( <i>University of Science and Technology of China, China</i> )
<b>A1-6</b>	<b>0397: Flexible yet Efficient Transformer Acceleration with Unified Sparse Attention Support on FPGA</b>
15:00 ~15:15	Linfeng Zhong, Qingyu Guo, Runsheng Wang, Yuan Wang, Meng Li ( <i>Peking University, China</i> )

Thursday, October 24, 13: 30 – 15: 15

Meeting Room 2

**Session B3: Analog Circuit III**

Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor

**Session Chair:** Prof. Yubin Zhao, Sun Yat-sen University, China

	Title
<b>B3-1</b>	<b>0296: Beyond Bandwidth Trade-off: Simultaneous Wireless Power and</b>

	<b>Data Transfer System Design for Biomedical Implants (Invited)</b>
13:30 ~14:00	Quanrong Zhuang, Junyi Sun, Xusheng Zhang, Bo Li, Yi Shi, Hao Qiu ( <i>Nanjing University, China</i> )
<b>B3-2</b>	<b>0011: A High Precision Operational Amplifier with Improved Bias Current Cancellation Circuit</b>
14:00 ~14:15	Zhili Zhang, Siyuan Yao, Hailong Wei ( <i>Xi'an Microelectronics Technology Research Institute, China</i> )
<b>B3-3</b>	<b>0030: A 0.11-pJ/bit True Random Number Generator Based on a Clocked Current-Starved Inverter</b>
14:15 ~14:30	Kai Cheng, Chaowei Yang, Rui P. Martins, Pui-In Mak, Yong Chen ( <i>University of Macau, Macao, China; Universidade de Lisboa, Portugal; Tsinghua University, China</i> )
<b>B3-4</b>	<b>0256: A Super-Mixed Current Decay Mode for Reducing the Angular Position Error in Stepper Motor</b>
14:30 ~14:45	Jian Fang, XuruiChen, Huajie Liu, Yuhan Jin ( <i>University of Electronic Science and Technology of China, China</i> )
<b>B3-5</b>	<b>0065: A 109 dB 44-pA Arms Current Readout Circuit with Automatic Current Control for Multimodality Electrochemical Sensing</b>
14:45 ~15:00	Lina Wang, Jianzheng Li, Weiming Hu, Yajie Qin ( <i>Fudan University, China</i> )
<b>B3-6</b>	<b>0080: A Low Temperature Coefficient Bandgap Reference For Temperature Sensor System</b>
15:00 ~15:15	Longjiang Jia, Yuanhong Ding, Jian Mei, Lei Deng, Rui Yin ( <i>Fudan University, China; National Integrated Circuit Innovation Center, China; Jiashan Fudan Institute, China</i> )

Thursday, October 24, 13: 30 – 15: 15	Meeting Room 3
<b>Session C3: RF Circuit I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Gengzhen Qi, Sun Yat-sen University, China	

	<b>Title</b>
<b>C3-1</b>	<b>0075: High-Efficiency Power Amplifier Design for Bluetooth Low Energy Applications (invited)</b>
13:30 ~14:00	Bharatha Kumar Thangarasu, Li Shuai, Yu Hongshi, Ge Wansi, Liu Yuqing, Nagarajan Mahalingam, Meng Fanyi, Kaixue Ma, Juin J. Liou, Bo Wang, Younan Hua, Xiaomin Li, Lu Zhenghao, and Kiat Seng Yeo ( <i>Tianjin University, China; North Minzu University, China; Singapore University of Technology and Design, Singapore; Wintech Nano-Technology Services Pte Ltd, Singapore; Soochow University, China</i> )

<b>C3-2</b>	<b>0104: A 0.15-6.5GHz Stacked CMOS Power Amplifier With Low-Frequency Bandwidth Extension</b>
14:00 ~14:15	Shijiao Dong, Wei Li, Xingyu Ma, Fan Chen, Hongtao Xu ( <i>Fudan University, China</i> )
<b>C3-3</b>	<b>0269: A 2-to-2.7GHz Class-G Switched-Capacitor PA with Cascode Switch-Reused Structure Achieving 25.92dBm Peak Power and 42% Efficiency</b>
14:15 ~14:30	Jie Deng, Gengzhen Qi ( <i>Sun Yat-sen University, China</i> )
<b>C3-4</b>	<b>0294: A X-band High Linearity Tunable Bandpass Filter in 130nm CMOS</b>
14:30 ~14:45	Tianrui Wang, Ziyu Wang, Huiquan Xie, Yifei Chen, Haokun Lan, Maliang Liu, Yintang Yang ( <i>Xidian University, China</i> )
<b>C3-5</b>	<b>0302: Analysis of Polar and Quadrature Digital Transmitters for Wi-Fi7 Applications</b>
14:45 ~15:00	Lixuan Cao, Yun Yin ( <i>Fudan University, China</i> )

Thursday, October 24, 13: 30 – 15: 15	Meeting Room 4
<b>Session D3: Novel Device III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Mansun Chan, The Hong Kong University of Science and Technology, China	

	<b>Title</b>
<b>D3-1</b>	<b>0458:Low-Dimensional Materials Enabled Wearable Circuits With Multi-level Detection and Wireless Communication Modules (invited)</b>
13:30 ~14:00	Li Tao ( <i>Southeast University, China</i> )
<b>D3-2</b>	<b>0461: Memristive Circuits Based on Two-dimensional Layered Hexagonal Boron Nitride for Radiofrequency Applications (invited)</b>
14:00 ~14:30	Sebastian Pazos ( <i>King Abdullah University of Science and Technology, Saudi Arabia</i> )
<b>D3-3</b>	<b>0452: Two-dimensional Ferroelectricity: Polarization Modulation and New Device (Invited)</b>
14:30 ~15:00	Fucaai Liu ( <i>University of Electronic Science and Technology of China, China</i> )
<b>D3-4</b>	<b>0475: Impact of Gate Overlap Length Modulation on Electrical Characteristics and Subthreshold Swing in Nanosheet TFETs with Varying Tunneling Mechanisms</b>
15:00	Zheng-Hong Zhong, Wei-Heng Tai, Jyi-Tsong Lin ( <i>Sun Yat-Sen University, Taiwan,</i>

~15:15	<i>China)</i>

Thursday, October 24, 13: 30 – 15: 15	Meeting Room 5
<b>Session E3: Power Device III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Bo Zhang, University of Electronic Science and Technology of China (UESTC), China	

	Title
<b>E3-1</b>	<b>0255: The Status of WBG Devices Towards Net-Zero Solutions (invited)</b>
13:30 ~14:00	Mikael Östling ( <i>KTH Royal Institute of Technology, Sweden</i> )
<b>E3-2</b>	<b>0121: Impact of the Resistive Silicon Base Wafer on Substrate Coupling in Power Integrated Circuits in GaN-on-Si Technology</b>
14:00 ~14:15	Zijin Jiang, Rui (Ray) Yao, Miao Cui, Zhao Wang, Sang Lam, Stephen Taylor ( <i>Xi'an Jiaotong-Liverpool University, China; The University of Liverpool, UK</i> )
<b>E3-3</b>	<b>0128: A Novel Snapback-free Double-RESURF Reverse conducting LIGHT with Dual Conduction Paths</b>
14:15 ~14:30	Yun Xia, Yuxi Wan, Wei Zeng, Yu Shi, Xiaoping Wang, Wei Liu, Haizhao Zhi, Ziwei Zhou, Xixi Luo, Ruize Sun, Xiaoming Wang, Yan Wang, Wanjun Chen ( <i>Shenzhen Pinghu Laboratory, China; University of Electronic Science and Technology of China, China; Tsinghua University, China</i> )
<b>E3-4</b>	<b>0168: Comparison of SiC Planar and Trench Junction Barrier Schottky Diode With Surge Current Capability</b>
14:30 ~14:45	Ziming Zhao, Yancong Liu, Hao Yuan, Fengyu Du, Yu Zhou, Keyu Liu, Xiaoyan Tang, Qinwen Song, Yuming Zhang ( <i>Xidian University, China</i> )

Thursday, October 24, 13: 30 – 15: 15	Meeting Room 6
<b>Session F3: Memory Device III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Anquan Jiang, Fudan University, China	

	Title
<b>F3-1</b>	<b>0266: Simulation of Program/Erase Cycling and Retention Loss in 3-D CTF NAND Flash (invited)</b>
13:30 ~14:00	Anuj Kumar, Ravi Tiwari, Souvik Mahapatra ( <i>Indian Institute of Technology Bombay, India</i> )
<b>F3-2</b>	<b>0275: Switch-off Mechanisms in GeAsTe Ovonic Threshold Switching Selector Device (invited)</b>
14:00	Zeyu Hu, Zheng Chai, Weidong Zhang, Jianfu Zhang ( <i>Liverpool John Moores</i>



~14:30	<i>University, UK; Xi'an Jiaotong University, China)</i>
<b>F3-3</b>	<b>0334: Orthorhombic-I (Pbca) Phase: Origin of Antiferroelectricity in HfZrO Films (invited)</b>
14:30 ~15:00	Wei Liu, Zeping Weng, Jianguo Li, Wenchao Yan, Yiming Qu, Yi Zhao ( <i>Zhejiang University, China; East China Normal University, China)</i> )
<b>F3-4</b>	<b>0254: The Maximum Storage Capacity of Open-loop Written RRAM is Around 4 Bits</b>
15:00 ~15:15	Yongxiang Li, Shiqing Wang, Zhong Sun ( <i>Peking University, China)</i> )

### Thursday, October 24, 15: 30 – 17: 15

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 1 Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session A2: Security</b>	
<b>Session Chair: Prof. Yan Li, Fudan University, China</b>	

	Title
<b>A2-1</b>	<b>0469: Hardware Security Linking Everything: from Lightweight PUF to Post-Quantum Cryptography Hardware (invited)</b>
15:30 ~16:00	Yijun Cui, Jiang Li, Jiansheng Chen, Fei Lyu, Chenghua Wang, Weiqiang Liu ( <i>Nanjing University of Aeronautics and Astronautics, China)</i> )
<b>A2-2</b>	<b>0219: Backward-edge Control Flow Integrity based on Return Address Encryption</b>
16:00 ~16:15	Fengshuo Tian, Kaixuan Wang, Jun Han ( <i>Fudan University, China)</i> )
<b>A2-3</b>	<b>0239: Stability Enhancement Technique for Monostable PUF Based on Hysteresis Effect of Schmitt Trigger</b>
16:15 ~16:30	Ruize Xu, Gang Li, Pengjun Wang, Hui Li, Xudong Wu ( <i>Wenzhou University, China)</i> )
<b>A2-4</b>	<b>0355: A Reliable Current Starved Inverter PUF Based on SRAM Memory Structure</b>
16:30 ~16:45	Mingze Ren, Pengjun Wang, Yuejun Zhang, Shutong Zhang, Zhikang Chen, Tengfei Yuan ( <i>Ningbo University, China; Wenzhou University, China)</i> )
<b>A2-5</b>	<b>0354: An Efficient Convolutional Neural Network Hardware IP for Epilepsy Detection</b>
16:45 ~17:00	Yi Gong, Yuejun Zhang, Jiangtao Tu, Rongxin Zou, Liang Wen ( <i>Ningbo University, China)</i> )

<b>A2-6</b>	<b>0082: TLBshield: A Low-cost Secure Reinforce on Translation Lookaside Buffer to Mitigate the Speculative Attacks</b>
17:00 ~17:15	Yuyang Liu, Runye Ding, Yujie Chen, Pujin Xie, Yao Liu, Zhiyi Yu ( <i>Sun Yat-sen University, China</i> )

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 2
<b>Session B4: Mixed Signal I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Yubin Zhao, Sun Yat-sen University, China	

	<b>Title</b>
<b>B4-1</b>	<b>0038: Toward Unification of Digital Error Correction Algorithms for ADCs with Redundancy (invited)</b>
15:30 ~16:00	Haruo Kobayashi, Tomohiko Ogawa, Yutaro Kobayashi, Kentaroh Katoh, Jiangling Wei ( <i>Gunma University, Japan; Fukuoka University, Japan; Yibin University, China</i> )
<b>B4-2</b>	<b>0333: A Simplified and Accelerated Opportunistic Bit Weight Calibration for High-Resolution ADCs</b>
16:00 ~16:15	Bingbing Ma, Wei Li, Hongtao Xu ( <i>Fudan University, China</i> )
<b>B4-3</b>	<b>0350: A Digital Foreground Calibration Method for Pipeline SAR ADCs Using Extended Kalman Filter</b>
16:15 ~16:30	Dayan Zhou, Yuguo Xiang, Junyan Ren, Fan Ye ( <i>Fudan University, China</i> )
<b>B4-4</b>	<b>0154: Background Calibration for Bit Weights in Pipelined SAR ADCs Using Split ADC Architecture</b>
16:30 ~16:45	Zecheng Zhou, Longsheng Wang, Dongxian Ye, Yexin Zhu, Dengquan Li, Zhangming Zhu ( <i>Xidian University, China</i> )
<b>B4-5</b>	<b>0260: A 12-bit 1-MS/s SAR ADC Using <math>V_{cm}</math>-based Split MSB Switching and Segmented CDAC</b>
16:45 ~17:00	Zheng-Han Chen, Ya-Cong Zhang, Wen-Gao Lu, Zhong-Jian Chen ( <i>Peking University, China</i> )

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 3
<b>Session C4: Sensor and MEMS I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Luda Wang, Peking University, China	

	<b>Title</b>
<b>C4-1</b>	<b>0108: Atomically Thin Graphene Nanopore based MEMS Iontronic Devices for</b>

	<b>Sensing, Separation and Energy Applications (invited)</b>
15:30 ~16:00	Luda Wang, Ruiyang Song, Ningran Wu ( <i>Peking University, China</i> )
<b>C4-2</b>	<b>0132: Smart Vision Chip (invited)</b>
16:00 ~16:30	Liyuan Liu ( <i>Institute Of Semiconductors, Chinese Academy Of Sciences, China</i> )
<b>C4-3</b>	<b>0191: Systems-on-Chips for Invasive Brain-Computer Interfaces: Challenges and Opportunities (invited)</b>
16:30 ~17:00	Jie Yang, Mohamad Sawan ( <i>Westlake University, China</i> )
<b>C4-4</b>	<b>0410: Multi-physics Simulation and Application of Ion Gel Based Triboelectric Nanogenerators</b>
17:00 ~17:15	Chen Liu, Ruibo Wang, Ruiyi Gao, Yuming Zhang ( <i>Xidian University, China; Air Force Engineering University, China</i> )

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 4
<b>Session D4: Novel Device IV</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhigang Ji, Shanghai Jiaotong University, China	

	<b>Title</b>
<b>D4-1</b>	<b>0264: Recent Progress in the Development of Complementary Field-Effect Transistors (invited)</b>
15:30 ~15:57	Mansun Chan, Shengdong Zhang ( <i>The Hong Kong University of Science and Technology, Hong Kong, China; Peking University, China</i> )
<b>D4-2</b>	<b>0471: SC-CMOS: Revolutionizing Semiconductor Technology with High Electron Mobility Materials and Advanced Node Optimization (invited)</b>
15:57 ~16:24	Jyi-Tsong Lin ( <i>Sun Yat-Sen University, Taiwan, China</i> )
<b>D4-3</b>	<b>0074: Metal-Oxide Thin-Film Transistors for Artificial Neural Networks (invited)</b>
16:24 ~16:51	Yushen Hu, Tengteng Lei and Man Wong ( <i>The Hong Kong University of Science and Technology, Hong Kong, China</i> )
<b>D4-4</b>	<b>0203: Cryogenic Threshold Voltage and On-current Variability Analysis of GAA Nanosheet FETs at 4K</b>
16:51 ~17:03	Zihao Liu, Tomoko Mizutani, Kiyoshi Takeuchi, Takuya Saraya, Hiroshi Oka, Takahiro Mori, Masaharu Kobayashi1 , Toshiro Hiramoto ( <i>The University of Tokyo, Japan; National Institute of Advanced Industrial Science and Technology (AIST), Japan</i> )

<b>D4-5</b>	<b>0188: Reverse-Biased PN Junction Isolation for Leakage Suppression and Strain Enhancement in Gate-All Around Nanosheet FETs</b>
17:03 ~17:15	Boqian Shen, Chunlei Wu, Yumin Xu, Fei Zhao, Hanzhi Gu, Jian Ma, Yueyuan Yu, Yiming Xia, Qingqing Sun, David Wei Zhang ( <i>Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute, China</i> )

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 5
<b>Session E4: Power Device IV</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Bo Zhang, University of Electronic Science and Technology of China (UESTC), China	

	<b>Title</b>
<b>E4-1</b>	<b>0405: Comparative Study on Reliability of Conventional SiC MOSFET and JBS Integrated SiC MOSFET (invited)</b>
15:30 ~16:00	Moufu Kong, Shurui Li, Hongfei Deng, Bo Yi, Hongqiang Yang, Sen Gong ( <i>University of Electronic Science and Technology of China, China</i> )
<b>E4-2</b>	<b>0445: Study on Single Event Effect of SiC MOSFET by Proton Irradiation</b>
16:00 ~16:15	Wende Huang, Chengwen Fu, Yao Ma, Mingmin Huang , Xiaoping Dong, Qiang Yu ( <i>Sichuan University, China; Sichuan Suining Lippxin Microelectronics Co., Ltd, China</i> )
<b>E4-3</b>	<b>0341: Investigating Single-Event Burnout in 4H-SiC Inverters: Experiments and Simulations</b>
16:15 ~16:30	Yong Gu, Yurui Yang, Hongyang Wen, Xiangyu Hou, Runhua Huang, Ao Liu, Bai Song, Jie Ma, Siayang Liu, Long Zhang, Weifeng Sun ( <i>Southeast University, Nanjing China; Nanjing Electronic Device Institute, China</i> )

Thursday, October 24, 15: 30 – 17: 15	Meeting Room 6
<b>Session F4: Memory Device IV</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Anquan Jiang, Fudan University, China	

	<b>Title</b>
<b>F4-1</b>	<b>0335: Phase-Change Materials and Their Applications (invited)</b>
15:30 ~16:00	You Yin ( <i>Gunma University, Japan</i> )
<b>F4-2</b>	<b>0449: High-Density and High-Reliability RRAM for Memory and Computing Applications (invited)</b>
16:00 ~16:30	Yimao Cai, Xiahong Zhou, Zongwei Wang, Lin Bao, Ling Liang, Cuimei Wang, Ru Huang ( <i>Peking University, China</i> )

<b>F4-3</b>	<b>0343: Impact of Different MAC Schemes on Computing In Memory based on 1T1R Array</b>
16:30 ~16:45	Ruiqing Xie, Gaoqi Yang, Zongwei Wang, Linbo Shan, Jinshan Li, Chaoyi Ban, Lin Bao, Ling Liang, Cuimei Wang, Yimao Cai, Ru Huang ( <i>Peking University, China</i> )
<b>F4-4</b>	<b>0426: Investigation of Gate Injection Charges Behavior on FeFETs with TiN/Al<sub>2</sub>O<sub>3</sub>/Hf<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub>/SiON/Si Structure by Analyzing ISPP/ISPE</b>
16:45 ~17:00	Jia Yang, Runhao Han, Saifei Dai, Tao Hu, Xianzhou Shao, Kanyi Li, Wenbo Fan, Xiaoqing Sun, Junshuai Chai, Hao Xu, Kai Han, Xiaolei Wang, Wenwu Wang, Tianchun Ye ( <i>Key Laboratory of Fabrication Technologies for Integrated Circuits, Chinese Academy of Sciences, China; Institute of Microelectronics, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China; Weifang University, China</i> )

### Thursday, October 24, 17: 30 - 18: 30

Thursday, October 24, 17: 30 – 18: 30

**Poster Session II**

Sheraton Zhuhai Hotel 1<sup>st</sup> Floor

	Title
<b>P2-1</b>	<b>0071: Assembly of Oxidized/Intrinsic 2D MXene Film for Improved Absorption Electromagnetic Shielding</b>
	Yulin Guo, Siteng Li, Jiafeng Song, Yilin Sun, Zhifang Liu, Weijia Luo ( <i>Beijing Institute of Technology, China; Tsinghua University, China</i> )
<b>P2-2</b>	<b>0149: Semimetal Alloy Contact with Low Resistivity and Enhanced Thermal Budget for MoS<sub>2</sub> FETs</b>
	Kwok-Ho WONG, Mansun CHAN ( <i>The Hong Kong University of Science and Technology, Hong Kong, China</i> )
<b>P2-3</b>	<b>0243: Copper Ion Migration in van der Waals CuInP<sub>2</sub>S<sub>6</sub> Devices with Vertical and Lateral Structures</b>
	Jie Li, Yirong Guo, Pengying Chang ( <i>Beijing University of Technology, China</i> )
<b>P2-4</b>	<b>0382: Edge-Dependent of Threshold Voltage in MoS<sub>2</sub> Nanoribbon-Based 2D FETs</b>
	Zhirong Peng, Mansun Chan ( <i>The Hong Kong University of Science and Technology, Hong Kong, China</i> )
<b>P2-5</b>	<b>0438: Effect of Layer Thickness on the Transport Properties of ALD-deposited ZnO/In<sub>2</sub>O<sub>3</sub> Heterojunction Thin-film Transistors</b>
	Zhenwei Li, Tiaoyang Li ( <i>Fuzhou University, China</i> )
<b>P2-6</b>	<b>0417: Fundamentals of Low-Resistive Indium-Violet Phosphorene Top Contact: an ab-initio NEGF Study</b>

	Huaipeng Wang, Sicheng Liu, Shuaihong Li, Zhifang Liu, Yilin Sun, Jianlong Xu, Dan Xie ( <i>Tsinghua University, China; Beijing Institute of Technology, China; Soochow University, China</i> )
<b>P2-7</b>	<b>0095: Broadband Photodetectors Based on Graphene/Perovskite Hybrid Structure with Ferroelectric Gating</b>
	Zhongyang Liu, Shuangqi Dong, Mingjie Li, Huaipeng Wang, Dan Xie, Yilin Sun ( <i>Beijing Institute of Technology, China; Tsinghua University, China</i> )
<b>P2-8</b>	<b>0363: Interconnection Design of Chiplet Technology</b>
	Ning Chen, Chang Wu ( <i>Fudan University, China</i> )
<b>P2-9</b>	<b>0102: Effects and Modeling Study on FDSOI MOSFETs at Cryogenic Temperature</b>
	Zhipeng Ren, Yibo Hu, Yizhe Yin, Ruiyong Zhao, Jing Chen ( <i>Shanghai Institute of Microsystem and Information Technology, China</i> )
<b>P2-10</b>	<b>0247: Improved Channel Width and Morphology of Epi Silicon FinFET via Low Thermal Budgets Fin Thinning Technology</b>
	Peng Wang, Yupeng Lu, Guanqiao Sang, Renjie Jiang, Lei Cao, QingKun Li, Lianlian Li, hang zhang, zhonrui wang, meihe zhang, Qingzhu Zhang, Junfeng Li; Huaxiang Yin ( <i>Institute of Microelectronics, China; University of Chinese Academy of Sciences, China</i> )
<b>P2-11</b>	<b>0364: Deep Investigation into Variability of Complementary Dopant Segregated Tunneling FET Based on Foundry Platform</b>
	Rundong Jia, Jianfeng Hang, Kaifeng Wang, Yongqin Wu, Hongyan Han <sup>2</sup> , Ye Ren, Weihai Bu, Runsheng Wang, Qianqian Huang, Ru Huang ( <i>Peking University, China; Semiconductor Technology Innovation Center (Beijing), China</i> )
<b>P2-12</b>	<b>0379: Investigation of Common-Gate and Split-Gate Structures Based on CFET Standard Cells</b>
	Peishun Tang, Rongzheng Ding, Xiaona Zhu, Shaofeng Yu ( <i>Fudan University, China</i> )
<b>P2-13</b>	<b>0187: Exploration of the effect of silver impurity on the minority carrier lifetime of semiconductor</b>
	Xin Tian, Peizhi Zhao, Yudong Li, Jun Xu, Tianling Ren ( <i>Tsinghua University, China; Jiangsu Xinhua Semiconductor Technology Co., Ltd.; China</i> )
<b>P2-14</b>	<b>0267: Fabrication and Electrical Characterization of Mo/Hf<sub>x</sub>Zr<sub>1-x</sub>O<sub>2</sub>/Mo ferroelectric capacitors</b>
	Chunsheng Jiang, Wencai Du, Qin Xie ( <i>Guangxi Normal University; China</i> )
<b>P2-15</b>	<b>0116: Effect of Cascade Current Density and Plating Time on TSV Filling Effect in DC Power Supply</b>

	Weifeng Chen, Lijuan Peng, Xiaohui Wang, Fangzhou Wang, Guojian Ding, Qi Feng, Ping Yu, Peng Zuo, Feng Liu, Jiang Ma, Yang Wang, Haiqiang Jia, Hong Chen ( <i>Songshan Lake Materials Laboratory, China; Shenzhen University, China</i> )
<b>P2-16</b>	<b>0396: High-Performance Carbon Nanotube Optoelectronic Transistors for Memory Applications</b>
	Shuang Liu, Heyi Huang, Yanqing Li, Yadong Zhang, Feixiong Wang, Yupeng Lu, Renjie Jiang, Jiali Huo, Huaxiang Yin ( <i>Institute of Microelectronics, China; University of Chinese Academy of Sciences, China</i> )
<b>P2-17</b>	<b>0414: Investigation of the channel width dependence of IGZO TFT by experiment and TCAD simulation</b>
	Yanyu Yang, Yupeng Lu, Shuang Liu, Renjie Jiang, Jie Luo, Yunjiao Bao, Peng Wang, Gaobo Xu, Huaxiang Yin ( <i>Institute of Microelectronics, China; University of Chinese Academy of Sciences, China</i> )
<b>P2-18</b>	<b>0120: A Test and Evaluation Platform for Quantitative Analysis of High-Reliability Designs</b>
	Yifeng Huang, Wenqing Wan, Chang Wu ( <i>Fudan University, China</i> )
<b>P2-19</b>	<b>0171: Hot-Carrier Injection Characterization of n-LDMOS Transistors and Stress Tests in a Buck Converter Configuration</b>
	Chun Yee Chu, Wai Tung Ng ( <i>University of Toronto, Canada</i> )
<b>P2-20</b>	<b>0044: Automated Verification of Functional Interface Connections in Circuit Schematics</b>
	Keli Long, Xingyu Gao, Lei Li, Jinxiang Wang, Fangfa Fu, Liangquan Qiao, Jinghan Zhou ( <i>Harbin Institute of Technology, China; 58th Research Institute of China Electronics Technology Group Corporation, China</i> )
<b>P2-22</b>	<b>0214: Co-Optimization Design Method of Temperature Variation and Circuit Aging in Digital Circuits</b>
	Songxuan He, Wangyong Chen, Ling Xiong, Linlin Cai ( <i>Sun Yat-sen University, China</i> )
<b>P2-23</b>	<b>0308: Boolean Matrix Factorization Algorithm based on Error Shaping Technique and its Application on Approximate Logic Synthesis</b>
	Botao Xiong, Runhua Yang, Yuchun Chang ( <i>Dalian University of Technology, China</i> )
<b>P2-24</b>	<b>0148: Automatically Device Sizing of Analog Circuit through Sequential Model-Based Optimization with Circuit Recognition</b>
	Shun-Qi DAI, Xiao WANG, Yuan LEI, Bei-Ping YAN ( <i>Hong Kong Applied Science and Technology Research Institute (ASTRI), Hong Kong, China</i> )
<b>P2-25</b>	<b>0229: Vanadium Oxide-Based Artificial Synapses for Construction of Artificial</b>

	<b>Neural System</b>
	Zhuoling Zhou, Libin Liang, Hongzhi Chen, Changjiu Teng, Shilong Zhao, Wenjun Chen ( <i>Foshan University, China</i> )
<b>P2-26</b>	<b>0048: High performance FeFET with <math>\alpha</math>-IGZO Channel Enabled by Atomic-Layer-Deposited HfO<sub>2</sub> Interfacial Layer</b>
	Yinchi Liu, Hao Zhang, Xinlong Zhou, Dmitriy Anatolyevich Golosov, Chenjie Gu, Hongliang Lu, Shijin Ding, and Wenjun Liu ( <i>Fudan University, China; Research Institute of Fudan University in Ningbo, China; Belarusian State University of Informatics and Radioelectronics, Republic of Belarus; Ningbo University, China; Zhangjiang Fudan International Innovation Center, China</i> )
<b>P2-27</b>	<b>0097: A Simulation Study on Cell Scaling Impacts in 3D Charge-trapping (CT) Flash Memory</b>
	Wanyu Li, Haitao Dong, Qianwen Wang, Yang Feng, Xuepeng Zhan, Jixuan Wu, Jiezhi Chen ( <i>Shandong University, China; Qingdao University of Science &amp; Technology, China</i> )
<b>P2-28</b>	<b>0390: Comprehensive Characterizations on Read Disturbs in QLC Charge-Trap (CT) 3D NAND Flash</b>
	Shaoqi Yang, Xiaohuan Zhao, Peng Guo, Qianwen Wang, Guangkuo Yang1, Xinyi Guo, Pengpeng Sang, Jixuan Wu, Xuepeng Zhan, Jiezhi Chen ( <i>Shandong University, China; Shandong Sinochip Semiconductors Co., Ltd, China; Qingdao University of Science &amp; Technology, China</i> )
<b>P2-29</b>	<b>0047: Aspect Ratio Dependent Optimization and Comparison of Specific ON-Resistance of SJ and Hk MOSFETs with Extremely High Permittivity</b>
	Chenxing Wang, Zhentao Xiao, Zonghao Zhang, Zhenghao Jin, Zhiwan Liu, Zonglin Li, Zhemin An, Yunteng Jiang, Ruguan Li, Haimeng Huang, Hongqiang Yang ( <i>University of Electronic Science and Technology of China, China; GRG Metrology &amp; Test Group Co., Ltd., China</i> )
<b>P2-30</b>	<b>0092: Simulation Study of the Impact of Split Gate on SiC DTMOS Short Circuit Withstand Capability</b>
	Zixun Chen, Jinping Zhang, Yang Liu, Xudong Ma, Bo Zhang ( <i>University of Electronic Science and Technology of China, China; Weihai Singa Electronics CO.LTD, China</i> )
<b>P2-31</b>	<b>0143: Improved Hall Mobility Measurement Distinguishing Interface Capturing Effect in 4H-SiC Inversion Channel</b>
	Xiangrui Fan, Hao Fu, Xinyu Zhang, Zilong Wu, Jiameng Sun, Jiaying Wei, Siyang Liu, Weifeng Sun ( <i>Southeast University, China</i> )
<b>P2-32</b>	<b>0163: A Superior SiC Lateral MOSFET with Patterned P-bury Layer Made on N-type Wafers</b>



	Xuke Yan, Junji Cheng, Xiaojun Fu, Bo Yi, Haimeng Huang, Hongqiang Yang ( <i>University of Electronic Science and Technology of China, China; The 24th Research Institute of China Electronics Technology Group Corporation, China</i> )
<b>P2-33</b>	<b>0272: High Performance Termination Design and Fabrication For SiC MOSFET Device</b>
	Lei Huang, Junhou Cao, Chenlu Wang, Hao Fu, Jiaying Wei, Siyang Liu, Weifeng Sun ( <i>Southeast University, China</i> )
<b>P2-34</b>	<b>0422: Analysis of The Separation Degree For P-pillar in SiC Super-Junction Structure Through "Multiple Epitaxy-Ion Implantation" Route</b>
	Hao-Bo Kang, Hao Yuan, Feng-Yu Du, Yu Zhou, ke-Yu Liu, Xiao-Yan Tang, Chao Han, Qing-Wen Song, Yu-Ming Zhang ( <i>Xidian University, China; The Xidian-Wuhu Research Institute, China</i> )
<b>P2-35</b>	<b>0433: Numerical Analysis of the CIBL Effect on ShortCircuit Characteristics of DG-CSTBTs with Reduced Mesa Width</b>
	Zhengyu Lang, Jinping Zhang, Shiwei Zheng, Shuyang Huang, Haonan Deng, and Bo Zhang ( <i>University of Electronic Science and Technology of China, China; Nanjing SilverMicro Electronics, China</i> )
<b>P2-36</b>	<b>0441: Innovations in GaN HEMT Design: Achieving Superior Power Output and Thermal Management</b>
	Shiming Li, Bowen Yang, Mei Wu, Ling Yang, Bin Hou, Meng Zhang, Xiaohua Ma, Yue Hao ( <i>Xidian University, China</i> )
<b>P2-37</b>	<b>0446: An Enhanced RC-IGBT Incorporating Superjunction and Discontinuous Field Stop Layers for Improved Efficiency</b>
	Yiming Jia, Jieyu Long, Zhiwei Jing, Haimeng Huang, Hongqiang Yang ( <i>University of Electronic Science and Technology of China, China</i> )
<b>P2-38</b>	<b>0105: Simulation Study on 1200V CS-SemiSJ-IGBT for Reduced Switching Loss and Fast Switching</b>
	Luping Li, Zehong Li, Peng Chen, Yuzhou Wu, Qiansheng Rao, Ming Li, Haifeng Qin, Li Wan, Yang Yang, Wei Li, Min Ren ( <i>University of Electronic Science and Technology of China (UESTC), China; China Resources Microelectronics (Chongqing) Ltd., China; Shanghai Super Semiconductor Technology Company Ltd., China</i> )
<b>P2-39</b>	<b>0194: A Dual-Gate Trigger Thyristor for Reducing the Probability of False Triggering</b>
	Pengcheng Xing, Qingbo Wan, Jie Huang, Ruize Sun, Chao Liu, Wanjun Chen ( <i>University of Electronic Science and Technology of China (UESTC), China</i> )
<b>P2-40</b>	<b>0202: ultra fast diode avalanche shaper with floating junction</b>

	Zhen Yang, Yu Zhou, Xiao-Yan Tang, Chao Han, Qing-Wen Song, Yu-Ming Zhang ( <i>Xidian University, China; Xidian-Wuhu Research Institute, China</i> )
<b>P2-41</b>	<b>0204: Silicon Carbide Diode Avalanche Shaper with Multi-Point Quasi-Uniform Triggering</b>
	Lin Cheng, Yu Zhou, Xiao-Yan Tang, Chao Han, Yu-Ming Zhang, Qing-Wen Song ( <i>Xidian University China; Xidian-Wuhu Research Institute, China</i> )
<b>P2-42</b>	<b>0209: Super Field Plate LIGBT with Improved Performance for Both Cell and Terminal Region</b>
	Weihao Lu, Jing Li, Jitong Wang, Chaoyang Peng, Chunwei Zhang ( <i>University of Jinan, China</i> )
<b>P2-43</b>	<b>0248: High-temperature oxidation of 4H-SiC and gate oxide reliability dependence on oxidation temperature</b>
	Baoyan Feng, Xiaoyan Tang, Yi bo Zhang, Chao Han, Hao Yuan, Qing wen Song ( <i>Xidian University, China; Xidian-Wuhu Research Institute, China</i> )
<b>P2-44</b>	<b>0299: Optimization for a High-voltage Recessed-gate <math>\beta</math>- Ga<sub>2</sub>O<sub>3</sub> MOSFET by Gate and Drain Field Plate Technology</b>
	Bo Yi, Yuan Qiao, Ming Dai, Fan Xu, JunJi Cheng, HaiMeng Huang, MouFu Kong, XingLi Jiang, HongQiang Yang ( <i>University of Electronic Science and Technology of China, China; Chongqing Institute of Microelectronics Industry Technology, China; Chengdu Semi-Future Technology Co., Ltd, China</i> )
<b>P2-45</b>	<b>0315: A Novel Voltage Sensor with Composite Trench Structure for High Voltage IGBT</b>
	Yang Yang, Ze-Hong Li, Senior Member, IEEE, Li-Hang Dong, Wei Li, Peng-Fei Jia, Zhi-Yu Yang, Li Wan, Yi-Shang Zhao, Tong-Yang Wang, Zi-Ming Xia ( <i>University of Electronic Science and Technology of China, China; China Resources Microelectronics (Chongqing) Limited, China; Chongqing Institute of Microelectronics Industry Technology, China</i> )
<b>P2-46</b>	<b>0316: A Novel Triggered Voltage Sensing Structure for High Voltage IGBT</b>
	Yang Yang, Ze-Hong Li, Senior Member, IEEE, Li-Hang Dong, Wei Li, Peng-Fei Jia, Zhi-Yu Yang, Li Wan, Yi-Shang Zhao, Lu-Ping Li, Zi-Ming Xia, and Tong-Yang Wang ( <i>China Resources Microelectronics (Chongqing) Limited, China; University of Electronic Science and Technology of China, China; Chongqing Institute of Microelectronics Industry Technology, China</i> )
<b>P2-47</b>	<b>0374: Investigation of Threshold Voltage Instability in p-GaN Gate HEMTs under Surge Current Stress</b>
	Xiaoming Wang, Yu Shi, Chunhua Zhou, Haizhao Zhi, Yun Xia, Ruize Sun, Xinghuan Chen, Wanjun Chen, Bo Zhang ( <i>University of Electronic Science and Technology of China, China; Shenzhen Pinghu Laboratory, China; China Electronic Product</i> )

	<i>Reliability and Environmental Testing Research Institute, China)</i>
<b>P2-48</b>	<b>0408: A Novel Ga<sub>2</sub>O<sub>3</sub> High-k Trench MOSFET with Improved Forward and Reverse Performance</b>
	Moufu Kong, Lewei Lyu, Haoran Wang, Zhaoyu Ai, Xinyang Chen, Fanxin Meng, Qiang Hu ( <i>University of Electronic Science and Technology of China, China; Chengdu High-tech Development Co.Ltd, China; Chengdu Semi-Future Technology Co. Ltd, China)</i>
<b>P2-49</b>	<b>0054: A Nonlinear Behavioral Modeling Approach for Microwave Transistors Considering Electrothermal Aging Degradation</b>
	Lin Cheng, Hongliang Lu, Silu Yan, Junjun Qi, Jiantao Qiao, Yuming Zhang ( <i>Xidian University, China)</i>
<b>P2-50</b>	<b>0344: Electrical and Thermal Analysis of CNT nTSV Applied to BS-PDN: A Modeling Study</b>
	Kai Ying, Baohui Xu, Jie Liang ( <i>Shanghai University, China)</i>
<b>P2-51</b>	<b>0357: A Unified Current-Voltage Compact Model for Organic Light-Emitting Diode</b>
	Wenbin Wang, Mingyu Ma, Wangjun Yang, Jianghao Ma, Hailong You, Cong Li ( <i>Xidian University, China)</i>
<b>P2-52</b>	<b>0162: Threshold Voltage and Mobility Extraction of Negative Bias Temperature Instability in 22nm FD SOI MOSFETs</b>
	Yibo Hu, Hao Ge, Zhipeng Ren, Yizhe Yin, Ruiyong Zhao, Jing Chen ( <i>Shanghai Institute of Microsystem and Information Technology, China)</i>
<b>P2-53</b>	<b>0428: Modeling of Silicon Single-Photon Avalanche Diodes for Process and Design Optimization</b>
	Jing Fu, Anran Guo, Hongbo Zhang, Guowei Li, Huaping Ma, Ruizhi Li, Yuwei Chen ( <i>National Key Laboratory of Integrated Circuits and Microsystems, China; CETC No.44 Research Institute, China)</i>
<b>P2-54</b>	<b>0046: A Novel Modeling Method for BV Characteristics of ESD Protection Devices</b>
	Ke Zhang, Yang Wang, Xiangliang Jin ( <i>Hunan Normal University, China; Peking University, China)</i>
<b>P2-55</b>	<b>0070: Analysis of The Impact of Parasitic Bipolar Amplification on Charge Sharing Based on Analytical Model</b>
	Yutao Zhang, Hongliang Lyu, Yuming Zhang, Ruxue Yao ( <i>Xidian University, China)</i>
<b>P2-56</b>	<b>0123: Research on the performance degeneration of GGNMOS under total ionizing dose Radiation</b>

	Jiekai Feng, Ping Luo, Chengxin Li, Jiakuan Hu, Peng Li, Pengfei Liao ( <i>Univ. of Elec. Sci. and Technol. Of China, China; Chongqing Institute of Microelectronics Industry Technology, China; The 24th Research Institute of China Electronics Technology Group Corporation, China</i> )
<b>P2-57</b>	<b>0208: The UIS Withstand Capability and Device Failure Mechanism of 650 V p-GaN Gate HEMTs</b>
	Qihang Huang, Luanxi Ma, Shuting Huang, Yanning Nie, Jianggen Zhu, Yu Shi, Rongxin Du, David Zhou, Yuxi Wan, Bo Zhang, Qi Zhou ( <i>University of Electronic Science and Technology of China, China; Shenzhen Pinghu Laboratory, China</i> )
<b>P2-58</b>	<b>0100: Time Dependent Dielectric Breakdown in n-MOSFETs Fabricated by Low-Temperature and Low-Pressure Mild Oxidation After Plasma Solidification</b>
	Qiao Teng, Yanning Chen, Fang Liu, Bo Wu, Yongfeng Deng, Dawei Gao ( <i>Zhejiang University, China; Beijing Smart-chip Microelectronics Technology Co., Ltd, China</i> )
<b>P2-59</b>	<b>0228: Simulation of BTI for GAA MOSFETs with Enhanced Parameters Extraction</b>
	Yongjia Wang, Yijiao Wang, Shuhan Wang, Jinghan Xu, Xiaoyan Liu ( <i>Peking University, China; Beihang University, China</i> )
<b>P2-60</b>	<b>0033: Gold Thermocompression Wafer Bonding for Quartz MEMS Applications</b>
	Ting Yang, Dongxiang Han, Jun Xu, Tian-Ling Ren ( <i>Tsinghua University, China; Nanjing University of Aeronautics and Astronautics, China</i> )
<b>P2-61</b>	<b>0083: An Adaptive Threshold Analog Front-End Circuit for Direct ToF LiDAR</b>
	Jianping Guo, Xiaoyang Zeng, Wenhong Li, Mingyu Wang ( <i>Fudan University, China</i> )
<b>P2-62</b>	<b>0184: Design of Ultra-Broadband Metamaterial Absorber from Infrared to Terahertz</b>
	Xiangze Liu, Wenbin Zhou, Tiantian Shi, Yiming Liao, Feng Yan, Xiaoli Ji ( <i>Nanjing University, China; Nanjing University of Science and Technology, China</i> )
<b>P2-63</b>	<b>0398: Large modulation bandwidth Si-based avalanche photodiode for visible light communications</b>
	Jiabin Wu, Yidi Hu, Chiang Zhu, Zhichong Wang, Xiaona Zhu, Chao Shen ( <i>Fudan University, China</i> )
<b>P2-64</b>	<b>0400: An artificial neuromuscular synapse based on a ferroelectric Pb(Zr<sub>1-x</sub>Ti<sub>x</sub>)O<sub>3</sub>/SiC floating gate transistor</b>
	Yu Liu, Lin Lin, Xiang Wang, Chengyan Zhong, Junxiong Guo, Wen Huang, Yufeng Guo ( <i>Nanjing University of Posts and Telecommunications, China; University of Electronic Science and Technology of China, China; Chengdu University, China</i> )



# Friday

**Friday, October 25, 9: 00 – 10: 30**

Thursday, October 25, 9: 00 – 10: 30

Grand Ball Room

**Keynote Session K4**

Sheraton Zhuhai Hotel 1<sup>st</sup> Floor

**Session Chair:** Prof. Rui Yin, National Integrated Circuit Innovation Center, China

<b>K4-1</b>	<b>CMOS Digital Radiography</b>
9: 00 ~9: 45	Prof. Youngcheol Chae, Yonsei University, Korea
<b>K4-2</b>	<b>High-Frequency and Wideband RF Filters for 6G and Wi-Fi 7</b>
9: 45 ~10: 30	Prof. Chengjie Zuo, University of Science and Technology of China, China
	<b>Coffee Break</b>

## Friday, October 25, 10: 45– 12: 15

Friday, October 25, 10: 45 – 12: 15	Meeting Room 1
<b>Session A3: Digital &amp; Memory Circuit</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Mingyu Wang, Sun Yat-sen University, China	

	Title
<b>A3-1</b>	<b>0451: One-Step Circuit Analysis Based on LCA for Sparse Coding (invited)</b>
10:45 ~11:15	Hanxi Xu, Zirui Chen, Qi Chen, Xiangshui Miao, Yuhui He ( <i>Huazhong University of Science and Technology, China; Politecnico di Milano, Italy</i> )
<b>A3-2</b>	<b>0369: A Hybrid-Logic Scheme for High-Performance and Low-Power Decoders in 7nm Process</b>
11:15 ~11:27	Donghao Xia, Yuejun Zhang, Mengfan Xu, Liang Wen, Yiting Guo ( <i>Ningbo University, China; China Coast Guard Academy, China</i> )
<b>A3-3</b>	<b>0049: Ternary Logic Units Design Based on the TDDFETs</b>
11:27 ~11:39	Hua Qiang, Haoran Lu, Xiaotao Liu, Linlin Xing, Bin Lu ( <i>Shanxi Normal University, China</i> )
<b>A3-4</b>	<b>0474: Enhancing SRAM Cell Stability Through Single-Carrier CMOS Latch Integration</b>
11:39 ~11:51	Yuan-Yu Chuang, Pei-Zhang Xie, and Jyi-Tsong Lin ( <i>Sun Yat-Sen University, Taiwan, China</i> )
<b>A3-5</b>	<b>0199: A RRAM based 9T1R NVSRAM for Low-Power Computing in Memory</b>
11:51 ~12:03	Huimeng Guo, Yujia Li, Tingrui Ren, Chenge Dong, Liang Wang, Yuanfu Zhao, Yanlong Zhang ( <i>Hangzhou Dianzi University, China; Beijing Microelectronics Technology Institute, China; Beihang University, China</i> )
<b>A3-6</b>	<b>0377: A High-Resistance SOT Device Based Computing In-Memory Macro with High Sensing Margin and Multi-Bit MAC Operations for AI Edge Inference</b>
12:03 ~12:15	Junzhan Liu, Jinyao Mi, Haiyan Qin, He Zhang, Wang Kang ( <i>Beihang University, China; Hangzhou International Innovation Institute, China</i> )

Friday, October 25, 10: 45 – 12: 15	Meeting Room 2
<b>Session B5: Mixed Signal II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Fan Ye, Fudan University, China	

	Title
<b>B5-1</b>	<b>0167: When Time Interleaving encounters Oversampling in ADC (invited)</b>
10:45 ~11:15	Mingqiang Guo, Dongyang Jiang, Shulin Zhao, Sai-Weng Sin, Rui P. Martins ( <i>University of Macau, Macao, China; Universidade de Lisboa, Portugal</i> )

<b>B5-2</b>	<b>0322: A 0.000355mm<sup>2</sup> 4.6μm-Pitch 5.75fJ/Conv 6-bit SAR ADC for High Throughput Parallel Readout of Analog SRAM Computing-In-Memory</b>
11:15 ~11:30	Lin Wu, Lichen Feng, Hongwei Shan, Zhangming Zhu ( <i>Xidian University, China</i> )
<b>B5-3</b>	<b>0051: A 250MS/s, 12 Bit Pipeline-SAR ADC Using Coarse-fine Ring Amplifier</b>
11:30 ~11:45	Linghao Liu, Junyan Ren, Fan Ye ( <i>Fudan University, China</i> )
<b>B5-4</b>	<b>0420: A 0.71pJ/b 16Gb/s Equalizer with Inverter_based CTLE and 4-Tap Speculative DFE</b>
11:45 ~12:00	Huihong Zhang, Chuangao Yan, Luo Peng, Maliang Liu ( <i>Xidian University, China</i> )

Friday, October 25, 10: 45 – 12: 15	Meeting Room 3
<b>Session C5: Sensor &amp; MEMS II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhanfeng Huang, Sun Yat-sen University, China	

	<b>Title</b>
<b>C5-1</b>	<b>0099: A Flexible Graphene Acoustic Sensor for Sound Signal Acquisition and Spike Neural Network Recognition</b>
10:45 ~11:00	Lu-Yu Zhao, Hao-Yuan Shen, Yi-Wen Wu, Lu-Lu Zhang, Yu-Tao Li, Tian-Ling Ren ( <i>Beijing Institute of Technology, China; Beijing University of Chemical Technology, China; Tsinghua University, China</i> )
<b>C5-2</b>	<b>0058: 0.15μm BCD Platform with High Sensitivity Hall Device and Low Noise CMOS for Sensor IC Applications</b>
11:00 ~11:15	Guiqiang Zheng, Qingyin Zhong, Jie Ma, Nannan Cheng, Yichen Li, Yongjia Li, Siyang Liu, Xiaofeng Sun, Dejin Wang, Sen Zhang, Long Zhang, Weifeng Sun ( <i>Southeast University, China; CSMC Technologies Corporation, China</i> )
<b>C5-3</b>	<b>0166: A High Dynamic Range Pixel with Inverse Proportional Response</b>
11:15 ~11:30	Yuchen Wang, Wenji Mo, Haoning Sun, Jingjing Liu ( <i>Sun Yat-sen University, China</i> )
<b>C5-4</b>	<b>0285: Enhancement of Image Sensor Pixel Performance through Ring-Shaped Vertical Transfer Gate Structure</b>
11:30 ~11:45	Shuang Yan, Shuai Yuan, Haoping Zheng, Yudi Zhao, Gang Du, Junchen Dong, Kai Zhao ( <i>Beijing Information Science and Technology University, China; Peking University, China; HT-tech Jiangsu Co., Ltd., China</i> )



Friday, October 25, 10: 45 – 12: 15

Meeting Room 4

**Session D5: Process I**

Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor

**Session Chair:** Prof. Heng Wu, Peking University, China

	Title
<b>D5-1</b>	<b>0251: Studies on Selective Deposition of SiO<sub>2</sub> by Rapid Atomic Layer Deposition (Invited)</b>
10:45 ~11:15	Sicong Shao, Jin Yan, Wang Li, Kun Cao , Rong Chen ( <i>Huazhong University of Science and Technology, China</i> )
<b>D5-2</b>	<b>0404: Resistance Dependence of Cobalt on Line Width in Advanced Interconnects: First-Principles Modelling</b>
11:15 ~11:30	Kang Wang, Menglin Huang, Shiyu Chen ( <i>Fudan University, China</i> )
<b>D5-3</b>	<b>0418: Reducation of Specific Contact Resistivity by Employing Pre-amorphization Implantation and In situ Steam Generation Oxidation</b>
11:30 ~11:45	Chang Liu, Xu Chen, Jinbiao Liu, Yanping He, Wenjuan Xiong, Weibing Liu, Mingshan Liu, Zhe Liu, Yaoqi Dong, Jeffrey Xu, Jing Xu, Jun Luo ( <i>Institute of Microelectronics, Chinese Academy of Sciences, China. University of Chinese Academy of Sciences, China. Huawei Technologies Company limited, China</i> )
<b>D5-4</b>	<b>0432: High-performance Ultrathin ITO Thin Film Transistor With Ultralow Subthreshold Swing</b>
11:45 ~12:00	Yanheng Liu, Tiaoyang Li ( <i>Fuzhou University, China</i> )

Friday, October 25, 10: 45 – 12: 15

Meeting Room 5

**Session E5: Reliability I**

Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor

**Session Chair:** Prof. Ming Xiao, Sun Yat-sen University, China

	Title
<b>E5-1</b>	<b>0453: Challenges of Design for Reliability in Advanced CMOS Technology: From Single-mode to Mixed-mode Mechanisms (invited)</b>
10:45 ~11:15	Zixuan Sun, Lining Zhang, Ru Huang, Runsheng Wang ( <i>Peking University, China</i> )
<b>E5-2</b>	<b>0232: Frequency-dependent Time-dependent Dielectric Breakdown (TDDB) Behavior and Physical Study in Gate Oxides (invited)</b>
11:15 ~11:45	Wei Liu, Chu Yan, Xinwei Yu, Yiming Qu, Wenchao Yan, Yi Zhao ( <i>Zhejiang University, China; East China Normal University, China; Zhejiang Li-ryder Technologies Co. LTD, China</i> )
<b>E5-3</b>	<b>0181: Lightning Protection Stacked TVS Structure Based on a Novel</b>

	<b>Total-Ionizing-Dose Radiation-hardened Technology</b>
11:45 ~12:00	Zhao Qi, Hongquan Chen, Yirui Jia, Nailong He, Zhili Zhang, Sen Zhang, Ming Qiao, Bo Zhang ( <i>University of Electronic Science and Technology of China, China; CSMC Technologies Corporation, China</i> )

Friday, October 25, 10: 15 – 12: 15	Meeting Room 6
<b>Session F5: Device Modeling I</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Ming Li, Peking University, China	

	Title
<b>F5-1</b>	<b>0466: Electric-Thermal Characteristics of Bottom P-i-N Isolated Nanosheet Gate-All-Around FETs (invited)</b>
10:45 ~11:15	Chunlei Wu, Hanzhi Gu, Jian Ma, Boqian Shen, Fei Zhao, Yueyuan Yu, Yiming Xia, Qingqing Sun, David Wei Zhang ( <i>Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute, China</i> )
<b>F5-2</b>	<b>0180: Surface Potential-Based Compact Model for ITO Thin-film Transistors with Ultra-thin Channel</b>
11:15 ~11:30	Wenting Xu, Xinxin Shen, Zuoxu Yu, Tingrui Huang, Yuzhen Zhang, Weifeng Sun, Wangran Wu ( <i>Southeast University, China</i> )
<b>F5-3</b>	<b>0186: A Continuous Full Channel Potential Model for Accurate Synthetic Electricfield Calculating in Gate-All-Around Devices</b>
11:30 ~11:45	Fei Zhao, Chunlei Wu, Yumin Xu, Boqian Shen, Jian Ma, Hanzhi Gu, Yueyuan Yu, Yiming Xia, Qingqing Sun, David Wei Zhang ( <i>Fudan University, China; Shanghai Integrated Manufacturing Innovation Center Co., Ltd, China; Jiashan Fudan Institute, China</i> )
<b>F5-4</b>	<b>0271: Deep Learning and Adaptive Pattern Search Based BSIM-CMG Parameter Extraction Applicable to Process Migration</b>
11:45 ~12:00	Xingyu Li, Wangyong Chen, Linlin Cai ( <i>Sun Yat-sen University, China</i> )

### Friday, October 25, 13: 30 – 15: 15

Friday, October 25, 13: 30 – 15: 15	Meeting Room 1
<b>Session A4: Processor</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Yao Liu, Sun Yat-sen University, China	

	Title
<b>A4-1</b>	<b>0201: RISC-V Domain-Specific Processor for Accelerating SPHINCS+ on Multi-Core Architecture</b>

13:30 ~13:45	Shengnan Zhang, Yifan Zhao, Xinglong Yu, Jun Han ( <i>Fudan University, China</i> )
<b>A4-2</b>	<b>0113: Design of an Out-of-Order Superscalar Processor with Improved Register Alias Table Recovery Method</b>
13:45 ~14:00	Wu Yang, Jun Zhang ( <i>Central South University, China</i> )
<b>A4-3</b>	<b>0220: An SDPF RISC-V Processor with Two-stage Pseudo-pipelined Architecture for IoT Applications</b>
14:00 ~14:15	Wenji Mo, Yuchen Wang, Haoning Sun, Jingjing Liu ( <i>Sun Yat-sen University, China</i> )
<b>A4-4</b>	<b>0366: A Unified Verification Scheme for the Acceleration of RISC-V Processor Design</b>
14:15 ~14:30	Zixiang Chen, Jiyuan Bai, Yueru Yu, Gengsheng Chen, Xiaofang Zhou ( <i>Fudan University, China; Jiashan Fudan Institute, Jiaxing, China</i> )
<b>A4-5</b>	<b>0370: Asynchronous Arbitration Circuit Optimization for Multicore Neuromorphic Processors</b>
14:30 ~14:45	Jiajie Guo, Guangyao Lin, Bohan Wang, Zhiyi Yu, Shanlin Xiao ( <i>Sun Yat-sen University, China</i> )

Friday, October 25, 13: 30 – 15: 15	Meeting Room 2
<b>Session B6: Mixed Signal III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Shuo Li, Fudan University, China	

	Title
<b>B6-1</b>	<b>0289: A Second-Order Charge Pump Noise-Shaping SAR ADC (invited)</b>
13:30 ~14:00	Haoning Sun, Yuchen Wang, Wenji Mo, Kangkang Sun, Jingjing Liu ( <i>Sun Yat-Sen University, China</i> )
<b>B6-2</b>	<b>0385: Computing in Memory for Accelerating Light Weighted On-Chip Learning in IoT Devices (Invited)</b>
14:00 ~14:30	Zhiwang Guo, Xiaoyong Xue, Jun Han, Peng Zhou, Xiaoyang Zeng ( <i>Fudan University, China; Shaoxin Laboratory, China</i> )
<b>B6-3</b>	<b>0314: A Novel Beamforming Receiver Architecture Combining MASH SDM and BSP</b>
14:30 ~14:45	Tao Zhong, Yuekang Guo, Jing Jin, Jianjun Zhou ( <i>Shanghai Jiao Tong University, China</i> )

Friday, October 25, 13: 30 – 15: 15	Meeting Room 3
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**Session C6: RF Circuit II**Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor**Session Chair:** Prof. Yun Wang, Fudan University, China

	Title
<b>C6-1</b>	<b>0424: A 10-GHz Low Power Class-C VCO with Long-Term Reliability and Tunable Performance in 28 nm FD-SOI for Satellite Communications (invited)</b>
13:30 ~14:00	Yann Deval, Henrique Iha Taguti, Ayoub Ait Ihda, Herve Lapuyade, Stephane Rochette, Francois Rivet ( <i>Univ. Bordeaux, France; Thales Alenia Space, France</i> )
<b>C6-2</b>	<b>0313: A 191-GHz Harmonic Oscillator with Self-Feeding Line and Return-Path Gap Coupler Structure in 65nm CMOS</b>
14:00 ~14:15	Xiaohan Shen, Chen Jiang ( <i>Fudan University, China</i> )
<b>C6-3</b>	<b>0278: A Blocker-Tolerant High-Linear Receiver Employing Baseband Noise-Cancelling and Bottom-Plate Switched-Capacitor Techniques</b>
14:15 ~14:30	Chenxiang Cai, Gengzhen Qi ( <i>Sun Yat-sen University, China</i> )
<b>C6-4</b>	<b>0412: A High Sensitivity Series-Parallel Rectifier with Pre-Bias for RF Energy Harvesting Systems</b>
14:30 ~14:45	HaiQin Wu, Dejian Li, Xin Jin, Xufeng Liao, Lianxi Liu ( <i>Xidian University, China; Beijing Smart-Chip Microelectronic Technology Co., Ltd, China</i> )
<b>C6-5</b>	<b>0103: A 24.3-43.7 GHz Variable-Gain Low-Noise Amplifier With Phase Self-Compensation</b>
14:45 ~15:00	Yue Wu, Wei Li, Mohan Zhou, Hongtao Xu ( <i>Fudan University, China</i> )
<b>C6-6</b>	<b>0480: A Broadband Active Variable Attenuator With Phase Compensation Technique</b>
15:00 ~15:15	Zhiying Xia, Zhiqun Li, Bofan Chen, Xiaowei Wang ( <i>Southeast University, China</i> )

Friday, October 25, 13: 30 – 15: 15

Meeting Room 4

**Session D6: Process II**Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor**Session Chair:** Prof. Xiaona Zhu, Fudan University, China

	Title
<b>D6-1</b>	<b>0456: Advanced Logic Devices' DTCO Beyond 3nm Process Technology Node (invited)</b>
13:30 ~14:00	Xiaona Zhu ( <i>Fudan University, China</i> )

<b>D6-2</b>	<b>0454: A Modified Virtual-Source Model for Ballistic Transport Characterization of FinFETs at Cryogenic Temperature</b>
14:00 ~14:15	Hongbo Wang, Zirui Wang, Zixuan Sun, Runsheng Wang, Ru Huang ( <i>Peking University, China</i> )
<b>D6-3</b>	<b>0114: Investigation on Asymmetric HfO<sub>2</sub>-ZrO<sub>2</sub>-HfO<sub>2</sub> Superlattice Gate Stacks with Ultra-low EOT for Advanced Transistors</b>
14:15 ~14:30	Haiyuan Lyu, Kun Zhong, Zhaohao Zhang, Huaxiang Yin ( <i>Institute of Microelectronics, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China</i> )
<b>D6-4</b>	<b>0119: Evaluation of Contact Resistance with the ‘L’ Kelvin Test Structure and the Modified Kelvin Test Structure</b>
14:30 ~14:45	Gui Chen, Yun-Hao Shao, Xin-Ping Qu ( <i>Fudan University, China</i> )

Friday, October 25, 13: 30 – 15: 15	Meeting Room 5
<b>Session E6: Reliability II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Wangyong Chen, Sun Yat-sen University, China	

	<b>Title</b>
<b>E6-1</b>	<b>0221: Characterization and Modeling of Non-conducting RF Hot Carrier Stress in FinFETs (invited)</b>
13:30 ~14:00	G. Niu, X. Ding, H. Zhang, W. Wang, K. Imura, F. Dai ( <i>Auburn University, USA; Maxlinear Inc., USA</i> )
<b>E6-2</b>	<b>0164: Predictive Modelling of Hot Carrier Degradation (invited)</b>
14:00 ~14:30	James Brown , Kean Hong Tok , Rui Gao , Zhigang Ji , Weidong Zhang, Jian Fu Zhang ( <i>Liverpool John Moores University, UK; No. 5 Electronics Research Institute of the Ministry of Industry and Information Technology, China; Shanghai Jiaotong University, China</i> )
<b>E6-3</b>	<b>0142: New Insights into the Saturation Behavior of the Hot Carrier Degradation in STI-based N-type LDMOS</b>
14:30 ~14:45	Zhuoqing Yu, Dan Gao, Yongsheng Sun, Junlin Huang ( <i>Hisilicon, China</i> )
<b>E6-4</b>	<b>0081: The TID Response and HCI Degradation for multi-Vt nFinFETs</b>
14:45 ~15:00	Ruxue Yao, Hongliang Lu, Yuming Zhang, Yutao Zhang ( <i>Xidian University, China</i> )

Friday, October 25, 13: 30 – 15: 15	Meeting Room 6
<b>Session F6: Device Modeling II</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor

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

	<b>Title</b>
<b>F6-1</b>	<b>0059: Vertical Channel Transistor (VCT) for Advanced Logic and Memory Applications (invited)</b>
13:30 ~14:00	Mingmin Shi, Ran Bi, Ming Li ( <i>Peking University, China; Beijing Advanced Innovation Center for Integrated Circuits, China</i> )
<b>F6-2</b>	<b>0423: High Precision I-V Characteristics SPICE Model for Silicon Carbide MOSFET</b>
14:00 ~14:15	Jinhong Shi, Yongxi Li, Jincheng Shi, Ruguan Li, Haimeng Huang, Hongqiang Yang ( <i>University of Electronic Science and Technology of China, China; GRG Metrology &amp; Test Group Co., Ltd., China</i> )
<b>F6-3</b>	<b>0440: An Analytical Model for Characterizing Density of States of Oxide Transistors</b>
14:15 ~14:30	Siyuan Hu, Chuanlin Sun, Junchen Dong, Zhensong Li, Kai Zhao, Dedong Han, Xing Zhang ( <i>Peking University, China; Beijing Information Science &amp; Technology University, China; Peking University Shenzhen Graduate School, China</i> )
<b>F6-4</b>	<b>0225: A Physics-Informed Neural Network Model for Body Potential Distribution in MOSFETs down to 50 K</b>
14:30 ~14:45	Honglin Wu, Fangxing Zhang, Xinyue Zhang, Baokang Peng, Wu Dai, Lining Zhang, Runsheng Wang, Ru Huang ( <i>Peking University, China</i> )

### Friday, October 25, 15: 30 – 17: 15

Friday, October 25, 15: 30 – 17: 15

Meeting Room 1

**Session A5: FPGA Based Design**

Sheraton Zhuhai Hotel 2<sup>nd</sup> Floor

**Session Chair:** Prof. Mingyu Wang, Sun Yat-sen University, China

	<b>Title</b>
<b>A5-1</b>	<b>0207: A Run-time Temperature Monitoring with Adaptive Duty Cycle Control for FPGA Applications</b>
15:30 ~15:45	Weizhi Li, Wangyong Chen, Haifeng Chen, Haoyu Zhang, Linlin Cai ( <i>Sun Yat-sen University, China</i> )
<b>A5-2</b>	<b>0118: An FPGA-Based Top-K Gradient Compression Accelerator for Distributed Deep Learning Training</b>
15:45 ~16:00	Ziyao Wang, Jiayu Zhang, Kunyue Li, Jialei Sun, Feng Dong, Ke Chen, Yong Qiao, Jianfei Jiang ( <i>National Key Laboratory of Advanced Micro and Nano Manufacture Technology, China; Beijing iQIYI Science &amp; Technology Co.. Ltd., China</i> )

<b>A5-3</b>	<b>0258: Dynamic-Matrix-Encryption Based Secure Strong PUF for Device Authentication Protocols</b>
16:00 ~16:15	Liangxiao Zhao, Gang Li, Pengjun Wang, Xuejiao Ma, Ziyu Zhou ( <i>Wenzhou University, China; Wenzhou University of Technology, China; Ningbo University, China</i> )
<b>A5-4</b>	<b>0240: A Low Latency and High Throughout Hardware Design of Random Matrix Number Generator for FrodoKEM</b>
16:15 ~16:30	Shengfei Gu, Jiahao Lu, Tianze Huang, Jiaming Zhang, Kai Li, Cheng Wu, Mingbo Wang, Xianqi Mei, Ang Hu, Dongsheng Liu ( <i>Huazhong University of Science and Technology, China; JinYinHu Laboratory, China</i> )
<b>A5-5</b>	<b>0465: A 4K60fps Ultra-Low-Latency Light Compression Encoder for Bandwidth-Constrained Scenarios</b>
16:30 ~16:45	Yanzhong Li, Leilei Huang, Yibo Fan ( <i>Fudan University, China; East China Normal University, China</i> )
<b>A5-6</b>	<b>0086: Layer Pipelined Neural Network Accelerator Design on 2.5D FPGAs</b>
16:45 ~17:00	Mengxuan Wang, Chang Wu ( <i>Fudan University, China</i> )
<b>A5-7</b>	<b>0237: Fast and Accurate Partial-Zoom Depth Estimation for SPAD LiDAR Readout on FPGA</b>
17:00 ~17:15	Lichen Feng, Hongwei Shan, Rundong Cai, Zhangming Zhu ( <i>Xidian University, China</i> )

Friday, October 25, 15: 30 – 17: 15	Meeting Room 2
<b>Session B7: Chip Test</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Shuo Li, Fudan University, China	

	<b>Title</b>
<b>B7-1</b>	<b>0135: In Situ Localization Techniques of Defects in Advanced Semiconductor Devices from Macroscale to Atomistic-scale (invited)</b>
15:30 ~16:00	Jialu Huang, Jingming Zhou, Zuoyuan Dong, Runsheng Wang, Junhao Chu, Xing Wu ( <i>East China Normal University, China; Peking University, China</i> )
<b>B7-2</b>	<b>0402: Wafer-Level Characterization of Ring-Oscillators Frequency Degradation in FinFET Technology</b>
16:00 ~16:15	Hao Chang, Dan Gao, Yongsheng Sun, Junlin Huang ( <i>Hisilicon Technologies Co., LTD, China</i> )
<b>B7-3</b>	<b>0246: Exhaustive Application-Dependent Testing for FPGA Interconnect Resources</b>
16:15	Wenwei Chen, Xinyu He, Tongshu Ding, Jian Wang, Jinmei Lai ( <i>Fudan University,</i>

~16:30	<i>China)</i>
<b>B7-4</b>	<b>0303: A Comprehensive and Efficient Instruction-level Testing Method for Processor</b>
16:30 ~16:45	Zixin Yang, Zhichao Wei, Huanlin Luo, Jian Wang, Jinmei Lai ( <i>Fudan University, China; Shanghai Academy of Spaceflight Technology, China</i> )
<b>B7-5</b>	<b>0006: Thermal Effect and Calibration for High Precision On-Wafer Analog IC Probe Testing</b>
16:45 ~17:00	Daisuke Iimori, Takayuki Nakatani, Shogo Katayama, Gaku Ogihara, Shuhei Yamamoto, Misaki Takagi, Yujie Zhao, Jianglin Wei, Anna Kuwana, Keno Sato, Takashi Ishida, Toshiyuki Okamoto, Tamotsu Ichikawa, Kentaroh Katoh, Kazumi Hatayama, Haruo Kobayashi ( <i>Gunma University, Japan; Shenyang University of Chemical Technology, China; Yibin University, China; ROHM Semiconductor, Japan; Fukuoka University, Japan</i> )

Friday, October 25, 15: 30 – 17: 15	Meeting Room 3
<b>Session C7: Sensor &amp; MEMS III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhanfeng Huang, Sun Yat-sen University, China	

	Title
<b>C7-1</b>	<b>0460: Waterproof and Wearable Power Sources (invited)</b>
15:30 ~16:00	Sixing Xiong; Kenjiro Fukuda, Takao Someya ( <i>RIKEN, Japan; The University of Tokyo, Japan</i> )
<b>C7-2</b>	<b>0146: A CMOS Pixel Sensor for Precise Track and Charge Measurement of Cosmic Ray Nuclei</b>
16:00 ~16:15	Ruikai Zhang, Wen He, Shanqiang Yang, Min Luo, Chenxu Wang, Cunfeng Feng, Meng Wang, Liang Zhang, Anqing Wang, Jianing Dong, Dong Liu, Yan Niu, Yang Zhou, Yuehong Gong, Xiaoli Wang, Shucheng Shi ( <i>Harbin Institute of Technology, China; Shandong University, China; Institute of High Energy Physics Chinese Academy of Sciences, China; ShanDong JiaoTong University, China</i> )
<b>C7-3</b>	<b>0429: <math>S_{c0.096}Al_{0.904}N</math>-Based Bimorph Piezoelectric Micro Machined Ultrasonic Transducers</b>
16:15 ~16:30	Ziye Zhai, Wenjuan Liu, Chengliang Sun ( <i>Wuhan University, China</i> )

Friday, October 25, 15: 30 – 17: 15	Meeting Room 4
<b>Session D7: 3D Integration</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Ming Li, Peking University, China	

	Title
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<b>D7-1</b>	<b>0283: HISIM: Design Exploration of 2.5D/3D Heterogeneous Integration for AI Computing (Invited)</b>
15:30 ~16:00	Zhenyu Wang, Pragnya Sudershan Nalla, Jingbo Sun, A. Alper Goksoy, Sumit K. Mandal, Jae-sun Seo, Vidya A. Chhabria, Jeff Zhang, Chaitali Chakrabarti, Umit Y. Ogras, Yu Cao ( <i>Arizona State University, USA; University of Minnesota, USA; University of Wisconsin-Madison, USA; Indian Institute of Science, India; Cornell Tech, USA</i> )
<b>D7-2</b>	<b>Analysis of Current Status and Trends in Microsystem Integration Technology Based on TSV Advanced Packaging (Invited)</b>
16:00 ~16:30	Hua Yao ( <i>Natural-Integration Advanced Semiconductor Technology Co., Ltd., China</i> )
<b>D7-3</b>	<b>0431: Flip 3D (F3D): A Novel 3D Integration Technology with Dual-side Integration Capabilities (invited)</b>
16:30 ~17:00	Heng Wu, Haoran Lu, Runsheng Wang, Ming Li, Yibo Lin, Weihai Bu, Jin Kang, Ru Huang ( <i>Peking University, China</i> )
<b>D7-4</b>	<b>0035: Modeling and Simulation of A Conical 3D Monopole Antenna Embedded in Substrate for WNoC</b>
17:00 ~17:15	Junhao Wang, Ziyu Liu, Zhiyuan Zhu, Lin Chen, Qingqing Sun, Wei David Zhang ( <i>Southwest University, China; Fudan University, China; Jiashan Fudan Institute, China</i> )

Friday, October 25, 15: 30 – 17: 15	Meeting Room 5
<b>Session E7: Reliability III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Zhigang Ji, Shanghai Jiaotong University, China	

	<b>Title</b>
<b>E7-1</b>	<b>0463: Modeling and Parameter Extraction of Semiconductor Devices for Simulation and Design Optimization of ESD Protection Circuits on BCD Technologies for Automobile and Industry Applications (invited)</b>
15:30 ~16:00	Yuhua Cheng, Wei-wei Yu, Eugene Worley ( <i>Peking University, China; Silicon Crossing, LLC, USA</i> )
<b>E7-2</b>	<b>0224: A Novel Double-zener Process and Multiplex Design for High-power Surge and High-speed ESD Devices Development</b>
16:00 ~16:15	Zhao Qi, YiRui Jia, Hongquan Chen, Ming Qiao, Zhaoji Li, Bo Zhang ( <i>University of Electronic Science and Technology of China (UESTC), China;</i> )
<b>E7-3</b>	<b>0206: The non-monotonic instability of V<sub>TH</sub> and R<sub>ds,on</sub> in P-GaN Gate HEMTs Under Repetitive Short Circuit Stress: The role of electric-field &amp; selfheating effect</b>
16:15	Long Wang, Ning Yang, Shuting Huang, Jianggen Zhu, Kuangli Chen, Chao Feng,

~16:30	Haolin Hu, Wei Zeng, David Zhou, Yuxi Wan, Bo Zhang, and Qi Zhou ( <i>University of Electronic Science and Technology of China (UESTC), China; Shenzhen Pinghu Laboratory, China</i> )

Friday, October 25, 15: 30 – 17: 15	Meeting Room 6
<b>Session F7: Device Modeling III</b>	Sheraton Zhuhai Hotel 2 <sup>nd</sup> Floor
<b>Session Chair:</b> Prof. Chunlei Wu, Fudan University, China	

	Title
<b>F7-1</b>	<b>0448: Neural Network Assisted Mosfets Model Development (invited)</b>
15:30 ~16:00	Xiaoyan Liu ( <i>Peking University, China</i> )
<b>F7-2</b>	<b>0421: Modeling the Transient Characteristics with Trap Behaviors in LTPS-TFTs</b>
16:00 ~16:15	Haolin Li, Zheng Zhou, Xiaoyan Liu ( <i>Peking University, China; Beijing Advanced Innovation Center for Integrated Circuits, China</i> )
<b>F7-3</b>	<b>0277: A Novel <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub>-Based Enhancement-Mode Transistor Combining Heterojunction Gate and Fin shaped Gate</b>
16:15 ~16:30	Yu Shao, Yunlong He, Xiaoli Lu, Songyao Wang, Xuefeng Zheng, Xiaohua Ma, Yue Hao ( <i>Xidian University, China</i> )
<b>F7-4</b>	<b>0358: Electrical Characteristics and Thermal Reliability Investigation of TreeFET, FishboneFET, CombLikeFET and NSFET</b>
16:30 ~16:45	Mingyu Ma, Wenbin Wang, Haokun Li, Shujun Gao, Hailong You, Cong Li ( <i>Xidian University, China</i> )