

# ICSICT 2018 Technical Program Overview 925

Date	Time	Room B	Room D	Room E	Room F	Room G	Room H	Room I	Room J
Oct.31, Wed.	9:00-12:15	Tutorial T-1, T-2							
	14:00-17:15	Tutorial T-3,T-4							
Nov.1, Thu.	8:30-10:30	Opening & Keynote Session 1 (Room A)							
	10:45-12:15	Keynote Session 2 (Room A)							
	13:30-15:30	S01 Advanced FinFET and Nanowire FET I	S02 RRAM I	S03 Low-Power and Steep Slope Switching Device I	S04 Device/Process Simulation & Modeling I	S05 Novel Process Technologies	S06 Advanced Front End Process & Technology	S07 RF Circuits and Systems I	S08 Processors & Signal Processing
	15:45-17:45	S09 Advanced FinFET and Nanowire FET II	S10 RRAM II	S11 Low-Power and Steep Slope Switching Device II	S12 Device/Process Simulation & Modeling II	S13 Ge related Device and Process	S14 Front End Reliability	S15 RF Circuits and Systems II	S16 SOC
	17:45-18:45	Poster Session I (P1) ,( )							
	19:00-21:00	Reception							
	8:30-10:00	Keynote Session 3 (Room A)							
Nov.2,Fri.	10:15-12:15	S17 Advanced Power Device and Reliability I	S18 MEMS Technology	S19 2D Device & Technology I	S20 Device/Process Simulation & Modeling III	S21 Novel Memory & Memory Reliability	S22 IOT (Circuits & System)	S23 RF Circuits and Systems III	S24 Analog Circuits I
	13:30-15:30	S25 Advanced Power Device and Reliability II	S26 Sensor I	S27 2D Device & Technology II	S28 AI (Process & Device) I	S29 Back-End Technology & Reliability	S30 Data Convertors I	S31 RF Circuits and Systems IV	S32 Analog Circuits II
	15:45-17:45	S33 Advanced Power Device and Reliability III	S34 Sensor II	S35 Compound semiconductor device and Technology	S36 AI (Process & Device) II	S37 IOT (Process & Device)	S38 Data Convertors II	S39 RF Circuits and Systems V	S40 Analog Circuits III
	17:45-18:45	Poster Session II (P2) , ( )							
	20:00-22:00	Panel Discussion (Room C)							
	8:30-10:00	Keynote Session 4 (Room A)							
Nov.3, Sat.	10:15-12:15	S41 Memory Circuits I	S42 Photoelectron Device	S43 Flash Memory	S44 Thin Film Transistor	S45 AI (Circuits & System) I	S46 Advanced Clock I	S47 FPGA I	S48 Analog Circuits IV
	13:30-15:30	S49 Memory Circuits II	S50 EDA	S51 System-Level Modeling/Simulation & Synthesis	S52 Physical Design	S53 AI (Circuits & System) II	S54 Advanced Clock II	S55 FPGA II	S56 Analog Circuits V
	19:00-21:00	Closing Banquet							

PID	SID	Session Code	Presentation Mode	Presentation Date	Oral Presentation Time (hh:mm)	Title	Authors	Affiliations
K1-1	K1-1	K1	Oral	Nov.1	0:45	The Next Era of Hyper Scaling in Electronics	Suman Datta	University of Notre Dame, USA
K1-2	K1-2	K1	Oral	Nov.1	0:45	Energy-Efficient Electronic Technologies for Internet of Things	Adrian M. Ionescu	Nanolab, Ecole Polytechnique Fédérale de Lausanne, Switzerland
K1-3	K2-1	K2	Oral	Nov.1	0:45	All-solid-state battery - History, current status and future perspectives	RyojiKanno	Tokyo Institute of Technology, Japan
K1-4	K2-2	K2	Oral	Nov.1	0:45	Emerging Terahertz Technologies for Security, Quality Control, Vision and Medical Applications	Thomas Skotnicki <sup>(1),(2)</sup> & Wojciech Knap <sup>(2),(3)</sup>	<sup>(1)</sup> Warsaw University of Technology, Poland; <sup>(2)</sup> Polish Academy of Sciences, Poland; <sup>(3)</sup> Montpellier University & CNRS, France
K2-1	K3-1	K3	Oral	Nov.2	0:45	Silicon Technology Solutions for 5G millimeter-wave Applications	Alvin Joseph	Essex Junction, USA
K2-2	K3-2	K3	Oral	Nov.2	0:45	The Path to Saving Moore's Law	Sanjay Natarajan	Applied Materials, USA
K3-1	K4-1	K4	Oral	Nov.3	0:45	Blurring the Lines Between Mind, Body and Prosthetics	Ralph Etienne-Cummings	Johns Hopkins University, USA
K3-2	K4-2	K4	Oral	Nov.3	0:45	System-on-Chip in the Age of AI	Yong Lian	York University, UK
S0304	S51-3	S51	Oral	Nov.3	0:15	An Aging Fault Prediction Sensor Circuit Based Guardband Violation	Xinsheng Wang,Hao Wu	Harbin Institute of Technology at Weihai, China
S0305	S46-3	S46	Oral	Nov.3	0:15	Design of Improved Phase Frequency Detector and Charge-Pump for a 12-18 GHz CMOS PLL	Yupeng Fu, Lianming Li, Dongming Wang	Southeast University, China
S0308	S56-1	S56	Oral	Nov.3	0:30	An Inductorless Differential Transimpedance Amplifier Design for 5 GHz Optical Communication using 0.18- $\mu$ m CMOS	Lee Bai Song Samuel, Thangarasu Bharatha Kumar, Zou Qiong, Yeo Kiat Seng	Singapore University of Technology and Design, Singapore
S0311	S24-1	S24	Oral	Nov.2	0:15	A 5 <sup>th</sup> -Order Butterworth Active-RC Complex Band-pass Filter with New Passive Compensation	Ya-Ping Li, Yong Wang	Shandong University, China
S0313	S23-6	S23	Oral	Nov.2	0:15	A 10Gbs QPSK Carrier Recovery Circuit for 60GHz Millimeter-wave Receiver in 65nm CMOS	Jialiang Ye, Wankai Zheng, Zhiyuan Chen, Yibo Liu, Wei Wang and Baoyong Chi	Tsinghua University, China
S0314	S42-1	S42	Oral	Nov.3	0:30	Degradation Mechanisms for CdSe Quantum dot down converted LEDs	Preetpal Singh <sup>1</sup> , Cher Ming Tan <sup>1,2,3,4</sup> , Hao-Chung Kuo <sup>5</sup>	<sup>1</sup> Chang Gung University, Taiwan, China; <sup>2</sup> Chang Gung University, Taiwan, China; <sup>3</sup> Chang Gung Memorial Hospital, Taiwan, China; <sup>4</sup> Ming Chi University of Technology, Taiwan, China; <sup>5</sup> National Chiao Tung University, Taiwan, China

S0315	P2-58	P2	Poster	Nov.2	0:00	Research of Special Instructions for Composite Field Multiplications in Symmetric Cryptographic Algorithms	Long-mei Nan <sup>1,2</sup> , Xiao-yang Zeng <sup>1</sup> , Wei Li <sup>2</sup> , Chen Lin <sup>2</sup> , Yi-ran Du <sup>2</sup> , Zi-bin Dai <sup>2</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Zhengzhou Institute of Information Technology, China
S0319	S11-4	S11	Oral	Nov.1	0:15	A Novel Planar InAs/Si Hetero-TFET with Buried Drain Design and Face-tunneling Technique	Bin Lu, Hongliang Lu, Yuming Zhang, Yimen Zhang, Zhijun Lv, Yingxiang Zhao	School of Microelectronics, Xidian University, China
S0320	P2-67	P2	Poster	Nov.2	0:00	A 1MHz-BW 45dB-SNDR CNT analog front-end design	Cong Wei, Hengyu Liu, Lin Zhang, Luming Yi, Xinyu Xu, Chengying Chen	Fujian Xiamen, China
S0321	S44-2	S44	Oral	Nov.3	0:15	Modeling of Threshold Voltage and Drain Current for Independent Dual-Gate a-InGaZnO Thin-Film Transistors	Min-Xi Cai, Ruo-He Yao	South China University of Technology, China
S0323	P1-55	P1	Poster	Nov.1	0:00	Droplet Morphology Correction in Single-planar EWOD Devices to Enhance Luminescence Detection Sensitivity	Wei Wang, Kaidi Zhang, Xubo Wang, Jia Zhou	Fudan University, China
S0324	S24-3	S24	Oral	Nov.2	0:15	Design of a low electrode offset and high CMRR instrumentation amplifier for ECG acquisition systems	Ji-Wei Huang, Tai-Ming Huang, Fan-Yang Li	Fuzhou University, China
S0325	P1-16	P1	Poster	Nov.1	0:00	Influence of Emitter-side Deep-oxide Trenches on Dynamic Avalanche Capability of SOI Lateral IGBTs Used for Monolithic Power ICs	Jie Ma <sup>1</sup> , Long Zhang <sup>1,2</sup> , Jing Zhu <sup>1</sup> , Shilin Cao <sup>1</sup> , Shaohong Li <sup>1</sup> , Siyang Liu <sup>1</sup> , Weifeng Sun <sup>1</sup> , Jianfeng Zhao <sup>2</sup> , Yan Gu <sup>3</sup> and Sen Zhang <sup>3</sup>	<sup>1</sup> Southeast University, China; <sup>2</sup> Southeast University, China; <sup>3</sup> CSMC Corporation, China
S0326	S48-4	S48	Oral	Nov.3	0:15	A floating high voltage gate driver with latch function	Han-Feng Xiong, Ze-Hong Li, Ren-Ren Hu, Zhi-Chao Hong	University of Electronic Science & Technology of China, China
S0327	S45-2	S45	Oral	Nov.3	0:15	A Neural Network Trojan Detection Method Based on Particle Swarm Optimization	Chen-Xu Wang <sup>1</sup> , Shi-Yao Zhao <sup>1</sup> , Xin-Sheng Wang <sup>1</sup> , Min Luo <sup>1</sup> and Min Yang	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> State Oceanic Administration, China
S0328	P2-22	P2	Poster	Nov.2	0:00	A 10-Bit CMOS SAR ADC for Low-Power Sensor Applications	An-Qiang Guo <sup>1,2</sup> Quan Sun <sup>3</sup> Min Qi <sup>1,2</sup> Dong-Hai Qiao <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> The University of Chinese Academy of Sciences, China; <sup>3</sup> Southern Methodist University, USA
S0329	P2-48	P2	Poster	Nov.2	0:00	A high-speed dynamic comparator with low-power supply voltage	Ya-Bo Ni <sup>1,3</sup> , Ting Li <sup>1,3</sup> , Zheng-Bo Huang <sup>2,3</sup> , Yong Zhang <sup>3</sup> , and Shi-Liu Xu <sup>1,3</sup>	<sup>1</sup> Science and Technology on Analog Integrated Circuits Laboratory, China; <sup>2</sup> Xi'an Jiaotong University, China; <sup>3</sup> The 24th insitute, CETC
S0330	S49-3	S49	Oral	Nov.3	0:15	High Robust and Low Cost Soft Error Hardened Latch Design for Nanoscale CMOS Technology	Hong-Chen Li <sup>1</sup> , Li-Yi Xiao <sup>1</sup> , Jie Li <sup>1</sup> , Xue-Bing Cao <sup>1</sup>	<sup>1</sup> Harbin Institute of Technology, China
S0331	S17-1	S17	Oral	Nov.2	0:30	High Mobility 4H-SiC MOSFET	A. O'Neill, F. Arith, J. Urresti, K. Vasilevskiy, N. Wrightand, S. Olsen	Newcastle University, UK
S0333	S45-4	S45	Oral	Nov.3	0:15	Context Combined Cascaded Region Proposal Network with Dual Loss	Xin-Yu Zhu <sup>1</sup> , Jun Zhang <sup>1</sup> , Geng-Sheng	<sup>1</sup> Fudan University, China

						Function for Accurate Car Detection	Chen <sup>1</sup>	
S0336	P2-11	P2	Poster	Nov.2	0:00	A Ka-Band 6-bits Phase Shifter for 5G Application Using SiGe BiCMOS Process	Chen Liang <sup>1,2</sup> , Chen Yuepeng <sup>1,2</sup> , Chen Xinyu <sup>1,2</sup> , Li Zhiqun <sup>3</sup>	<sup>1</sup> Guobo Electronics Co. Ltd, China; <sup>2</sup> Nanjing Electronic Devices Institute, China; <sup>3</sup> Southeast University, China
S0337	S32-7	S32	Oral	Nov.2	0:15	DAC-Controlled Soft-Start Circuit for AC/DC Converters	Min Qi <sup>1,2</sup> , Quan Sun <sup>3</sup> , Dong-hai Qiao <sup>2</sup> ,An-qiang Guo <sup>1,2</sup>	<sup>1</sup> University of Chinese Academy of Sciences, China; <sup>2</sup> Institute of Acoustics, Chinese Academy of Sciences, China; <sup>3</sup> Southern Methodist University, USA
S0342	S06-2	S06	Oral	Nov.1	0:30	On the Low-Frequency Noise of High-k Gate Stacks: What Did We Learn?	Eddy Simoen <sup>1,2</sup> , Romain Ritzenthaler <sup>1</sup> , Tom Schram <sup>1</sup> , Hiroaki Arimura <sup>1</sup> , Naoto Horiguchi <sup>1</sup> , Cor Claeys <sup>3</sup>	<sup>1</sup> Imec, Belgium; <sup>2</sup> Ghent University, Belgium; <sup>3</sup> KU Leuven, Belgium
S0344	S24-4	S24	Oral	Nov.2	0:15	Silicon Verification of Improved Nagata Current Mirrors	Mayu Hirano <sup>1</sup> , Nene Kushita <sup>1</sup> , Yoichi Moroshima <sup>2</sup> , Hiromichi Harakawa <sup>2</sup> ; Takeshi Oikawa <sup>2</sup> , Nobukazu Tsukiji <sup>1</sup> , Takashi Ida <sup>1</sup> , Yukiko Shibasaki <sup>1</sup> , Haruo Kobayashi <sup>1</sup>	<sup>1</sup> Gunma University, Japan; <sup>2</sup> ASO Corp., Japan
S0345	S38-2	S38	Oral	Nov.2	0:15	DWA Algorithm for Band-Pass $\Delta\Sigma$ DAC with Ternary Unit Cells	Jun-ya Kojima, Nene Kushita, Masahiro Murakami, Anna Kuwana, Haruo Kobayashi	Gunma University, Japan
S0347	P2-01	P2	Poster	Nov.2	0:00	A novel trimming circuit based on D type flip-flop	Shi-Lin Luo, Ze-Hong Li, Nian Zhao, Han-Feng Xiong, Cheng-Fa Zhang	University of Electronic Science &Technology of China, China.
S0350	S31-2	S31	Oral	Nov.2	0:15	Harmonic Suppression Technique of Magnetic Field Coupling Type Wireless Power Transmission System Using ATAC Circuit	Tomonori Yanagida <sup>1</sup> , Kosuke Machida <sup>2</sup> , Koji Asami <sup>1</sup> , Yuki Endo <sup>1</sup> , Haruo Kobayashi <sup>2</sup>	<sup>1</sup> Advantest Corporation, Japan; <sup>2</sup> Gunma University, Japan
S0354	P1-76	P1	Poster	Nov.1	0:00	Dual-metal-gate AlGaIn/GaN HEMTs for Power Application	Limeng Shi <sup>1</sup> , Meihua Liu <sup>1</sup> , Ninggang Dong <sup>1</sup> , Xinnan Lin <sup>1</sup>	Peking University Shenzhen Graduate School, China
S0355	P2-04	P2	Poster	Nov.2	0:00	A novel Time-to-Digital Converter for All Digital Phase-Locked Loop	GAI Lin-chong <sup>1,2</sup> , CHEN Lan <sup>1,2,3</sup> , WANG Hai-yong <sup>1,2</sup>	<sup>1</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences,China; <sup>3</sup> Beijing Key Laboratory of Three-dimensional and Nanometer Integrated Circuit Design Automation Technology, China
S0357	S40-6	S40	Oral	Nov.2	0:15	Full Automatic Notch Generation in Noise Spectrum of Pulse Coding	Yi-Fei Sun <sup>1</sup> , Yasunori Kobori <sup>1</sup> , Haruo	<sup>1</sup> Gunma University, Japan

						Controlled Switching Converter	Kobayashi <sup>1</sup>	
S0368	P1-39	P1	Poster	Nov.1	0:00	Charge Trapping Memory with Al <sub>2</sub> O <sub>3</sub> /HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> Multilayer High-κ Dielectric Stacks and High Work Function Metal Gate Featuring Improved Operation Efficiency	Zhao-Zhao Hou <sup>1,2</sup> , Hua-Xiang Yin <sup>1,2</sup> , Zhen-Hua Wu <sup>1,2</sup>	<sup>1</sup> Institute of Microelectronics, Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China
S0371	S22-2	S22	Oral	Nov.2	0:30	A Low-power Reliability Enhanced Arbiter Physical Unclonable Function Based on Current Starved Multiplexers	Si Wang <sup>1</sup> , Yuan Cao <sup>2,3</sup> , Chip-Hong Chang <sup>1</sup>	<sup>1</sup> Nanyang Technological University, Singapore; <sup>2</sup> Hohai University, China; <sup>3</sup> Southeast University, China
S0372	S01-1	S01	Oral	Nov.1	0:30	Orientation controlled GaSb nanowires: from growth to application	Zaixing Yang <sup>1</sup> , Johnny C. Ho <sup>2</sup>	<sup>1</sup> Shandong University, China; <sup>2</sup> City University of Hong Kong, Hong Kong
S0373	S08-4	S08	Oral	Nov.1	0:15	Design of RLWE Cryptoprocessor Based on Vector-Instruction Extension with RISC-V Architecture	Quan Zhang, Yujie Huang, Yujie Cai, Yalong Pang, Jun Han	Fudan University, China
S0374	S25-6	S25	Oral	Nov.2	0:15	Wide SOA and High Reliability 60-100 V LDMOS Transistors with Low Switching Loss and Low Specific On-Resistance	Jun-ichi Matsuda, Anna Kuwana, Jun-ya Kojima, Nobukazu Tsukiji, and Haruo Kobayashi	Gunma University, Japan
S0376	P1-40	P1	Poster	Nov.1	0:00	Charge Trapping Memory Based on Tri-layers ALD-Alumina Gate Stack and InGaZnO Channel Layer	Pengfei Ma <sup>1</sup> , Yuxiang Li <sup>1</sup> , Aimin Song <sup>1,2</sup>	<sup>1</sup> Shandong University, China; <sup>2</sup> University of Manchester, United Kingdom
S0377	S21-5	S21	Oral	Nov.2	0:15	The total ionizing dose effects on non-volatile memory cells based on silicon-oxide-nitride-oxide-silicon (SONOS) and floating gate (FG) technologies	Mei Li <sup>1,2</sup> , Jinshun Bi <sup>1</sup> , Yannan Xu <sup>1,2</sup> , Lanlong Ji <sup>1</sup> and Ming Liu <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Science, China
S0380	S32-5	S32	Oral	Nov.2	0:15	EMI Reduction and Output Ripple Improvement of Switching DC-DC Converters with Linear Swept Frequency Modulation	Minh Tri Tran, Natsuko Miki, Yifei Sun, Yasunori Kobori and Haruo Kobayashi	Gunma University, Japan
S0381	S32-1	S32	Oral	Nov.2	0:30	Unified Methodology of Analog/Mixed-Signal IC Design Based on Number Theory	Haruo Kobayashi, Yuto Sasaki, Hiroataka Arai, Dan Yao, Yujie Zhao, Xueyan Bai, Anna Kuwana	Gunma University, Japan
S0382	S01-4	S01	Oral	Nov.1	0:15	A Study of LDE on Stdcell Device Performance in Advance FinFET Technology	Yu-Zhu Gu <sup>1</sup> , Hai-Sheng Lu <sup>1</sup> , Xiang-Qiang Zhang <sup>1</sup> , Meng Lin <sup>1</sup> , Xiao-wei Zou <sup>1</sup> , Waisum Wong <sup>1</sup>	<sup>1</sup> Huawei Technologies Co., Ltd., China
S0384	P1-06	P1	Poster	Nov.1	0:00	MEOL Parasitic Capacitance Study based on State-of-Art FinFET Technology Platform	Chunlei Wu, Xiaowei Zou, Zan Li, Meng Lin, Xiangqiang Zhang, Yuzhu Gu, Waisum Wong	Hisilicon Technologies Corp. Ltd. China
S0386	P2-08	P2	Poster	Nov.2	0:00	A Class-C LC VCO for 802.11 b/g/n and Bluetooth	Qinmiao Kang <sup>1,2</sup> , Zhifeng Xie <sup>1</sup> , Yongquan Liu <sup>2</sup> , and Ming Zhou <sup>1</sup>	<sup>1</sup> Tsinghua University, China; <sup>2</sup> Chinese Aeronautical Establishment, China
S0389	S32-6	S32	Oral	Nov.2	0:15	EMI Noise Reduction for PFC Converter with Improved Efficiency and High Frequency Clock	Noriyuki Oiwa, Shotaro Sakurai, Yifei Sun, Minh Tri Tran, Jing Li, Yasunori	Gunma University, Japan

							Kobori and Haruo Kobayashi	
S0390	S41-2	S41	Oral	Nov.3	0:15	CMOS-compatible Hf0.5Zr0.5O2-based Ferroelectric Capacitors for Negative Capacitance and Non-volatile Applications	Jianjian Wang <sup>1,2</sup> , Jinshun Bi <sup>1</sup> , HuaBai <sup>2</sup> , Gaobo Xu <sup>1</sup> and Ming Liu <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Tianjin Polytechnic University, China
S0391	S45-5	S45	Oral	Nov.3	0:15	FPGA Implementation of LSTM Based on Automatic Speech Recognition	Chen-Lu Li, Yu-Jie Huang, Yu-Jie Cai, JunHan, Xiao-Yang Zeng	<sup>1</sup> Fudan University, China; <sup>2</sup> Fudan University, China
S0393	S28-4	S28	Oral	Nov.2	0:15	Investigation on Stochastic Computing Neuron Circuit Based on FinFET Technology	Yawen Zhang, Zhenghan Lin, Runsheng Wang*, Jiahao Song, Xinyue Zhang, Yuan Wang, Ru Huang	Peking University, China
S0396	S20-4	S20	Oral	Nov.2	0:30	SVM Based Intrusion Detection Using Nonlinear Scaling Scheme	Xiaotang Tang*, Sheldon X.-D. Tan <sup>†</sup> , Hai-Bao Chen*	*Shanghai Jiaotong University, China; <sup>†</sup> University of California, CA
S0397	S02-1	S02	Oral	Nov.1	0:30	Analysis of switching, degradation and failure mechanisms by RTN signals in non-filamentary (a-VMCO) RRAM devices	W.Zhang, Z.Chai, J. Ma, J. F. Zhang	Liverpool John Moores University, UK
S0399	S52-1	S52	Oral	Nov.3	0:30	Efficient Statistical Analysis for Correlated Rare Failure Events	Jun Tao <sup>1</sup> , Zhengqi Gao <sup>1</sup> , Dian Zhou <sup>1,2</sup> , Xuan Zeng <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> University of Texas at Dallas, USA,
S0400	S49-2	S49	Oral	Nov.3	0:15	A Low-Overhead Radiation Hardened Flip-Flop Design for Soft Error Detectio	Jie Li <sup>1</sup> , Li-Yi Xiao <sup>1</sup> , Hong-Chen Li <sup>1</sup> , Chun-Hua Qi <sup>2</sup>	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> Harbin Institute of Technology, China
S0402	S11-5	S11	Oral	Nov.1	0:15	The Application of Gate-Drain underlap Architecture in TFET-based Inverters	Fankang Meng, Hongliang Lu, Yuming Zhang, Yimen Zhang, Bin Lu, Zhijun Lv, Yingxiang Zhao	Xidian University, China
S0407	S15-2	S15	Oral	Nov.1	0:15	A 6~18GHz Ultra-Wideband LNA Using 0.13μm SiGe BiCMOS Technology	Weipeng He, Zhiqun Li, Yan Yao, Yongbin Xue, Qin Li	Southeast University, China
S0409	P1-29	P1	Poster	Nov.1	0:00	Passivated lateral β-Ga2O3 Schottky Barrier Diode on Sapphire Substrate with Reverse Blocking Voltage of 1.9 kV	Zhuangzhuang Hu <sup>1</sup> , Hong Zhou <sup>1</sup> , Zhaoqing Feng <sup>1</sup> , Qian Feng <sup>1</sup> , Jincheng Zhang <sup>1</sup> , and Yue Hao <sup>1</sup>	<sup>1</sup> Xidian University, China
S0411	P2-19	P2	Poster	Nov.2	0:00	A 116 dB Gain, 556.1 MHz GBW Four-Stage OTA in 65 nm CMOS	Zhe Li, Zhangming Zhu, Yi Xie, Maliang Liu	Xidian University, China
S0413	S52-4	S52	Oral	Nov.3	0:15	A Self-Adaptive LSE Wirelength Model for VLSI Global Placement	Zhiping Lai <sup>1</sup> , Zhipeng Huang <sup>2</sup> , Zhen Chen <sup>2</sup> , and Jianli Chen <sup>2</sup>	<sup>1</sup> Fuzhou University, China; <sup>2</sup> Fuzhou University, China.
S0414	P2-69	P2	Poster	Nov.2	0:00	Method for Practical Use of Parasitic Capacitances of Reference Current Sources in Dual-Input-Stages for Increasing the SR of Operational Amplifiers in Inverting Connection Circuits	Anna V. Bugakova <sup>1</sup> , Nikolay N. Prokopenko <sup>1,2</sup> , Alexey A. Zhuk <sup>1</sup>	<sup>1</sup> Don State Technical University, Russia; <sup>2</sup> Institute for Design Problems in Microelectronics of RAS, Russia
S0415	S34-3	S34	Oral	Nov.2	0:15	A high-density flexible tactile sensor array for fingertip sensing	Qi ZHANG <sup>1,2</sup> , Xu ZHANG <sup>1</sup> , XiaoHui HU <sup>1,2</sup> , Ming LIU <sup>1</sup> , Lin LU <sup>1</sup> , HongDa CHEN <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China

S0416	P2-49	P2	Poster	Nov.2	0:00	Features of Increasing the Fast Response of Differential Operational Amplifiers on the Basis of a "Folded" Cascode	Nikolay N. Prokopenko <sup>1,2</sup> , Anna V. Bugakova <sup>1</sup> , Alexey E. Titov <sup>3</sup> , Petr S. Budyakov <sup>1,4</sup>	<sup>1</sup> Don State Technical University, Russia; <sup>2</sup> Institute for Design Problems in Microelectronics of RAS, Russia; <sup>3</sup> Southern Federal University, Russia; <sup>4</sup> JSC "SPE"Pulsar", Russia
S0420	S23-2	S23	Oral	Nov.2	0:15	A 13.5mW 4Gb/s Filter-less UWB Transmitter for High Data Rate Mobile Applications	Yuguang Liu <sup>1</sup> , Haixin Song <sup>1</sup> , Woogeun Rhee <sup>1</sup> , and Zhihua Wang <sup>1</sup>	<sup>1</sup> Tsinghua University,China
S0421	P1-17	P1	Poster	Nov.1	0:00	Analysis of Novel 3300V Embedded Ballast Resistor IGBT with Robust Short-circuit Capability	Xin Peng <sup>1</sup> , Ze-Hong Li, Yu-Zhou Wu, Jin-Ping Zhang, Wei Gao, Min Ren, Bo Zhang	<sup>1</sup> University of Electronic Science and Technology of China, China
S0422	P1-71	P1	Poster	Nov.1	0:00	Effect of post-deposition annealing pressure on bipolar resistive switching in RF sputtered BiFeO <sub>3</sub> /Nb:SrTiO <sub>3</sub> heterostructure	Ying Yang <sup>1</sup> , Hui Zhu <sup>1</sup> , Xiao Meng <sup>1</sup> , Lei Jin <sup>1</sup> , Chen Wang <sup>1</sup> , Si Wang <sup>1</sup> , Shiwei Feng <sup>1</sup> , Chunsheng Guo <sup>1</sup> , Yamin Zhang <sup>1</sup>	<sup>1</sup> Beijing University of Technology, China
S0424	S12-4	S12	Oral	Nov.1	0:15	A Novel Modeling Approach of Single Event Transients for Particle Strikes	Xue-Bing Cao, Li-Yi Xiao, Jie Li, Rong-Sheng Zhang, Lin-Zhe Li, Jin-Xiang Wang	Harbin Institute of Technology, China
S0425	S29-1	S29	Oral	Nov.2	0:30	Investigations of using NMOS parasitic bipolar transistor for ESD protection circuits	Teruo Suzuki	Socionext Inc., Japan
S0428	S21-6	S21	Oral	Nov.2	0:15	Efficient Implementations of Multiple Bit Burst Error Correction for Memories	Jia-Qiang Li <sup>1</sup> , Li-Yi Xiao <sup>1</sup> , Jing Guo <sup>2</sup> , Xue-Bing Cao <sup>1</sup>	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> North University of China, China
S0430	S33-6	S33	Oral	Nov.2	0:15	Research on IGBT Module Failure Caused by Thermal Stress Damage	Meng Guo, Xiao-Ling Zhang, Xue-Song Xie, Yu-Qian Huo, Shuai-Bing Qi, and Dong-Dong Hu	Beijing University of Technology, China
S0431	S34-4	S34	Oral	Nov.2	0:15	Selection of the Band-Pass Range of the Normalizing Signal Transducer of the Sensing Element in the Instrumentation and Control Systems	Leontiy K. Samoylov <sup>1</sup> , Nikolay N. Prokopenko <sup>2,3</sup> , Anna V. Bugakova <sup>2</sup>	<sup>1</sup> Southern Federal University, Russia; <sup>2</sup> Don State Technical University, Russia; <sup>3</sup> Institute for Design Problems in Microelectronics of Russian Academy of Sciences, Russia
S0433	S03-1	S03	Oral	Nov.1	0:30	Nanoscale FETs for high performance and ultra low power operation at the end of the Roadmap	Francis Balestra	Univ. Grenoble Alpes, France
S0434	S37-3	S37	Oral	Nov.2	0:15	40nm Ultra-Low Leakage (40ULL) SRAM - Challenges and Solutions	Beiping Liu, Sriram Balasubramanian, Hari Balan, Zhihong Luo, Wah Peng NEO, Kevin KHUA, Tze Ho CHAN	GLOBALFOUNDRIES Singapore Pte, Ltd., Singapore
S0436	S16-3	S16	Oral	Nov.1	0:15	Obfuscation Algorithm Design Based on Fully Homomorphism	Zhao Pan <sup>1</sup> , Yue-Jun Zhang <sup>1</sup> , Jia-Wei Wang <sup>1</sup> , Peng-jun Wang <sup>12</sup>	<sup>1</sup> Ningbo University, China; <sup>2</sup> Wenzhou University, China

S0437	P1-24	P1	Poster	Nov.1	0:00	Improved Drain Current Density of E-Mode AlGaIn/GaN HEMT with Double-Doped P-Gate	Wenteng Kuang <sup>1</sup> , Hui Sun <sup>2</sup> , Meihua Liu <sup>1</sup> , Xinnan Lin <sup>1</sup> and Dongmin Chen <sup>2</sup>	<sup>1</sup> Peking University Shenzhen Graduate School, China; <sup>2</sup> Peking University, China
S0439	S51-5	S51	Oral	Nov.3	0:15	Area Optimization for FPRM Circuit Based on BDD	Zhi-Wen Chen <sup>1</sup> , Hui-Hong Zhang <sup>1</sup> , Peng-Jun Wang <sup>1,2</sup>	<sup>1</sup> Ningbo University, China; <sup>2</sup> Wenzhou University, China
S0441	P1-14	P1	Poster	Nov.1	0:00	Numerical Simulations of Diamond Cross-Section Germanium Nanowire Transistors for CMOS Compatible Assembly	Guan-Qing Wang, Hao-Yu Kong, Liang-Kui Liu and Lei Sun	Peking University, China
S0442	S10-6	S10	Oral	Nov.1	0:15	HfO2 self-rectifying selector in RRAM array	Xinlei Zhang, Hao Ji and Ran Jiang	Shandong University, China
S0443	P2-50	P2	Poster	Nov.2	0:00	An Accurate Current Scaling Circuit for Self-Emissive Microdisplay Driving Circuit	Bohua Zhao, Ran Huang, Chang Su, Huan Du	Chinese Academy of Sciences, China
S0444	S46-2	S46	Oral	Nov.3	0:15	Analytical and Experimental Study of Wide-Range CMOS Static Frequency Divider for 5G mm-Wave Applications	Rong Zeng <sup>1</sup> , Runxi Zhang <sup>1</sup> , Chunqi Shi <sup>2</sup> , Zitong Zhang <sup>1</sup> , and Naizao Zhong <sup>1</sup>	<sup>1</sup> East China Normal University, China; <sup>2</sup> East China Normal University,China
S0445	S08-5	S08	Oral	Nov.1	0:15	Detecting the Control Flow Attacks Based on Built-in Secure Register Bank	Yun-Fei Yu <sup>1</sup> , Peng-Jun Wang <sup>1,2</sup> , Yue-Jun Zhang <sup>1</sup>	<sup>1</sup> Ningbo University, China; <sup>2</sup> Wenzhou University
S0448	P2-57	P2	Poster	Nov.2	0:00	Evaluating the Practicability of Error-Detection Circuit Exposed to Single-Event Upsets in 65 nm CMOS Technology	Wei He <sup>1</sup> , Jia Wang <sup>1</sup> , Zhun Zhang <sup>2</sup> , Jianhua Wu <sup>1</sup> , and Sheng Luo <sup>2</sup>	<sup>1</sup> Shenzhen University, China; <sup>2</sup> Shenzhen University, China
S0449	S56-6	S56	Oral	Nov.3	0:15	Design and Analysis of a Wideband&High compression ratio Anglog to Information Converter	Su-juan Liu, Yi-hui Fan, Ning Lyu, Ze Li, Yuezhong Zhou	Beijing University of Technology, China
S0450	P1-38	P1	Poster	Nov.1	0:00	Experimental Study of FinFET-based FOI-MAHAS Charge Trapping Memory with Improved Operation Characteristics	Zhao-Zhao Hou <sup>1,2</sup> , Hua-Xiang Yin <sup>1,2</sup> , Zhen-Hua Wu <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences,China
S0451	S17-2	S17	Oral	Nov.2	0:30	Reliability and Stability of Normally-off GaN Power MIS-FETs with LPCVD-SiN <sub>x</sub> Gate Dielectric	Mengyuan Hua, Kevin J. Chen	The Hong Kong University of Science and Technology, Hong Kong, China
S0452	P2-68	P2	Poster	Nov.2	0:00	An SRAM-free HEVC Deblocking Filter VLSI Architecture for 8K Application	Genwei Tang <sup>1</sup> , Xiaoyang Zeng <sup>1</sup> , Yibo Fan <sup>1</sup>	<sup>1</sup> Fudan University, Shanghai China
S0453	S08-3	S08	Oral	Nov.1	0:15	A 5.3 Gpixels/s Frame Memory Recompression Method for QHD Video Coding	Chenhao Gu <sup>1</sup> , Xiaoyang Zeng <sup>1</sup> , and Yibo Fan <sup>1</sup>	<sup>1</sup> Fudan University, Shanghai, China
S0454	P2-28	P2	Poster	Nov.2	0:00	A Multi-Bit Quantization Delta-Sigma ADC using Global Chopper	Yongsheng Wang <sup>1</sup> , Xunzhi Zhou <sup>1</sup> , Anyi Wang <sup>1</sup> , Fengchang Lai <sup>1</sup>	<sup>1</sup> Department of Microelectronics, Harbin Institute of Technology, China
S0455	P2-34	P2	Poster	Nov.2	0:00	A High Order Switched-Capacitor Bandpass Filter with Passband Tunable and -76dB/Octave Attenuation at Transition Band	Yongsheng Wang, Zhixin Zhang, Chenfeng Lin, Yue Ma, Fengchang Lai	Harbin Institute of Technology, China
S0456	P1-01	P1	Poster	Nov.1	0:00	Effect of Surface and Interface on the Back-Gated n-MOSFET with Two-Dimensional MoS <sub>2</sub> Channel Grown by Chemical Vapor Deposition	Fuyu Bai, Hui Shen, and Daming Huang	Fudan University, China
S0457	S02-3	S02	Oral	Nov.1	0:15	The dependence of bottom electrode materials on resistive switching characteristics for HfO <sub>2</sub> /TiO <sub>x</sub> bilayer structure RRAM	Jian Liu <sup>1,2</sup> , Kun-Ji Chen <sup>1,2</sup> , Zhong-Yuan Ma <sup>1,2</sup> , Hua-Feng Yang <sup>1,2</sup> , Xin-Xin Zhang <sup>1,2</sup> , Yang Sun <sup>1,2</sup> , Xin-Fan Huang <sup>1,2</sup>	<sup>1</sup> Nanjing University, China; <sup>2</sup> Nanjing University, China



S0458	P2-39	P2	Poster	Nov.2	0:00	A 16KByte SRAM Memory Containing Peripheral Circuit Hardened	Yongsheng Wang, Ruoyang Wang, Fangfa Fu, Rui Guo, Xiaoyu Yang, Fengchang Lai	Harbin Institute of Technology, China
S0459	P2-37	P2	Poster	Nov.2	0:00	High speed, Low Resource and Non-volatile MTJ-CMOS Hybrid Logical Circuits	Jianjun Chen, Ningyuan Yin, Zhiyi Yu	Sun Yat-sen University, China
S0460	P2-09	P2	Poster	Nov.2	0:00	A 38 ~ 40.5 GHz Frequency Divider Chain for FMCW PLL	Yingyu Chen, Yuanchun Zhou, Dan Liu, Zhangwen Tang	Fudan University, China
S0461	P2-60	P2	Poster	Nov.2	0:00	Design and Analysis of Two-Stage Harmonic Rejection Mixers with 16-Phase LO	Yuanchun Zhou, Dan Liu, Yingyu Chen, Zhangwen Tang	Fudan University, China
S0462	S22-5	S22	Oral	Nov.2	0:15	2.4-GHz Pre-bias RF Energy Harvesting Rectifier with -35-dBm Sensitivity for Self-powered Chips	Enbin Gong, Mingxiao He, Hao Zhang, Yongan Zheng, Luyao Zhang, Xiucheng Hao, Le Ye, Huailin Liao and Ru Huang	Peking University, China
S0463	S36-4	S36	Oral	Nov.2	0:15	CNN Oriented Fast CU Partition Decision and PU Mode Decision for HEVC Intra Coding	Ke CHEN <sup>1</sup> , Xiaoyang ZENG <sup>1</sup> , Yibo FAN <sup>1</sup>	Fudan University, China
S0464	P2-61	P2	Poster	Nov.2	0:00	Design of a Wideband Low Noise Amplifier for 70-1000MHz Frequency Range	Dan Liu, Yingyu Chen, Yuanchun Zhou, Zhangwen Tang	Fudan University, China
S0466	S30-5	S30	Oral	Nov.2	0:15	An ADC Input Buffer with Optimized Linearity	Zekai Wu, Chengwei Wang, Yang Ding, Fule Li, Zhihua Wang	Tsinghua University, China
S0468	P2-12	P2	Poster	Nov.2	0:00	A new method for generating variable frequency and multimode signals of electroacupuncture treatment for insomnia	An-feng Hu, Su-zhen Wang, Zhong-jie Shen, Wei Wang, Hao Zhang	Qingdao University, China
S0470	S38-4	S38	Oral	Nov.2	0:15	A 4.7-mW 12-bit 100-MS/s Hybrid DAC	Wei Wang, Runxi Zhang, and Chunqi Shi	East China Normal University, China
S0471	S43-5	S43	Oral	Nov.3	0:15	Investigation on High Aspect Ratio Multi-level Contact Holes Etching Process in Three-Dimensional Flash Memory Manufacturing	Yu-qi Wang <sup>1,2,3,4</sup> , Li-peng Liu <sup>3</sup> , Bao-you Chen <sup>3</sup> , Wen-jie Zhang <sup>3</sup> , Chuan-bin Zeng <sup>1,2</sup>	<sup>1</sup> University of Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> Yangtze Memory Technologies Co. Ltd., China; <sup>4</sup> East Lake High-Tech Development Zone, China
S0473	P1-04	P1	Poster	Nov.1	0:00	Perfect spin-filter and negative differential resistance for a carbon chain device with defective graphene nanoribbons connected	Feng Cao, Tong-sheng Xia, Wei-sheng Zhao	Beihang University, China
S0474	S31-1	S31	Oral	Nov.2	0:30	Millimeter-Wave FMCW Signal Generators for Radar Applications	Jianxi Wu, Jianfu Lin, Haikun Jia, Baoyong Chi	Tsinghua University, China
S0475	S25-1	S25	Oral	Nov.2	0:30	Recent Progress in GaN Device Technology	Nobuyuki Otsuka, Yuji Kudoh, Hiroaki Ueno, Asamira Suzuki	Automotive & Industrial Systems Company, Panasonic, Japan
S0476	S23-5	S23	Oral	Nov.2	0:15	A Low-Noise 56Gbps PAM-4 Linear Optical Receiver in 40nm CMOS	Ting-Yu Yao <sup>1</sup> , Dan Li <sup>2</sup> , Yang Xie <sup>2</sup> , Patrick Yin Chiang <sup>1</sup> , Zhi-Liang Hong <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Xi'an Jiaotong University, China

S0478	S21-1	S21	Oral	Nov.2	0:30	Chalcogenide-Based Artificial Intelligence Synaptic Device	You Yin, Ryoya Satoh, Keita Sawao	Gunma University, Japan
S0480	P1-70	P1	Poster	Nov.1	0:00	Digit Recognition Through Unsupervised Learning by Lithium Silicate Synapses	HuiYang <sup>1</sup> , Bowei Chen <sup>1</sup> , Yuhui He <sup>1</sup> and Xiang Shui Miao <sup>1</sup>	<sup>1</sup> Huazhong University of Science and Technology, China
S0481	P1-46	P1	Poster	Nov.1	0:00	Inverted $\pi$ -shaped Si/Ge Tunneling Field Effect Transistor	Ru Han <sup>1</sup> , Haichao Zhang <sup>1</sup> , Danghui Wang <sup>1</sup>	<sup>1</sup> Northwestern Polytechnical University, China
S0482	S38-6	S38	Oral	Nov.2	0:15	A 10-bit Dual-Channel Current Steering DAC in 40nm technology	Wen-Tao Zhu, Hua-Lian Tang, Cong Li, and Li Zhang	Xidian University, China
S0483	S38-3	S38	Oral	Nov.2	0:15	Limit Cycle Suppression Technique Using Random Signal In Delta-Sigma DA Modulator	Jiang-Lin Wei, Nene Kushita, Haruo Kobayashi	Gunma University, Japan
S0484	S48-1	S48	Oral	Nov.3	0:30	Low Energy ADCs using Dynamic Amplifiers	Akira Matsuzawa	Tech Idea Co., Ltd.; Tokyo Institute of Technology, Japan.
S0487	S47-5	S47	Oral	Nov.3	0:15	Temperature distribution measurement for chips based on FPGA	Wen-Juan Yu, Shi-Wei Feng, Shi-Jie Pan, Ya-Min Zhang, and Bang-Bing Shi	Beijing University of Technology, China
S0489	S51-1	S51	Oral	Nov.3	0:30	Sparse Tensor Network System Identification for Nonlinear Circuit Macromodeling	Yuke Zhang, Ching-Yun Ko, Cong Chen, Kim Batselier, Ngai Wong	The University of Hong Kong, Hong Kong, China
S0491	S54-5	S54	Oral	Nov.3	0:15	A 12.5Gbps Dual Loop CDR with Multi-band VCO and Novel Frequency Band Switch	Weijia Han, Yongsheng Wang, Jinxiang Wang	Harbin Institute of Technology, China
S0492	P1-61	P1	Poster	Nov.1	0:00	A Novel photodetector with the embedded field-induced p-n photodiode in the SOI Substrate	Xiao-Ying Cao <sup>1,2</sup> , Wen-Song Lin <sup>2</sup> , Jia-Nan Deng <sup>1</sup> , Hong-Bin Liu <sup>1</sup> , Kun-Ming Zhu <sup>1</sup> , Muhammad Arsalan <sup>1</sup> , Jing Wan <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Shanghai University of Engineering Science, China
S0493	S56-2	S56	Oral	Nov.3	0:15	Low-Distortion Signal Generation for Analog/Mixed-Signal IC Testing Using Digital ATE Output Pin and BOST	Kosuke Machida <sup>1</sup> , Tomonori Yanagida <sup>2</sup> , Koji Asami <sup>2</sup> , Masayuki Kawabata <sup>2</sup> , Shohei Shibuya <sup>1</sup> , Haruo Kobayashi <sup>1</sup>	<sup>1</sup> Gunma University, Japan; <sup>2</sup> Advantest Corporation, Japan
S0495	S32-4	S32	Oral	Nov.2	0:15	An Asynchronous Start Mode Suitable for DC-DC Converters in Parallel	Zekun Zhou <sup>1</sup> , Xiaolin Liu <sup>1</sup> , Xiang Li <sup>1</sup> , Wang Shi <sup>1</sup> , Yue Shi <sup>2</sup> , Zhuo Wang <sup>1</sup> , Bo Zhang <sup>1</sup>	<sup>1</sup> University of Electronic Science and Technology of China, China; <sup>2</sup> Chengdu University of Information Technology, China
S0496	P2-36	P2	Poster	Nov.2	0:00	A 30nW Process-and-Voltage Invariant Proportional-to-Absolute Temperature Current Reference	Peiqing Han <sup>1,2</sup> , Niansong Mei <sup>1</sup> and Zhaofeng Zhang <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China
S0497	S33-3	S33	Oral	Nov.2	0:15	600V Integrable Dual-Trench LDMOS with Ultralow Specific On-Resistance and Enhanced Switching Performance	Guo-Liang Yao <sup>1</sup> , Xiao-Rong Luo <sup>2</sup> , Shao-Hua Zhang <sup>1</sup> , Mei-Fei Wu <sup>1</sup> , Jian-Xing Wu <sup>1</sup>	<sup>1</sup> Hangzhou silan Micro-electronics Co., Ltd, China; <sup>2</sup> University of Electronic Science and Technology of China, China
S0498	P2-26	P2	Poster	Nov.2	0:00	A 1.2V 4bit 25dB SNDR Flash ADC with Configurable Output for GNSS Receiver	H. J. Wu, B. Li, Y. P. Zeng, H. C. Ji, Z. G. Yu, Y. Z. Li and C. H. Ma	

S0499	S26-4	S26	Oral	Nov.2	0:15	A LOW-POWER HIGH-RESOLUTION ALL-DIGITAL ON-CHIP JITTER SENSOR FOR A 1-3 GHZ CLOCK GENERATOR	Pei-Yuan Chou <sup>1</sup> , Wei-Ling Lin <sup>1</sup> , Chiang Hu Cheng <sup>1</sup> , Tay-Jyi Lin <sup>2</sup> , Jyh-Herng Wang <sup>3</sup> and Jinn-Shyan Wang <sup>1</sup>	<sup>1</sup> National Chung Cheng University, Taiwan, China; <sup>2</sup> National Chung Cheng University, Taiwan, China; <sup>3</sup> Faraday Technology Corporation, Taiwan, China
S0500	S32-3	S32	Oral	Nov.2	0:15	A 88.3%-91.2% Efficient Buck DC-DC Converter in 0.5um CMOS	Jialiang Ye, Zhiyuan Chen, Yibo Liu and Baoyong Chi	Tsinghua University, China
S0501	S17-3	S17	Oral	Nov.2	0:15	Junction Temperature measurement of SiC BJT via the voltage drop of V <sub>bc</sub>	Bang-Bing Shi, Shi-Wei Feng, Quan-Bo He, Ya-Min Zhang, and Kun Bai	Beijing University of Technology, China
S0502	S10-4	S10	Oral	Nov.1	0:15	Non-filamentary Pd/Al <sub>2</sub> O <sub>3</sub> /TaO <sub>x</sub> /Ta Memristor as Artificial Synapse for Neuromorphic Computing	Rui Wang <sup>1</sup> , Xumeng Zhang <sup>1</sup> , Tuo Shi <sup>1</sup> , Jinsong Wei <sup>1</sup> , Hangbing Lv <sup>1</sup> , Qi Liu <sup>1</sup> and Ming Liu <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China
S0503	S45-6	S45	Oral	Nov.3	0:15	A Computing Efficient Hardware Architecture for Sparse Deep Neural Network Computing	Yanwen Zhang <sup>1</sup> , Peng Ouyang <sup>1,2</sup> , Shouyi Yin <sup>3</sup> , Youguang Zhang <sup>1</sup> , Weisheng Zhao <sup>1,2</sup> , Shaojun Wei <sup>3</sup>	<sup>1</sup> Beihang University, China; <sup>2</sup> Beihang University, China; <sup>3</sup> Tsinghua University, China
S0504	S31-6	S31	Oral	Nov.2	0:15	Modeling of On-Chip Vertically Coiled Solenoid Inductors for Silicon RF IC	Xiangliang Jin <sup>1,2</sup> , Xiao Xiao <sup>1,2</sup> , Yongfeng Sun <sup>1,2</sup>	<sup>1</sup> Xiangtan University, China; <sup>2</sup> Hunan Engineering Laboratory for Microelectronics, China
S0505	S22-6	S22	Oral	Nov.2	0:15	110 pA, 170 ppm/V, -77 dB@100Hz voltage reference for IoT systems	Huachao Xu <sup>1</sup> , Yao Chen <sup>2,3</sup> , Jinlong Hu <sup>4</sup> , Hongyan Cai <sup>1</sup> , Tao Du <sup>1</sup> , Ke Liang <sup>1</sup> , Guofeng Li <sup>1</sup>	<sup>1</sup> Nankai University, China; <sup>2</sup> Guangdong University of Technology, China; <sup>3</sup> Advanced Digital Sciences Center, Singapore; <sup>4</sup> Tianjin University of Technology, China
S0506	S40-4	S40	Oral	Nov.2	0:15	73 pA, 250 ppm/V, -74 dB@100Hz voltage reference using one type of MOSFETs	Huachao Xu <sup>1</sup> , Yao Chen <sup>2,3</sup> , Jinlong Hu <sup>4</sup> , Tao Du <sup>1</sup> , Hongyan Cai <sup>1</sup> , Jin Wang <sup>1</sup> , Guofeng Li <sup>1</sup>	<sup>1</sup> Nankai University, China; <sup>2</sup> Guangdong University of Technology, China; <sup>3</sup> Advanced Digital Sciences Center, Singapore; <sup>4</sup> Tianjin University of Technology, China
S0509	S47-2	S47	Oral	Nov.3	0:15	A Fast Scrubbing Method Based on Triple Modular Redundancy for SRAM-Based FPGAs	Rong-Sheng Zhang, Li-Yi Xiao, Xue-Bing Cao, Jie Li, Jia-Qiang Li, and Lin-Zhe Li	Harbin Institute of Technology, China
S0510	P1-15	P1	Poster	Nov.1	0:00	Coulomb Interaction in One Dimensional Transport of Silicon Junctionless Nanowire Transistor	Yang-Yan Guo <sup>1,2</sup> , Wei-Hua Han <sup>1,2</sup> , Xiao-Song Zhao <sup>1,2</sup> , Ya-Mei Dou <sup>1,2</sup> , and Fu-Hua Yang <sup>1,2,3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> Chinese Academy of Sciences, China
S0512	P1-08	P1	Poster	Nov.1	0:00	A Transistor Cornering Strategy for Multiple-Vt HKMG FinFET with Undoped Channel	Guang-Xing Wan, Hung-Hsu Tseng, Zi-Cai Zhao, Waisum Wong	Hisilicon Technologies Corp. Ltd., China

S0513	P1-36	P1	Poster	Nov.1	0:00	Investigation on the Variation of Flicker Noise and VCO Phase Noise for FinFET Technology: Modeling and Simulation Methodology	Xiaobo Jiang and Waisum Wong	Hisilicon Technologies Co., LTD, China
S0515	P1-05	P1	Poster	Nov.1	0:00	Phonon Limited Electron Mobility in Germanium nFinFETs: Fin Direction Dependence	Ying Jing, Genquan Han, Yan Liu, Jincheng Zhang, and Yue Hao	Xidian University, China
S0516	S04-5	S04	Oral	Nov.1	0:15	U-Gate SiGeSn/GeSn Heterojunction Tunneling Field-Effect Transistors	Meng Liu, Genquan Han, Yan Liu, and Yue Hao	Xidian University, China
S0518	P1-25	P1	Poster	Nov.1	0:00	Research on Radiation-Induced Threshold Voltage Shifts in Power MOSFET Based on Charge-Pumping Method	Ding Yan <sup>1,3</sup> , Wang Lixin <sup>1,3</sup> , Zhang Yanfei <sup>3</sup> , Liu Mengxin <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> Beijing Zhongke Newmicro Technology Co., LTD., China
S0519	S55-6	S55	Oral	Nov.3	0:15	A Resource-Sharing & Pipelined Design Scheme for Dynamic Deployment of CNNs on FPGAs	Han-Chen Ye, Geng-Sheng Chen	Fudan University, China
S0520	P2-30	P2	Poster	Nov.2	0:00	An Efficient Power Management Circuit for RF Energy Harvesting	Qi Xiong <sup>1</sup> , Zunchao Li <sup>1</sup> , Haitao Sun <sup>2</sup> , Lvchen Zhou <sup>1</sup>	<sup>1</sup> Xi'an Jiaotong University, China; <sup>2</sup> Xidian University, China
S0521	P1-18	P1	Poster	Nov.1	0:00	Anti-Single-Event Technology Based on the Novel Hole-Current Diversionary Structure	Sun Xiao <sup>1,3</sup> , Yu Minfeng <sup>1,3</sup> , Zhang Yanfei <sup>3</sup> , Wang Lixin <sup>1,3</sup> , Liu Mengxin <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> Beijing Zhongke Newmicro Technology Co.,LTD. China
S0522	S38-7	S38	Oral	Nov.2	0:15	Integral-type Time-to-Digital Converter	Yuto Sasaki, Haruo Kobayashi	Gunma University, Japan
S0523	P2-71	P2	Poster	Nov.2	0:00	A 22.3-31.2 GHz GaN LNA With 1.74 dB NF and 22.1 dBm P1dB	Xiaodong Tong <sup>1</sup> , Shiyong Zhang <sup>1</sup> , Jianxing Xu <sup>1</sup> , Penghui Zheng <sup>1</sup>	<sup>1</sup> China Academy of Engineering Physics, China
S0524	S50-3	S50	Oral	Nov.3	0:15	Approximate logic optimization for ISFPRM function	Hao-kai yin, Yin-shui Xia	Ningbo University, China
S0526	S33-4	S33	Oral	Nov.2	0:15	Analysis of SenseFET Performance Degradation under Electric Stress	Yang Yang, Ze-Hong Li, Peng-Fei Jia, Xin Peng, Min Ren, Jin-Ping Zhang, Wei Gao, Bo Zhang	University of Electronic Science and Technology of China, China
S0528	S17-4	S17	Oral	Nov.2	0:15	Improvement of the Dynamic On-Resistance Characteristics in AlGaIn/GaN HEMTs with Post Dielectric Annealing	Wenteng Kuang <sup>1</sup> , Hui Sun <sup>2</sup> , Meihua Liu <sup>1</sup> , Jianguo Chen <sup>3</sup> , Dongmin Chen <sup>2</sup> and Xinnan Lin <sup>1</sup>	<sup>1</sup> Peking University Shenzhen Graduate School, China; <sup>2</sup> Peking University, China; <sup>3</sup> Founder Microelectronics International Corporation, Ltd., China
S0529	S46-4	S46	Oral	Nov.3	0:15	Design of a LC-VCO in 65 nm CMOS Technology for 24GHz FMCW Radar Transceiver	Na Yan, Chao Zhang, Xingjiang Hou	Fudan University, China
S0531	P1-23	P1	Poster	Nov.1	0:00	A Base Resistance Controlled Thyristor with N-type Buried Layer to Suppress the Snapback Phenomenon	Fei Hu <sup>1,2,3</sup> , Limei Song <sup>1,2</sup> , Bo Li <sup>1,3</sup> , Lixin Wang <sup>1,2,3</sup> , Jiajun Luo <sup>1,2,3</sup> , Zhengsheng Han <sup>1,2,3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> Chinese Academy of Sciences, China

S0533	S17-6	S17	Oral	Nov.2	0:15	An improved dynamic characteristics 600V PiN diode with recessed anode and double-side Schottky contact for fast reverse recovery	Shaohong Li <sup>1</sup> , Long Zhang <sup>1</sup> , Jing Zhu <sup>1</sup> , Qingxi Tang <sup>1</sup> , Ling Sun <sup>1</sup> , Hao Wang <sup>1</sup> , Xin Tong <sup>1</sup> and Weifeng Sun <sup>1</sup>	<sup>1</sup> National ASIC System Engineering Research Center, China
S0535	P2-20	P2	Poster	Nov.2	0:00	A 13GS/s One-Bit ADC with 18GHz Analog Bandwidth Based On InP DHBT Technology	Xiaopeng Li <sup>1,2,3,4</sup> , Zhigong Wang <sup>1</sup> , Yi Zhang <sup>4,5,6</sup> , Youtao Zhang <sup>2,3,7</sup> , Min Zhang <sup>2,3</sup>	<sup>1</sup> Southeast University, China; <sup>2</sup> Nanjing GuoBo Electronics Co., Ltd, China; <sup>3</sup> Nanjing Electronic Devices Institute, China; <sup>4</sup> National and Local Joint Engineering Laboratory of RF Integration and Micro-assembly Technology, China; <sup>5</sup> Southeast University, China; <sup>6</sup> JiangSu HengXin Technology Co., Ltd, China; <sup>7</sup> Science and Technology on Monolithic Intergrated Circuits and Modules laboratory, China
S0540	S07-2	S07	Oral	Nov.1	0:15	A 28-GHz Two-Stage Power Amplifier with a Shunt Built-in Linearizer Using 0.1- $\mu$ m GaAs pHEMT Process	Shuxin Ming, Dixian Zhao	Southeast University, China
S0541	P2-62	P2	Poster	Nov.2	0:00	A 1.2-dB Noise Figure Broadband GaAs Low-Noise Amplifier with 17-dB Gain for Millimeter-Wave 5G Base-Station	Chenyu Xu, Dixian Zhao	Southeast University, China
S0542	P1-42	P1	Poster	Nov.1	0:00	A High Performance DRAM Design Using U-FinFET as Access Transistor	Meng-Qi Wen, Zhi-Yuan Ye, Yue Li, Zheng-Yuan Su, Yao Yao, Lei Liu and Peng-Fei Wang	Fudan University, China
S0543	S43-4	S43	Oral	Nov.3	0:15	A Novel High-Density Source-Side-Injection Flash Memory Cell with Vertical Channel	Yue Li, Zheng-Yuan Su, Meng-Qi Wen, Yao Yao, Zhi-Yuan Ye, Lei Liu and Peng-Fei Wang	Fudan University, China
S0544	P2-17	P2	Poster	Nov.2	0:00	FPGA-based Acceleration System for Visual Tracking	Ke Song <sup>1,2</sup> , Chun Yuan <sup>2</sup> , Peng Gao <sup>1</sup> , Yunxu Sun <sup>1</sup>	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> Tsinghua University, China
S0545	P2-29	P2	Poster	Nov.2	0:00	A Low-Power High-Voltage Power Management Circuit for BMIC	Guangqian Zhu <sup>1</sup> , Yintang Yang <sup>1</sup> , Qidong Zhang <sup>1</sup>	<sup>1</sup> Xidian University, China
S0546	P1-41	P1	Poster	Nov.1	0:00	Investigation of Reducing Bow during High Aspect Ratio Trench Etching in 3D NAND Flash Memory	Yuan Ye <sup>123</sup> , Zhi-Liang Xia <sup>123</sup> , Li-Peng Liu <sup>3</sup> , Zong-Liang Huo <sup>123</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> Yangtze Memory Technologies Co.Ltd., China
S0547	P2-63	P2	Poster	Nov.2	0:00	0.3GHz to 3.5GHz High Linearity downconverting Mixer on 0.18um SiGe BiCMOS Process	Xudong Wang, Bill Beckwith, Tom Schiltz and Mike Bagwell	Analog Devices Inc, USA

S0548	S46-6	S46	Oral	Nov.3	0:15	A Low Power and Wideband 28-41GHz PLL Design for mm-Wave Applications	Chang Yu, Zhi-Gang Li, Yu Ji, Ting-Ting Mo	Shanghai Jiao Tong University, China
S0550	P2-32	P2	Poster	Nov.2	0:00	Failure mode and effect analysis method of SiP component	Zhimin Ding, Chao Duan, Zhaoxi Wu, Meng Meng, Xiaoqing Wang	China Aerospace Components Engineering Center, China
S0551	P2-10	P2	Poster	Nov.2	0:00	Analysis and Design of a W-band Frequency-Multiplier-by-Six	Qian-Nan Ren, Chen-Xi Liu, Fei Yang	Southeast University, China
S0552	P2-02	P2	Poster	Nov.2	0:00	A Power System for Passive UHF RFID Temperature Sensor with Ultra-Low Power	Ang Wang <sup>1,2</sup> , Wan'ang Xiao <sup>1,2</sup> , Shibo Fu <sup>1,2</sup> , Lina Yu <sup>1,2</sup> , Wanlin Gao <sup>3,4</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> China Agricultural University, China; <sup>4</sup> Ministry of Agriculture and Rural Affairs, China
S0553	S26-6	S26	Oral	Nov.2	0:15	Real-time Marker Recognition Using Vision-based Tactile Sensor	Chuan-Bo Hu <sup>1</sup> , Chun Zhang <sup>2</sup> , Xiang Xie <sup>2</sup> , Jian-Ye He <sup>1</sup> , Wen-Ao Xie <sup>1</sup>	<sup>1</sup> Tsinghua University, China; <sup>2</sup> Tsinghua University, China
S0555	S35-1	S35	Oral	Nov.2	0:30	Semiconductor Technologies for next Generation Mobile Communications	N.Collaert, A.Alian, S.-H.Chen, V.Deshpande, M.Ingels, V.Putcha <sup>1</sup> , A.Sibaja-Hernandez, B.van Liempd, A.Vais, A. Vandooren, A.Walke, L.Witters, H.Yu <sup>1</sup> , D.Linten, B.Parvais <sup>2</sup> , P.Wambacq <sup>2</sup> , N.Waldron	Imec, Belgium; <sup>1</sup> KU Leuven, Leuven, Belgium; <sup>2</sup> Vrije Universiteit Brussel, Belgium
S0556	S45-1	S45	Oral	Nov.3	0:30	Computing-in-Memory with SRAM and RRAM for Binary Neural Networks	Xiaoyu Sun <sup>1</sup> , Rui Liu <sup>1</sup> , Xiaochen Peng <sup>1</sup> , Shimeng Yu <sup>2</sup>	<sup>1</sup> Arizona State University, USA; <sup>2</sup> Georgia Institute of Technology, USA
S0557	P2-21	P2	Poster	Nov.2	0:00	A High-linearity CMOS Analog Baseband Circuit with reconfigurable Gain and Bandwidth for 76-81GHz Automotive Radar	Bowen Wu <sup>1</sup> , Zongming Duan <sup>1</sup> , Dongfang Pan <sup>2</sup> , Yan Wang <sup>1</sup> , and Yang Zhou <sup>1</sup>	<sup>1</sup> East China Research Institute of Electronic Engineering, China; <sup>2</sup> University of Science and Technology of China, China
S0558	P1-37	P1	Poster	Nov.1	0:00	MoM Capacitor Variation Models for FinFET Era	Yu Yong, Waisum Wong, Zou Xiaowei, Yu Qianmin, Sun Lijie, Zhao Zicai, Li Zan, Cheng Changhong	Hisilicon Technologies Corp. Ltd., China
S0560	S48-5	S48	Oral	Nov.3	0:15	A Programmable High-Speed Current Detection Circuit	Yue Shi <sup>1</sup> , Jiani Wang <sup>2</sup> , Yadong Sun <sup>2</sup> , Zekun Zhou <sup>2</sup>	<sup>1</sup> Chengdu University of Information Technology, China; <sup>2</sup> University of Electronic Science and Technology of China, China
S0561	P1-10	P1	Poster	Nov.1	0:00	A Comprehensive Investigation on FinFET Gate Resistance for High-Speed Analog and RF Design	Jiewen Fan <sup>1</sup> , Qianmin Yu <sup>1</sup> , Changhong Chen <sup>1</sup> , Xiaobo Jiang <sup>1</sup> , Amin Zhou <sup>1</sup> , Xiangqiang Zhang <sup>1</sup> , Zicai Zhao <sup>1</sup> , Xiaowei Zou <sup>1</sup> , Waisum Wong <sup>1</sup>	<sup>1</sup> Hisilicon Technologies, China

S0562	S25-2	S25	Oral	Nov.2	0:30	Evaluations of GaN-on-Si devices for Power Electronics Applications	Huiqing Wen, Wen Liu, Cezhou Zhao	Xi'an Jiaotong-Liverpool University, China
S0563	P2-15	P2	Poster	Nov.2	0:00	A Novel Recycled FPGA Identification Flow with High Precision	Song-Hao Ru <sup>1</sup> , Xiao-Xiao Wang <sup>1</sup>	<sup>1</sup> Beihang University, China
S0564	S44-3	S44	Oral	Nov.3	0:15	Solution Processed Metal Oxide in Emerging Electronic Devices	Chun Zhao <sup>1,2</sup> , Ce Zhou Zhao <sup>1,2</sup> , Li Yang <sup>3</sup> , Wang Ying Xu <sup>4</sup>	<sup>1</sup> Xi'an Jiaotong-Liverpool University, China; <sup>2</sup> University of Liverpool, UK; <sup>3</sup> Xi'an Jiaotong-Liverpool University, China; <sup>4</sup> Shenzhen University, China
S0565	S11-6	S11	Oral	Nov.1	0:15	An Optimized GaAsSb/InGaAs Heterojunction L-shape Tunnel Field-Effect Transistor	Zhi-Rui Yan, Cong Li, Jia-Min Guo, Hao-Feng Jiang, Jian-Ping Chen, Yi-Qi Zhuang	Xidian University, China
S0566	S26-1	S26	Oral	Nov.2	0:30	AlGaIn/GaN HEMT micro-sensor technology for gas sensing applications	Robert Sokolovskij <sup>1,3</sup> , Jian Zhang <sup>2</sup> , Yang Jiang <sup>3,4</sup> , Ganhui Chen <sup>3,4</sup> , Guo Qi Zhang <sup>1</sup> , Hongyu Yu <sup>3,4</sup>	<sup>1</sup> Delft University of Technology, Netherlands; <sup>2</sup> Fudan University, China; <sup>3</sup> Southern University of Science and Technology, China; <sup>4</sup> Shenzhen Key Laboratory of the Third Generation Semi-conductor, China
S0567	S41-3	S41	Oral	Nov.3	0:15	Impact of BTI Aging Effect and Process Variation on Single Event Upset of DICE	Lin-Zhe Li <sup>1</sup> , Li-Yi Xiao <sup>1</sup> , Xue-Bing Cao <sup>1</sup> , Chun-Hua Qi <sup>2</sup> , Jie Li <sup>1</sup> , Zhi-Gang Mao <sup>1</sup>	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> Harbin Institute of Technology, China
S0568	P2-41	P2	Poster	Nov.2	0:00	A 14-BIT 1.2GS/S TIME-INTERLEAVED PIPELINE ADC WITH CALIBRATION	Jie Pu <sup>1</sup> , Xingfa Huang <sup>1</sup> , Mingyuan Xu <sup>1</sup> , Xiaofeng Shen <sup>1</sup> , Xi Chen <sup>1</sup> and Liang Li <sup>1</sup>	<sup>1</sup> Science and Technology on Analog Integrated Circuit Laboratory, CHINA
S0569	P1-26	P1	Poster	Nov.1	0:00	The Characteristics and Modeling of 600V and 1200V SiC Power MOSFET	Hong Chen <sup>1</sup> , Jilong Hao <sup>1</sup> , QianFei Zhou <sup>2</sup> , Qi Feng <sup>2</sup> , Yun Bai <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> SAIC. Motor Automotive Industry Cooperation. Ltd, China
S0571	S23-4	S23	Oral	Nov.2	0:15	An All-Digital Reconfigurable RF Transmitter for Walkie-Talkie Applications based on 1-bit/3-bit Sigma-Delta Modulation	Feiyi Li, Weixing Liu, Pan Xue, Zhiliang Hong	Fudan University, China
S0574	S42-2	S42	Oral	Nov.3	0:30	ICPD: an SOI-based photodetector with high responsivity and tunable response spectrum	J. Wan <sup>1</sup> , WZ. Bao <sup>1</sup> , JN. Deng <sup>1</sup> , ZX. Guo <sup>1</sup> , XY. Cao <sup>1</sup> , BR. Lu <sup>1</sup> , YF. Chen <sup>1</sup> , A. Zaslavsky <sup>2</sup> , S. Cristoloveanu <sup>3</sup> , M. Bawedin <sup>3</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Brown University, USA; <sup>3</sup> IMEP-LAHC, France
S0576	P2-72	P2	Poster	Nov.2	0:00	EESR: Edge Enhanced Super-Resolution	Ying-Yue Li <sup>1</sup> , Yun-Dong Zhang <sup>2</sup> , Xue-Wu Zhou <sup>2</sup> , Wei Xu <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Vimicro AI Chip Technology Corporation, China
S0577	S15-3	S15	Oral	Nov.1	0:15	15-32 GHz Broad Band Low-Noise Amplifier using 100nm GaN on Silicon Technology	Shi-yong Zhang <sup>1</sup> , Jian-xing Xu <sup>1</sup> , Peng-hui Zheng <sup>1</sup> , Xiao-dong Tong <sup>1</sup>	<sup>1</sup> China Academy of Engineering Physics, China
S0578	P2-38	P2	Poster	Nov.2	0:00	A High-reliability Reading Scheme for STT-MRAM with a Symmetric Dual-reference Sensing Amplifier	Jin Yan <sup>1</sup> , Dong-Sheng Liu <sup>1</sup> , Hong-Mei Yu <sup>1</sup> , Hao Meng <sup>2</sup> , Peng Liu <sup>2</sup>	<sup>1</sup> Huazhong University of Science and Technology, China; <sup>2</sup> CETHIK Group Co.,

								Ltd., China
S0579	S50-4	S50	Oral	Nov.3	0:15	A Novel Design of Quantum-Dots Cellular Automata Comparator Using Five-Input Majority Gate	Li Jun-wen, Xia Yin-shui	Ningbo University, China
S0580	S05-3	S05	Oral	Nov.1	0:30	Atomic Layer Defect-free Top-down Process for Future Nano-devices	Seiji Samukawa	Tohoku University, Japan
S0581	S30-4	S30	Oral	Nov.2	0:15	Analog sub-circuits for 10 bit, 2.5Msps ADC IP core	Byambajav Ragchaa <sup>1</sup> , Liji Wu <sup>1</sup> , Xiangmin Zhang <sup>2</sup> , Honghao Chu <sup>3</sup>	<sup>2</sup> Tsinghua University, China
S0582	S22-4	S22	Oral	Nov.2	0:15	Implementation of SM4 Algorithm based on Asynchronous Dual-Rail Low-power Design	Youqi Li, Xingjun Wu, Guoqiang Bai	Tsinghua University, China
S0583	S04-1	S04	Oral	Nov.1	0:30	A Novel Customized RC Tightened Corner Modeling Methodology Using Statistical SPICE Simulation in Advanced FinFET Technology	Lijie Sun, Waisum Wong, Hung HsuTseng, RenbinShi, Xiaobo Jiang, Jiewen Fan, Guangxing Wan	Hisilicon Corporation, China
S0584	S56-4	S56	Oral	Nov.3	0:15	Design of low noise and low power Chopper Stabilized Amplifier for Neural Recording Applications	Lv-chen Zhou <sup>1</sup> , Zun-chao Li <sup>1</sup> , Jia Li <sup>2</sup> , Qi Xiong <sup>1</sup>	<sup>1</sup> Xi'an Jiaotong University, China; <sup>2</sup> Aviation Industry Corporation of China, Ltd., China
S0585	P1-43	P1	Poster	Nov.1	0:00	Influence of trap-assisted tunneling on Subthreshold Slope of Ge/Si heterojunction L-shaped TFETs	Jia-Min Guo, Cong Li, Zhi-Rui Yan, Hao-Feng Jiang, Jian-Ping Chen, Yi-Qi Zhuang	Xidian University, China
S0589	S16-4	S16	Oral	Nov.1	0:15	A VLSI Implement of CABAC Encoder for H.265/HEVC	Wei Li <sup>1</sup> , Xiang Yin <sup>1</sup> , Xiaoyang Zeng <sup>1</sup> , Xulin Yu <sup>2</sup> , Wenqiang Wang <sup>2</sup> and Yibo Fan <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Alibaba Group, China
S0590	S48-3	S48	Oral	Nov.3	0:15	A High-Performance Gate Driver with Dynamically Adjustable Slope	Zhuo Wang <sup>1</sup> , Song Li <sup>1</sup> , Yue Shi <sup>2</sup> , Zekun Zhou <sup>1</sup> , Bo Zhang <sup>1</sup> ,	<sup>1</sup> University of Electronic Science and Technology of China, China; <sup>2</sup> Chengdu University of Information Technology, China
S0591	P1-03	P1	Poster	Nov.1	0:00	Design of A Graphene-based Plasmonic Half-adder	Jian Ding <sup>1</sup> , Li-Qiang Zhou <sup>1</sup> , Shi-Qi Li <sup>1</sup> , Wei-Wei Chen <sup>1</sup> , Peng-Jun Wang <sup>1,2</sup>	<sup>1</sup> Ningbo University, China; <sup>2</sup> Wenzhou University, China
S0592	P2-03	P2	Poster	Nov.2	0:00	A 69.5-79 GHz Low Noise Amplifier in 65-nm CMOS employing transformer feedback technique	Yan Wang <sup>1</sup> , Dongfang Pan <sup>2</sup> , Zongming Duan <sup>1,2</sup> , Bowen Wu <sup>1</sup>	<sup>1</sup> East China Research Institute of Electronic Engineering, China; <sup>2</sup> University of Science and Technology of China, China
S0593	S31-3	S31	Oral	Nov.2	0:15	A Digitally-Controlled Variable Gain Amplifier with 0.5-dB Step and Constant-Bandwidth for Passive MM-wave Imaging Receiver	Long He, Lianming Li, Xu Wu and Zhigong Wang	Southeast University, China
S0596	S30-3	S30	Oral	Nov.2	0:15	A 10-bit 16-MS/s Ultra-low Power SAR ADC for IoT Applications	Na Yan, Cheng Kang, Geng Mu, Sizheng Chen, Maodong Wang, Hao Min	Fudan University, China



S0597	S24-2	S24	Oral	Nov.2	0:15	A Low-power Third-Order Butterworth Filter for NB-IoT Application	Cheng Kang, Sizheng Chen, Na Yan, Yunyong Yu, Hao Min	Fudan University, China
S0598	S07-3	S07	Oral	Nov.1	0:15	A K-band Wideband Power Amplifier in 40-nm CMOS with 7.6-dBm Output Power	Guixiang Jin, Wei Luo, Na Yan , Yun Yin, Hongtao Xu	Fudan University, China
S0599	S13-4	S13	Oral	Nov.1	0:15	Self-aligned Ge nMOSFETs with gate-last process on GeOI platform	Yi Zhang, Genquan Han, Yan Liu, Huan Liu, Jing Li, and Yue Hao	Xidian University, China
S0601	S51-4	S51	Oral	Nov.3	0:15	Approximate computing for 4-bit Adder Design	Qi Yu, Lun-Yao Wang, Zhu-Fei Chu, Yin-Shui Xia	Ningbo University, China
S0602	S04-2	S04	Oral	Nov.1	0:30	Recent Challenges in Compact Modeling of Short-Channel Effect for Leading-Edge Types of MOSFETs	F.Ávila Herrera <sup>1</sup> , Y.Hirano <sup>1</sup> , T.lizuka <sup>1</sup> , M. Miura-Mattausch <sup>1</sup> , H. Kikuchi-hara <sup>1</sup> , D. Navarro <sup>1</sup> , H. J. Mattausch <sup>1</sup> , A. Ito <sup>2</sup>	<sup>1</sup> Hiroshima University, Japan; <sup>2</sup> Broadcom Inc., USA
S0605	S52-3	S52	Oral	Nov.3	0:15	Efficient Design of Decimal Full Adder Using Quantum-dot Cellular Automata	Zejiang Li, Zhufei Chu, Lunyao Wang, Yinshui Xia	Ningbo University, China
S0606	P1-30	P1	Poster	Nov.1	0:00	Deep Learning Modeling Attack Analysis for Multiple FPGA-based APUF Protection Structures	Ji-Quan Huang <sup>1</sup> , Min Zhu <sup>2</sup> , Bo Liu <sup>1</sup> , Wei Ge <sup>1</sup>	<sup>1</sup> Southeast University, China; <sup>2</sup> Southeast University, China
S0607	S26-3	S26	Oral	Nov.2	0:15	Optimization of novel Interdigitated Electrode Structure for Capacitive Humidity Sensing	Hong Liu, Jia Zhou	Fudan University, China
S0608	S24-5	S24	Oral	Nov.2	0:15	Design of A Silicon Waveguide Admittance Detecting Circuit Using Quadratic Cross-Correlation Method	Wen-Hui Li <sup>1</sup> , Shi-Qi Li <sup>1</sup> , Wei-Wei Chen <sup>1</sup> , Peng-Jun Wang <sup>1,2</sup>	<sup>1</sup> Ningbo University, China; <sup>2</sup> Wenzhou University, China
S0609	S19-1	S19	Oral	Nov.2	0:30	Nanoscale Devices Based on Two-dimensional Materials and Ferroelectric Materials	Zihan Yao, Hojoon Ryu, Kai Xu, Jialun Liu, Yuhang Cai, Yueming Yan, Wenjuan Zhu	University of Illinois at Urbana-Champaign, USA
S0611	S51-2	S51	Oral	Nov.3	0:30	System Simulation for Robot Control Based on AI Approach	S. Bhattacharya, T. K Maiti, S. Dutta, A. Luo, M. Miura-Mattausch, H. J. Mattausch	Hiroshima University, Japan
S0612	S23-3	S23	Oral	Nov.2	0:15	A 76-81GHz Millimeter-Wave Quadrature Transmitter for Automotive Radar System	Runxi Zhang <sup>1</sup> , Jinghong Chen <sup>2</sup> , Chunqi Shi <sup>1</sup> , and Shengyu Rao <sup>1</sup>	<sup>1</sup> East China Normal University, China; <sup>2</sup> University of Houston, USA
S0613	S06-4	S06	Oral	Nov.1	0:15	Investigation of the relationship between the total dose effect and thickness of Al <sub>2</sub> O <sub>3</sub> gate dielectric under gamma-ray irradiation	Hui-Ping Zhu <sup>1,2</sup> , Xi Chen <sup>1,2,4</sup> , Zhong-Shan Zheng <sup>1,2</sup> , Bo Li <sup>1,2</sup> , Jian-Tou Gao <sup>1</sup> , Duo-Li Li <sup>1</sup> , Jia-Jun Luo <sup>1,2</sup> , and Zheng-Sheng Han <sup>1,2,3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> University of Chinese Academy of Sciences, China; <sup>4</sup> North China University of Technology, China
S0614	S28-5	S28	Oral	Nov.2	0:15	Impacts of Key Parameters on the Performance of NOR Flash Computing Array based Convolution	Yachen Xiang <sup>1</sup> , Peng Huang <sup>1,2</sup> , Runze Han <sup>1</sup> , Zheng Zhou <sup>1</sup> , Xiaoyan Liu <sup>1,2</sup> , Jinfeng Kang <sup>1,2</sup> Hong Hu <sup>3</sup> , Lu Liu <sup>3</sup> ,	<sup>1</sup> Peking University, China; <sup>2</sup> National Key Laboratory of Science and Technology on Micro/Nano

							Zhiqiang Su <sup>3</sup> , and Qingming Shu <sup>3</sup>	Fabrication, China; <sup>3</sup> GigaDevice Semiconductor Inc, China.
S0615	S34-5	S34	Oral	Nov.2	0:15	Analysis of Open-Cell planar conductivity and temperature sensors based on PCB	Bojie Zhang <sup>1,2</sup> , Zhenchuan Yang <sup>1</sup> ,	<sup>1</sup> National Key Laboratory of Science and Technology on Micro/Nano Fabrication; <sup>2</sup> Peking University, CHINA
S0616	P2-64	P2	Poster	Nov.2	0:00	Design of Broadband LNA and RFVGA for DVB Receiver Tuner using CMOS 0.18- $\mu$ m Process	Yang Li <sup>1</sup> , Cong Wang <sup>2</sup> , Zhao Yao <sup>3</sup>	<sup>1</sup> University of Jinan, China; <sup>2</sup> Harbin Institute of Technology, China; <sup>3</sup> Qingdao University, China
S0617	S19-2	S19	Oral	Nov.2	0:30	High Performance WSe <sub>2</sub> Transistors with Multilayer Graphene Source/Drain	Chenhsin Lien <sup>5</sup> , Hao-Ling Tang <sup>†5</sup> , Ming-Hui Chiu <sup>†</sup> , Kuan-Jih Hou <sup>5</sup> , Shih-Hsien Yang <sup>5†</sup> , Jih-Fong Su <sup>5</sup> , Yen-Fu Lin <sup>‡</sup> , Lain-Jong Li <sup>5</sup>	<sup>5</sup> National Tsing Hua University, Taiwan; <sup>†</sup> King Abdullah University of Science & Technology (KAUST), Saudi Arabia; <sup>‡</sup> National Chung Hsing University, Taiwan, China; <sup>§</sup> Taiwan Semiconductor Manufacturing Company, Taiwan, China
S0618	S31-5	S31	Oral	Nov.2	0:15	Hybrid Class-G Doherty Digital Power Amplifier with Deep Back-off Efficiency Enhancement	Liang Xiong, Tong Li, Yun Yin, Hongtao Xu	Fudan University, China
S0619	S21-3	S21	Oral	Nov.2	0:15	Correlation between the Decoupling Capacitor Layouts and Single-Event-Upset Resistances of SRAM cells	Zhong-Shan Zheng <sup>1,2</sup> , Zhen-Tao Li <sup>1</sup> , Kai Zhao <sup>1</sup> , Bo Li <sup>1,2</sup> , Jia-Jun Luo <sup>1,2</sup> , Zheng-Sheng Han <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China
S0620	S45-3	S45	Oral	Nov.3	0:15	RRAM-Based Binary Neural Networks Using Back-Propagation Learning	Yuning Jiang, Yunfan Yang, Zheng Zhou, Yachen Xiang, Peng Huang, and Jinfeng Kang	Peking University, China
S0621	P1-47	P1	Poster	Nov.1	0:00	Simulation of Gallium Nitride Cantilevers Integrated with AlGaIn/GaN HEMTs	Qi Cheng <sup>1,2</sup> , Zhenchuan Yang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University, China
S0623	S31-4	S31	Oral	Nov.2	0:15	Non-Linearity Analysis for Digital Class-D RF Power Amplifier	Wei Luo, Yun Yin, Hongtao Xu	Fudan University, China
S0625	S19-3	S19	Oral	Nov.2	0:30	High-performance two-dimensional transistors and circuits	Mengchuan Tian, Xiong Xiong, Mingqiang Huang, Tiaoyang Li, Shengman Li, Qianlan Hu, Xuefei Li, Yanqing Wu	Huazhong University of Science and Technology, China
S0626	S02-2	S02	Oral	Nov.1	0:30	Studies on ReRAM Conduction Mechanism and the Varying-bias Read Scheme for MLC and Wide Temperature Range TMO ReRAM	Ming-Hsiu Lee, Yu-Hsuan Lin, Yu-Yu Lin, Feng-Ming Lee, Dai-Ying Lee, Kuang-Yeu Hsieh	Macronix Emerging Central Lab.; Macronix International Co., Ltd.
S0627	S25-3	S25	Oral	Nov.2	0:15	Failure Mechanism Investigations of Type II Short-Circuit in Trench Gate IGBT Device	Xin Tong <sup>1</sup> , Zhiyuan Xu <sup>1</sup> , Siyang Liu <sup>1</sup> , Wangran Wu <sup>1</sup> , Weifeng Sun <sup>1</sup> , Zhuo	<sup>1</sup> Southeast University, China; <sup>2</sup> WUXI NCE Power CO., LTD China

							Yang <sup>2</sup> , Shaohong Li <sup>1</sup>	
S0629	S15-4	S15	Oral	Nov.1	0:15	A 26.5-40GHz SiGe Stacked Cascode Power Amplifier	Quan Zhou, Zhiqun Li, Guoxiao Cheng, Weipeng He, Huan Wang	Southeast University, China
S0630	S50-2	S50	Oral	Nov.3	0:30	Accelerate Innovations in Robust Circuit Design with Python API to Circuit Simulation	Frank Lee	Synopsys Inc., USA
S0632	S46-7	S46	Oral	Nov.3	0:15	Phase-Locked Loop of SerDes for Satellite Laser Communication	Dengrong Li, Liji Wu, Shuai Yuan and Xiangmin Zhang	Tsinghua University, China
S0633	S18-1	S18	Oral	Nov.2	0:30	Electrochemically Synthesized Nanocomposites for MEMS Device Performance Enhancement	C. C. Chen <sup>1</sup> , Y. T.Cheng <sup>2</sup>	<sup>1</sup> National Central University, Taiwan, China; <sup>2</sup> National Chiao Tung University, Taiwan, China.
S0634	P1-19	P1	Poster	Nov.1	0:00	High-Voltage SOI Deep Trench LDMOS with Quasi Vertical Super Junction Structure	Jinping Zhang, Hua Zou, Qian Zhao, Kang Wang, Zehong Li, Zhaoji Li and Bo Zhang	University of Electronic Science and Technology of China, China
S0635	S29-2	S29	Oral	Nov.2	0:30	Modeling Mutual Coupling Capacitance Effects of Package RDL to Chip on Radio Frequency ICs	Jiansheng Xu, Xingang Wang	Skyworks Solutions, Inc., CA
S0636	S09-5	S09	Oral	Nov.1	0:15	Statistical Variability Analysis in Vertically Stacked Gate All Around FETs at 7 nm Technology	Yue Zhuo <sup>1</sup> , Xiang-Long Li <sup>1</sup> , Ya-Bin Sun <sup>1</sup> , Xiao-Jin Li <sup>1</sup> , Yan-Ling Shi <sup>1</sup> , Shou-Mian Chen <sup>2</sup> , Shao-Jian Hu <sup>2</sup> , Ao Guo <sup>2</sup>	<sup>1</sup> East China Normal University, China; <sup>2</sup> Shanghai Integrated Circuit Research & Development Center Ltd, China
S0637	S01-2	S01	Oral	Nov.1	0:30	A New Quantum Scaling Theory for Nanometer Multiple-gate MOSFETs	Te-Kuang Chiang	National University of Kaohsiung, Taiwan, China
S0638	S15-5	S15	Oral	Nov.1	0:15	A 7W 23-30GHz Power Amplifier in a 100-nm GaN on Si technology	Penghui Zheng, Shiyong Zhang, Jianxing Xu, Rong Wang, and Xiaodong Tong,	Microsystem & Terahertz Research Center of China Academy of Engineering Physics, China
S0639	P1-67	P1	Poster	Nov.1	0:00	Efficient sodium-doped compact TiO2 layers for high performance and hysteresis-less perovskite solar cells	Jing Ma, Xing Guo, Long Zhou, Zhenhua Lin, Jingjing Chang	Xidian University, China
S0641	S35-4	S35	Oral	Nov.2	0:15	Optimization of Ohmic Resistance and Its Application to Improve the Performance of $\beta$ -Ga2O3 nano-membrane MOSFETs	Zhaoqing Feng <sup>1</sup> , Qian Feng <sup>1</sup> , Hong Zhou <sup>1</sup> , Zhuangzhuang Hu <sup>1</sup> , Wenwu Xiao <sup>1</sup> , Dan Zhang <sup>2</sup> , Feng Huang <sup>2</sup> , Jincheng Zhang <sup>1</sup> , and Yue Hao <sup>1</sup> ,	<sup>1</sup> Xidian University, China.; <sup>2</sup> Sun Yat-sen University, China
S0643	S08-2	S08	Oral	Nov.1	0:30	Overview of Efficient Compressive Sensing Reconstruction Engines for E-Health Applications	Ting-Sheng Chen, Kai-Ni Hou, Yo-Woei Pua, An-Yeu (Andy) Wu	National Taiwan University, Taiwan, China
S0644	S18-4	S18	Oral	Nov.2	0:15	Micropore-array Confining Assisted Young's Modulus Measurement of Suspended Cells Using Atomic Force Microscopy	Xinyue Deng <sup>1,2</sup> , Yaoping Liu <sup>1</sup> , Congying Wu <sup>2</sup> and Wei Wang <sup>1,3</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University Health Science Center, China; <sup>3</sup> Peking University, China.

S0645	P1-53	P1	Poster	Nov.1	0:00	Design of a flexible MEMS pressure sensor array in dog's artificial knee joint	Shengzhan Cheng, Chengchen Gao	Peking University, China;
S0647	S14-1	S14	Oral	Nov.1	0:30	A framework for defects in PBTI and hot carrier ageing	Jian FuZhang, Meng Duan, Zhigang Ji, Weidong Zhang	Liverpool John Moores University, UK
S0649	S16-2	S16	Oral	Nov.1	0:15	Aging Impacts on SOC Timing in Advanced FinFET Technologies	Yongsheng Sun, Canhui Zhan, Yiwei Fu, Zhenghao Gan, Waisum Wong	HiSilicon Technologies Co., LTD, China
S0650	S14-5	S14	Oral	Nov.1	0:15	The Study on the Variation of NBTI Degradation in highly-scaled FinFET technology	Dan Gao, Changze Liu, Zhenghao Gan, Pengpeng Ren, Canhui Zhan, Waisum Wong, Zanfeng Chen, Yu Xia	Hisilicon Technologies Co., LTD, China
S0651	S16-1	S16	Oral	Nov.1	0:30	LED-Based Visible Light Communication and Positioning Technology and SoCs	Tian Lang <sup>1</sup> , Zening Li <sup>1</sup> , Fei Lu <sup>1,2</sup> , Zongyu Dong <sup>1,3</sup> , Li Wang <sup>1,4</sup> , Cheng Li <sup>1</sup> , Feilong Zhang <sup>1</sup> , Gang Chen <sup>1</sup> , Albert Wang <sup>1</sup>	<sup>1</sup> Universityof California, USA; <sup>2</sup> Marvell; <sup>3</sup> Qualcomm; <sup>4</sup> Skyworks
S0652	P1-20	P1	Poster	Nov.1	0:00	High Voltage Lateral Bidirectional Super Junction IGBT with Fast Turn-off Speed	Jinping Zhang, Qian Zhao, Kang Wang, Yang Zhao, Zehong Li, Zhaoji Li and Bo Zhang	University of Electronic Science and Technology of China, China
S0653	S40-1	S40	Oral	Nov.2	0:30	State-of-the-Art Monolithic Switched-Capacitor Voltage Regulators for Ultra-Low Power Internet of Things	Kang Wei, D. Brian Ma	The University of Texas at Dallas, USA
S0654	S38-1	S38	Oral	Nov.2	0:30	Performance Improvement of Delta-Sigma ADC/DAC/TDC Using Digital Technique	Haruo Kobayashi, Jiang-Lin Wei, Masahiro Murakami, Jun-ya Kojima, Nene Kushita, YuanyangDu, Jianlong Wang	Gunma University, Japan
S0655	S03-5	S03	Oral	Nov.1	0:15	Characterization of Double-Gate PN Type Tunneling Field-Effect Transistor	Cheng-Chun Kuo <sup>1</sup> , Jyi-Tsong Lin <sup>1</sup> , Chih-Ting Yeh <sup>1</sup> , Abhinav Kranti <sup>2</sup>	<sup>1</sup> National Sun Yat-Sen University, Taiwan China; <sup>2</sup> Discipline of Electrical Engineering Indian Institute of Technology Indore, India
S0657	S42-6	S42	Oral	Nov.3	0:15	Symmetrical and Crossed Double-sided Passivation Emitter and Surface Field Solar Cells for Bifacial Applications	Kung-Yu Ho <sup>1</sup> , Jyi-Tsong Lin <sup>1</sup> , Steve Haga <sup>2</sup> , Wen-Hao Chen <sup>1</sup> and Shih-Chin Huang <sup>1</sup>	<sup>1</sup> National Sun Yat-Sen University, Taiwan China; <sup>2</sup> National Sun Yat-Sen University, Taiwan, China
S0658	S02-4	S02	Oral	Nov.1	0:15	Ru-based Oxide Resistive Random Access Memory for BEOL-Compatible Novel NVM Applications	Yulin Feng, Peng Huang, Zheng Zhou, Dongbin Zhu, Runze Han, Xiangxiang Ding, Lifeng Liu, Xiaoyan Liu and Jinfeng Kang	Peking University, China
S0659	S17-5	S17	Oral	Nov.2	0:15	A High Breakdown Voltage Superjunction MOSFET By Utilizing Double Trench Filling Epitaxy Growth	<sup>1</sup> Dajie Zeng, <sup>1</sup> Wei Zhang, <sup>2</sup> Shengan Xiao	<sup>1</sup> Fudan University, China; <sup>2</sup> Sanrise Technology, China

S0660	P1-63	P1	Poster	Nov.1	0:00	Influence of base structural parameters on responsivity and characteristic frequency of SiGe Heterojunction Phototransistor	Pei Ma <sup>1</sup> , Hong-Yun Xie <sup>1</sup> , Quan-Xiu Chen <sup>1</sup> , Rui Liu <sup>1</sup> , Liang Chen <sup>2</sup> , Jia-hui Wu <sup>1</sup> , Wan-Rong Zhang <sup>1</sup>	<sup>1</sup> Beijing University of Technology, China; <sup>2</sup> Taishan University, China
S0661	P1-62	P1	Poster	Nov.1	0:00	A novel SiGe heterojunction phototransistor detector based on silicon-on-insulator substrat	Rui Liu <sup>1</sup> , Hong-Yun Xie <sup>1</sup> , Rui-Wen Jia <sup>1</sup> , Pei Shen <sup>2</sup> , Liang Chen <sup>3</sup> , Pei Ma <sup>1</sup> , Wan-Rong Zhang <sup>1</sup>	<sup>1</sup> Beijing University of Technology, China; <sup>2</sup> Global Energy Interconnection Development and Cooperation Organization, China; <sup>3</sup> Taishan University, China
S0662	P1-21	P1	Poster	Nov.1	0:00	Research on IGBT junction temperature measurement via pre-threshold voltage method based on FPGA control	Yu-Qian Huo, Xiao-Ling Zhang, Xue-Song Xie, Meng Guo, Shuai-Bing Qi, and Dong-Dong Hu	Beijing University of Technology, China
S0663	S03-2	S03	Oral	Nov.1	0:30	A New Type of Gated-PN TFET to Overcome the Ambipolar and Trap-Assisted Tunneling Effects	Jyi-Tsong Lin <sup>1</sup> , Chih-Ting Yeh <sup>1</sup> , Steve W. Haga <sup>2</sup> , Cheng-Chun Kuo <sup>1</sup> , Chun-Shuo Chou <sup>1</sup>	<sup>1</sup> National Sun Yat-Sen University, Taiwan, China; <sup>2</sup> National Sun Yat-Sen University, Taiwan, China
S0664	P2-44	P2	Poster	Nov.2	0:00	A FPGA-based Hardware Accelerator for Multiple Convolutional Neural Networks	Yuchen Yao <sup>1</sup> , Qinghua Duan <sup>2</sup> , Zhiqian Zhang <sup>3</sup> , Jiabao Gao <sup>4</sup> , Jian Wang <sup>5</sup> , Meng Yang <sup>6</sup> , Xinxuan Tao, Jinmei Lai	<sup>1</sup> Fudan University, China; <sup>2</sup> Chengdu Sino Microelectronics Technology Co., Ltd, China
S0665	P1-13	P1	Poster	Nov.1	0:00	One-Dimensional Transport through Two Subbands in Silicon Junctionless Nanowire Transistors	Xiao-Song Zhao <sup>1,2</sup> , Wei-Hua Han <sup>1,2</sup> , Yang-Yan Guo <sup>1,2</sup> , Ya-Mei Dou <sup>1,2</sup> and Fu-Hua Yang <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China;
S0666	S25-4	S25	Oral	Nov.2	0:15	Comparative Study on the Total Ionizing Dose Effects of the Superjunction and the Conventional Power MOSFETs	Min Ren <sup>1</sup> , Wen-Jing He <sup>1</sup> , Wei Gao <sup>1</sup> , Shao-Feng Cai <sup>2</sup> , Ze-Hong Li <sup>1</sup> , Jin-Ping Zhang <sup>1</sup> , Bo Zhang <sup>1</sup>	<sup>1</sup> University of Electronic Science and Technology of China, China; <sup>2</sup> Sichuan LIPTAI Electronic Co., LTD, China
S0667	S44-1	S44	Oral	Nov.3	0:30	Progress of Thin Film Transistor Technology	Yue Kuo	Texas A&M University, USA
S0668	S21-4	S21	Oral	Nov.2	0:15	SRAM Single Event Effect Simulation Method Based on Random Injection Mechanism	Zhi-Bing Li, Yi Liu, Chang-Qing Xu, Lu-Tao Song, Han-Peng Wu	Xidian University, China
S0669	P1-31	P1	Poster	Nov.1	0:00	Reconfigurable Logic based on Voltage-Controlled Magnetic Tunnel Junction (VC-MTJ) for Stochastic Computing	Zuodong Zhang <sup>1</sup> , Yawen Zhang <sup>1</sup> , Runsheng Wang <sup>1</sup> , Lang Zeng <sup>2,3</sup> , Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Beihang University, China; <sup>3</sup> Beihang University, China.
S0670	S11-3	S11	Oral	Nov.1	0:15	Performance Enhancement by Gate Tunable Strain in p-type Piezoelectric FinFETs	Yuxiong Long <sup>1</sup> , Hongjuan Wang <sup>1</sup> , Jun Z. Huang <sup>2</sup> , Jian Gong <sup>3</sup> , Xiangwei Jiang <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> MaxLinear Inc., USA; <sup>3</sup> Inner Mongolia University, China.
S0671	S04-3	S04	Oral	Nov.1	0:30	Recent Advancement in High-Frequency Noise Characterization for Nano-Scale FETs	Chih-Hung Chen, Xuesong Chen, Phillip V. Do	McMaster University, Canada

S0673	S01-3	S01	Oral	Nov.1	0:15	Impact of channel and spacer engineering on DC and RF performance of Gate-all-around FET	Zhen Zhou <sup>1</sup> , Ya-Bin Sun <sup>1</sup> , Xiao-Jin Li <sup>1</sup> , Yan-Ling Shi <sup>1</sup> , Shou-Mian Chen <sup>2</sup> , Shao-Jian Hu <sup>2</sup> , Ao Guo <sup>2</sup>	<sup>1</sup> East China Normal University, China; <sup>2</sup> Shanghai Integrated Circuit Research & Development Center Ltd., China,
S0674	S23-1	S23	Oral	Nov.2	0:30	A 0.5-V 400-MHz Transceiver Using Injection-Locked Techniques in 180-nm	Chong-Rong Lee, Tse-Wei Wang, Yi-Lin Tsai, Tsung-Hsien Lin	National Taiwan University, Taiwan, China
S0675	S42-5	S42	Oral	Nov.3	0:15	A Three-Terminal ZnS-based CIGS Solar Cell	Shih-Chin Huang <sup>1</sup> , Jyi-Tsong Lin <sup>1</sup> , Steve Haga <sup>2</sup> , Wen-Hao Chen <sup>1</sup> and Kung-Yu Ho <sup>1</sup>	<sup>1</sup> National Sun Yat-Sen University, Taiwan; China <sup>2</sup> National Sun Yat-Sen University, Taiwan, China
S0677	P2-06	P2	Poster	Nov.2	0:00	A 400MHz Fractional-N Frequency Synthesizer with Charge Pump Output Leakage Balancing	Peilin Yang, Hanjun Jiang	Tsinghua University, China
S0678	S43-3	S43	Oral	Nov.3	0:15	Error Bit Distributions in Triple-level Cell Three-dimensional (3D) NAND Flash Memory	Rui Cao, Jixuan Wu, Wenjing Yang, Yuan Li, Jiezhi Chen	Shandong University, China
S0682	P1-32	P1	Poster	Nov.1	0:00	Numerical Simulations on Nanosecond Pulse Laser Annealing in Vertical Polycrystalline Si Macaroni Channel	Fushuai Ma, Xuepeng Zhan, Yuan Li, Jiezhi Chen	Shandong University, China
S0683	P1-66	P1	Poster	Nov.1	0:00	Recessed Back-Surface-Field Crystalline Silicon Solar Cells with Heterojunction for Bifacial Application	Wen-Hao Chen <sup>1</sup> , Jyi-Tsong Lin <sup>1</sup> , Steve Haga <sup>2</sup> , Kung-Yu Ho <sup>1</sup> , and Shih-Chin Huang <sup>1</sup>	<sup>1</sup> National Sun Yat-Sen University, Taiwan; China <sup>2</sup> National Sun Yat-Sen University, Taiwan, China
S0684	P2-24	P2	Poster	Nov.2	0:00	A 11-bit ENOB Noise-shaping SAR ADC with Non-binary DAC Array	Zhiyuan Dai, Hang Hu, Fan Ye and Junyan Ren	Fudan University, China
S0685	S14-3	S14	Oral	Nov.1	0:15	New Insights into the Off-state Stress Induced Degradation in Ultra-scaled FinFET Technology	Pengpeng Ren, Changze Liu, Canhui Zhan, Dan Gao, Zhenghao Gan, Waisum Wong, Zanfeng Chen, Yu Xia	Hisilicon Technologies Co., LTD, China
S0687	S08-1	S08	Oral	Nov.1	0:30	SPAD LiDARs: Modeling and Algorithms	Sung-You Tsai, Yu-Cheng Chang, Tzu-Hsien Sang	<sup>1</sup> National Chiao Tung University, Taiwan, China
S0688	S05-4	S05	Oral	Nov.1	0:15	An enlightening and feasible process concept for irradiated SJ-VDMOS to realize high-speed body diode and stable threshold voltage	Shaohong Li <sup>1</sup> , Qingxi Tang <sup>1</sup> , Ling Sun <sup>1</sup> , Hao Wang <sup>1</sup> , Long Zhang <sup>1</sup> , Jing Zhu <sup>1</sup> , Xin Tong <sup>1</sup> , Weifeng Sun <sup>1</sup> , Sen Zhang <sup>2</sup> and Shikang Cheng <sup>2</sup>	<sup>1</sup> National ASIC System Engineering Research Center, China; <sup>2</sup> CSMC Technologies Corporation, China
S0689	S18-2	S18	Oral	Nov.2	0:30	Self Powered Smart Sensing System	Haixia Zhang	Peking University, China
S0690	P1-44	P1	Poster	Nov.1	0:00	Investigation of Polarization Hysteresis and Transient Current Switching in Ferroelectric Aluminum-Doped Hafnium Oxides	Chien Liu <sup>1</sup> , Chia-Chi Fan <sup>2</sup> , Chih-Yang Tseng <sup>3</sup> , Hsiao-Hsuan Hsu <sup>4</sup> , Chun-Hu Cheng <sup>5</sup> , Yen-Liang Chen <sup>5</sup> , Chun-Yen Chang <sup>2</sup> , Wu-Ching Chou <sup>1</sup> , Chien-Liang Lin <sup>4</sup> , Yu-Chi Fan <sup>4</sup> , Tsung-Ming Lee <sup>4</sup>	<sup>1</sup> National Chiao Tung University, Taiwan, China; <sup>2</sup> National Chiao Tung University, Taiwan, China; <sup>3</sup> National Chiao Tung University, Taiwan, China; <sup>4</sup> National Taipei University of Technology, Taiwan, China; <sup>5</sup> National

								Taiwan Normal University, Taiwan, China
S0691	S47-3	S47	Oral	Nov.3	0:15	Nonvolatile Memory Pre-Silicon Power Loss Test Using FPGA	Qamrul Hasan, Yuichi Ise, Shinsuke Okada, Pan Lijun	Cypress Semiconductor Corporation, USA
S0692	S18-3	S18	Oral	Nov.2	0:30	HIGH-PRESSURE HIGH-TEMPERATURE BULK-TYPE PIEZORESISTIVE PRESSURE SENSOR	Elena Chan <sup>1</sup> , Dequan Lin <sup>1,2,3</sup> , Zili Tang <sup>1</sup> , Lei Lu <sup>1,4</sup> , Kevin Chau <sup>1,2</sup> , Man Wong <sup>1</sup>	<sup>1</sup> The Hong Kong University of Science and Technology, Hong Kong, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> The University of Chinese Academy of Sciences, China; <sup>4</sup> The HKUST Jockey Club Institute for Advanced Study, Hong Kong, China
S0693	S26-2	S26	Oral	Nov.2	0:30	Design, Implementation and Characteristic of CMOS Terahertz Detectors: an overview	Li-yuan Liu <sup>1,2</sup> , Tong Fang <sup>1,2</sup> , Jian Liu <sup>1,2</sup> , Nan-jian Wu <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> The University of Chinese Academy of Sciences, China
S0694	S54-6	S54	Oral	Nov.3	0:15	Design of a Low Noise Clock Generator Based on TSMC65nm Process	Ke-wei Xin, Fang-xu Lv, Jian-ye Wang, Lei Bao, Meng-yang Cui	Air Force Engineering University, China
S0695	P1-27	P1	Poster	Nov.1	0:00	An Improved Edge Termination Structure to Optimize 3.3kV IGBTs Ruggedness	Xiao-Li Tian, Jiang Lu, Yun Bai, Hong Chen and Xin-Yu Liu	Institute of Microelectronics of Chinese Academy of Sciences, China
S0697	P1-78	P1	Poster	Nov.1	0:00	The Influence of Gate Line Edge Roughness and Thickness of Silicon Film on the Performance of UTBB MOSFETs	Yuqi Ren <sup>1</sup> , Lei Shen <sup>2</sup> , Kunliang Wang <sup>2</sup> , Wangyong Chen <sup>2</sup> , Liqiao Liu <sup>2</sup> , Shizhen Huang <sup>1</sup> , Gang Du <sup>2</sup> , Xiaoyan Liu <sup>2</sup>	<sup>1</sup> Fuzhou University, China; <sup>2</sup> Peking University, China
S0698	S19-4	S19	Oral	Nov.2	0:30	Simulation of 1-Nanometer Gate MoS <sub>2</sub> MOSFETs	Sebastian Thiele, Frank Schwierz	Technische Universität Ilmenau, Germany
S0699	P2-35	P2	Poster	Nov.2	0:00	Design of Gain and Bandwidth Configurable Elliptic Low-pass Filter	Xiangcheng Liu, Dan Liu, Yingyu Chen, Yuanchun Zhou, Zhangwen Tang	Fudan University,, China
S0700	P2-42	P2	Poster	Nov.2	0:00	A High Performance Op-amp with Power-on Protection Technologies in Multi-power Domain SAR-assisted Pipeline ADC	Xingchen Shen, Fubiao Cao, Yongzhen Chen, Fan Ye, Junyan Ren	Fudan University,, China
S0701	P1-54	P1	Poster	Nov.1	0:00	Analysis and Optimization of a Diode-Bridge Based Differential Capacitance Readout Circuit for MEMS Gyroscopes	Zesen BAI, Qiancheng Zhao, and Zhenchuan Yang	Peking University, China
S0702	P1-02	P1	Poster	Nov.1	0:00	Current Mirrors Based on Graphene Field-effect Transistors	Pei Peng, Zhongzhen Tian, Muchan Li, Zidong Wang, Liming Reng, Yunyi Fu	Peking University, China
S0703	S54-4	S54	Oral	Nov.3	0:15	A 23-30.8 GHz Digital-Controlled-Oscillator in 28nm CMOS	Yun-kun Li, Jie-yang Li, Zhi-liang Hong	Fudan University, China

S0704	S40-2	S40	Oral	Nov.2	0:15	A Low Noise LDO with Pre-amplified Stage and Base-current Compensation	Meng Chang <sup>1</sup> , Lianxi Liu <sup>1,2</sup> & Junchao Mu <sup>1</sup>	<sup>1</sup> Xidian University, China; <sup>2</sup> Xidian University, China
S0705	S46-5	S46	Oral	Nov.3	0:15	A Novel High-Precision RC Oscillator	Lei Shu <sup>1</sup> , Yinghao Liao <sup>2</sup> , Tingting Mo <sup>1</sup>	<sup>1</sup> Shanghai Jiao Tong University, China; <sup>2</sup> Shenzhen Pango Microsystems Co., LTD, China
S0706	S27-1	S27	Oral	Nov.2	0:30	Electrical Properties of Compound 2D Semiconductor Mo <sub>1-x</sub> Nb <sub>x</sub> S <sub>2</sub>	Peng Lu <sup>1</sup> , Yen Teng Ho <sup>2</sup> , Yung-Ching Chu <sup>2</sup> , Ming Zhang <sup>1</sup> , Po-Yen Chien <sup>1</sup> , Tien-Tung Luong <sup>2</sup> , Edward Yi Chang <sup>2</sup> , Jason C.S. Woo <sup>1</sup>	<sup>1</sup> University of California, USA; <sup>2</sup> National Chiao Tung University, Taiwan, China
S0708	S01-6	S01	Oral	Nov.1	0:15	Investigation on Impact of Fin Width on Single-Event-Transient in Bulk and SOI FinFETs	Gensong Li <sup>1</sup> , Xia An <sup>1</sup> , Zhexuan Ren <sup>1</sup> , Jianing Wang <sup>2</sup> , and Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Beijing University of Technology, China
S0710	S46-1	S46	Oral	Nov.3	0:30	A Temperature-Compensated LC-VCO PLL and a Power-Efficient Decision Feedback Equalizer for Multi-Standard Serial Links	Yang You, Jinghong Chen	University of Houston, USA
S0711	P1-11	P1	Poster	Nov.1	0:00	The Impact of PTS Doping and Fin Angle on TID Response of 14-nm bulk FinFETs	Jia-Ning Wang <sup>1,2</sup> , Xia An <sup>2</sup> , Zhe-Xuan Ren <sup>2</sup> , Gen-Song Li <sup>2</sup> , Wan-Rong Zhang <sup>1</sup> , Ru Huang <sup>2</sup>	<sup>1</sup> Beijing University of Technology, China; <sup>2</sup> Peking University, China
S0713	S03-4	S03	Oral	Nov.1	0:15	Recessed-Gate PN iTFET to Improve Subthreshold Swing and Suppress Ambipolar	Yu-Jhe Li <sup>1</sup> , Jyi-Tsong Lin <sup>1</sup> , Yeh-Chih Ting <sup>1</sup> , Abhinav Kranti <sup>2</sup>	<sup>1</sup> National Sun Yat-sen University, Taiwan, China; <sup>2</sup> Discipline of Electrical Engineering Indian Institute of Technology Indore, India
S0714	S49-5	S49	Oral	Nov.3	0:15	A 12 V Low-Ripple and High-Efficiency Charge Pump with Continuous Regulation Scheme for 3D NAND Flash Memories	Qianqian Wang <sup>1,2</sup> , Fei Liu <sup>1,2</sup> , Cece Huang <sup>1,2</sup> , Liyin Fu <sup>1</sup> , Zongliang Huo <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China
S0715	P1-65	P1	Poster	Nov.1	0:00	An Active Rectifier with P-SSHI for Piezoelectric Energy Harvesting System	Xing Zhou, Yi-Die Ye, Hua-Kang Xia	Ningbo University, China
S0716	S48-2	S48	Oral	Nov.3	0:15	Reconfigurable Active-RC LPF with Self-Adaptive Bandwidth Calibration for Software-Defined Radio in 130 nm CMOS	Songting Li, Lihu Chen, Yong Zhao	National University of Defense Technology, China
S0717	S47-7	S47	Oral	Nov.3	0:15	Design and Implementation of DDR3 SDRAM Controller	Xing Wang, Jian Wang, Xinxuan Tao, Meng Yang, Jinmei Lai	Fudan University, China
S0718	S47-6	S47	Oral	Nov.3	0:15	Research on Circuit-Level Design of High Performance and Low Power FPGA Interconnect Circuits in 28nm Process	Yunbing Pang, Jiqing Xu, Yufan Zhang, Xinxuan Tao, Jian Wang, Meng Yang, Jinmei Lai	Fudan University, China
S0719	P1-74	P1	Poster	Nov.1	0:00	Transient Thermal Behavior of Third-Generation SiGe HBTs with Shallow Trench Isolation	Rui Chen, Dong-Yue Jin, Wan-Rong Zhang, Li-Fan Wang, Bin Guo, Hu Chen, Ling-Han Yin	Beijing University of Technology, China
S0720	S40-3	S40	Oral	Nov.2	0:15	A High Precision Bandgap Voltage Reference with MOS Transistor	Jipeng Wei, Longheng Luo, Shunli Ma,	Fudan University, China



						Curvature Compensation in 65-nm CMOS Process	Fan Ye, Junyan Ren	
S0722	S14-4	S14	Oral	Nov.1	0:15	Investigation of DIBL Degradation in Nanoscale FinFETs under Various Hot Carrier Stresses	Zixuan Sun <sup>1,2</sup> , Zhuoqing Yu <sup>2</sup> , Runsheng Wang <sup>2</sup> , Jiayang Zhang <sup>2</sup> , Zhe Zhang <sup>2</sup> , Peimin Lu <sup>1</sup> , Ru Huang <sup>2</sup>	<sup>1</sup> Fuzhou University, China; <sup>2</sup> Peking University, China
S0725	S56-5	S56	Oral	Nov.3	0:15	A Supply-Doubled 3-Level Pulse-Shaping Pulser for Ultrasound Medical Imaging Applications	Jian-Guo Diao, Yi-Min Wu, Long-Heng Luo, Fan Ye, Jun Xu	Fudan University, China
S0726	S10-1	S10	Oral	Nov.1	0:30	Conductive defect states based filament in MOM structure RRAM	Kun-Ji Chen <sup>1,2</sup> , Jian Liu <sup>1,2</sup> , Yuefei Wang <sup>1,2</sup> , Huafeng Yang <sup>1,2</sup> , Zhongyuan Ma <sup>1,2</sup> , Xinfan Huang <sup>1,2</sup>	<sup>1</sup> Nanjing University, China; <sup>2</sup> Nanjing University, China
S0727	S39-2	S39	Oral	Nov.2	0:15	High Efficiency AC-Coupling Hybrid Envelope Tracking Supply Modulator for LTE Applications	Hui-Yuan Liu, Xiao-Jun Pan, Hong-Guang Zhang, Peng Xu, Zhi-Liang Hong	Fudan University, China
S0728	S09-4	S09	Oral	Nov.1	0:15	Self-Heating Effects Investigation on Nanoscale FinFET and Its Thermal Resistance Modeling	Jun-Ya Sun <sup>1</sup> , Ren-Hua Liu <sup>1</sup> , Xiao-Jin Li <sup>1</sup> , Ya-Bin Sun <sup>1</sup> , Yan-Ling Shi <sup>1</sup> , Shou-Mian Chen <sup>2</sup> , Shao-Jian Hu <sup>2</sup> , Ao Guo <sup>2</sup>	<sup>1</sup> East China Normal University, China; <sup>2</sup> Shanghai Intergrated Circuit Research & Development Center Ltd., China
S0729	S40-5	S40	Oral	Nov.2	0:15	A 0.8V Supply, 4nW, 621mV Bandgap Voltage Reference Circuits for Ultra-low Power IoT Systems	Peng Cao, Dehong Lv, Zhiliang Hong	Fudan University, China
S0730	S56-3	S56	Oral	Nov.3	0:15	CCD Signal Processing Circuit Based On Correlated Double Sampling	Yan Zeng, Wen-Gang Huang, Xiao-Zong Huang	Sichuan Institute of Solid-state Circuits, China
S0731	P1-35	P1	Poster	Nov.1	0:00	A Comprehensive Extraction Method to Decompose Different Random Variation Impacts in bulk FinFET Technology	Zhe Zhang <sup>1</sup> , Runsheng Wang <sup>1</sup> , Xiaobo Jiang <sup>1</sup> , Xingsheng Wang <sup>2</sup> , Yangyuan Wang <sup>1</sup> , Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Huazhong University of Science and Technology, China
S0732	S42-3	S42	Oral	Nov.3	0:15	Structure Optimization for UTBB Based Image Sensor to Suppress Crosstalk	Liqiao Liu <sup>1</sup> , Lei Shen <sup>1</sup> , Kai Zhao <sup>2</sup> , Xiaoyan Liu <sup>1</sup> , Gang Du <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Information Science and Technology University, China
S0733	S10-3	S10	Oral	Nov.1	0:15	Low-power, multilevel and analog characteristics in the multi-layer-oxide based RRAM devices compatible with CMOS technology	Xiangxiang Ding, Dongbin Zhu, Yulin Feng, Linlin Cai, Peng Huang, Lifeng Liu, Jinfeng Kang	Peking University, China
S0734	P1-75	P1	Poster	Nov.1	0:00	Ar RIE to improve the source/drain contact in GaN HEMT	KM. Zhu, JN. Deng, XY. Cao, J. Wan	Fudan University, China
S0735	S03-3	S03	Oral	Nov.1	0:30	Steep-Slope Hysteresis-Free Negative-Capacitance 2D Transistors	Peide D. Ye	Purdue University, USA
S0736	S54-1	S54	Oral	Nov.3	0:30	DLL-Enhanced PLL Frequency Synthesizer with Two Feedback Loops and Body Biasing for Noise Cleaning	Yann Deval, Andrés Asprilla, David Cordova, Hervé Lapuyade, François Rivet	Université de Bordeaux, France
S0738	S47-4	S47	Oral	Nov.3	0:15	Design of a Bit Error Ratio Testing and Error Correction System Based on High-Speed Serial Interface	Lingjun Zhu, Jian Wang, Jinmei Lai	Fudan University, China

S0739	P2-65	P2	Poster	Nov.2	0:00	A wideband 6-bit Digital Attenuator with high accuracy in 65nm CMOS	Jiao Ye, Wei Li, Jie Gong, Jintao Hu, Lai He, Tao Wang	Fudan University, China
S0742	S52-2	S52	Oral	Nov.3	0:15	Chip Variability Mitigation through Continuous Diffusion Enabled by EUV and Self-Aligned Gate Contact	Stephane Badel, Miao Xu, Xiaolong Ma, Wen Yang, Wei Zheng, Xiangqiang Zhang, Meng Lin, Yong Yu, Wei Wei, Qiuling Zeng, Zanfeng Chen, Xiaowei Zou, Waisum Wong, Yanxiang Liu, Sunhom Steve Paak, Yu Xia	HiSilicon Technologies Co., Ltd, China
S0743	P2-46	P2	Poster	Nov.2	0:00	An All-Digital Quadrature RF Transmitter Front-End Using 3-bit $\Sigma\Delta$ Modulators in 65-nm CMOS	Weixing Liu, Feiyi Li, Pan Xue, Zhiliang Hong	Fudan University, China
S0744	P1-07	P1	Poster	Nov.1	0:00	Impact of Gate Asymmetry on Gate-All-Around Silicon Nanowire Transistor Parasitic Capacitance	Xiaoqiao Dong <sup>1,2</sup> , Yuancheng Yang <sup>2</sup> , Gong Chen <sup>2</sup> , Shuang Sun <sup>2</sup> , Qifeng Cai <sup>2</sup> , Xiaokang Li <sup>2</sup> , Xia An <sup>2</sup> , Xiaoyan Xu <sup>2</sup> , Wanrong Zhang <sup>1</sup> , Ming Li <sup>2</sup>	<sup>1</sup> Beijing University of Technology, China; <sup>2</sup> Peking University, China
S0745	S55-4	S55	Oral	Nov.3	0:15	Research on Design and Test Method of High Performance 6 Input LUT	Yufan Zhang, Yunbing Pang, Jiqing Xu, Xinxuan Tao, Jian Wang, Meng Yang, Jinmei Lai	Fudan University, China
S0746	S05-1	S05	Oral	Nov.1	0:30	Low Temperature Bonding Technology Development for 3D and Heterogeneous Integration	Kuan-Neng Chen	National Chiao Tung University, Taiwan, China
S0748	P2-66	P2	Poster	Nov.2	0:00	A Low Flicker Noise Automatic Amplitude Control ASIC for a Split-Mode MEMS Gyroscope	Yang Zhao, Guo-Ming Xia, Qin Shi, An-Ping Qiu	Nanjing University of Science and Technology, China
S0749	S49-4	S49	Oral	Nov.3	0:15	An Ultra-Low Power CMOS Readout Circuit for a MEMS Resonant Accelerometer	Yang Zhao, Guo-Ming Xia, Qin Shi, An-Ping Qiu	Nanjing University of Science and Technology, China
S0750	S28-1	S28	Oral	Nov.2	0:30	3D AND-type NVM for In-Memory Computing of Artificial Intelligence	Hang-Ting Lue, Keh-Chung Wang, Chih-Yuan Lu	Macronix International Co., Taiwan, China
S0751	P1-52	P1	Poster	Nov.1	0:00	Optimization of Thin Metal Layer Etch Process for MEMS/Sensor Application	Xiaoxu Kang <sup>1</sup> , Xingwang Zhu <sup>2</sup> , Shanshan Liu <sup>2</sup> , Xiaolan Zhong <sup>1</sup> , Ruoxi Shen <sup>1</sup> , Shoumian Chen <sup>1</sup> , Yuhang Zhao <sup>1</sup> , Limin Zhu <sup>2</sup> , Jianmin Wang <sup>2</sup> , Hanwei Lu <sup>2</sup> , Wei Wang <sup>2</sup> , Bo Zhang <sup>2</sup>	<sup>1</sup> Shanghai IC R&D Center, China; <sup>2</sup> Shanghai Huahong Grace Semiconductor Manufacturing Corporation, China
S0752	P1-77	P1	Poster	Nov.1	0:00	A Non-Destructive Method to Obtain Sheet Resistance and Mobility of 2DEG in GaN-Based Heterostructures Using Frequency Dispersion of Capacitance	Wei Lin <sup>1,2</sup> , Cheng P. Wen <sup>1</sup> , Yilong Hao <sup>1</sup> , Bo Shen <sup>2</sup> , and Maojun Wang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University, China
S0754	P2-13	P2	Poster	Nov.2	0:00	A Self-Timed Ring Based Time-to-Digital Converter on FPGA	Minmin Zhang <sup>1</sup> , Jianfei Jiang <sup>1</sup> , Qin Wang <sup>1</sup> , Jia Huang <sup>2</sup>	<sup>1</sup> Shanghai Jiao Tong University, China <sup>2</sup> Shanghai Chest Hospital, China

S0755	P2-51	P2	Poster	Nov.2	0:00	A novel area efficient ESD power clamp with feedback technology	Dongsheng Xu <sup>1,2,3</sup> , Xiaowu Cai <sup>1,3</sup> , Lan Dai <sup>2</sup> , Hainan Liu <sup>1,3</sup> , Jiajun Luo <sup>1,3</sup> , Haitao Zhao <sup>1,3</sup> , Hongju Tang <sup>1,3</sup> , Rui Peng <sup>1,3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> North China University of Technology, China; <sup>3</sup> Chinese Academy of Sciences, China
S0756	P2-45	P2	Poster	Nov.2	0:00	Research on Field Programmable Neuron Array (FPNA) Based on Reusable ANN Neurons	Jia Guo,Zijin Yan, Ligang Hou, Ang Lv, Nan Jiang	Beijing University of Technology, China
S0760	P2-05	P2	Poster	Nov.2	0:00	A Multiplexed Low Power and High Linearity Cascaded Phase Interpolator Design	Yitong Kong, Li Ding and Jing Jin	Shanghai Jiaotong University, China
S0761	P2-07	P2	Poster	Nov.2	0:00	A 0.032-mm <sup>2</sup> Fully-Integrated Low-Power Phase-Locked Loop Based on Passive Dual-Path Loop Filter	Fangbo Li, Li Ding and Jing Jin	Shanghai Jiaotong University, China
S0762	S07-4	S07	Oral	Nov.1	0:15	25-45 GHz Wideband Mixer with Simultaneous RF- and LO-port Inductive Peaking Technique	Geliang Yang <sup>1</sup> , Keping Wang <sup>2</sup>	<sup>1</sup> 54th Research Institute of China Electronics Technology Group Corporation, China; <sup>2</sup> Southeast University, China
S0763	P1-50	P1	Poster	Nov.1	0:00	A dual-parameter on-chip test platform based on thermal actuator for testing fracture strength of microstructure	Zikun Chen <sup>1,2</sup> , Zexin Fan <sup>2</sup> , Fang Yang <sup>2</sup> , Longzhao Shi <sup>1</sup> , Dacheng Zhang <sup>2</sup>	<sup>1</sup> Fuzhou University, China; <sup>2</sup> Peking University, China
S0764	S16-6	S16	Oral	Nov.1	0:15	A High Speed All-Digital True Random Number Generator	Jianfei Jiang <sup>1</sup> , Nin Guan <sup>2</sup> , Qin Wang <sup>1</sup> , Chaoyang Li <sup>1</sup>	<sup>1</sup> Shanghai Jiao Tong University, China; <sup>2</sup> Shanghai Institute of Aerospace Electronic Communication Equipment, China
S0765	S29-6	S29	Oral	Nov.2	0:15	Design of Power Clamp Circuit with Diode String and Feedback Enhanced Triggering in advanced SOI BCD Process	Hongju Tang <sup>1,2,3</sup> , Xiaowu Cai <sup>1,2</sup> , Xinghui Liu <sup>3</sup> , Hainan Liu <sup>1,2</sup> , Jiajun Luo <sup>1,2</sup> , Haitao ZHAO <sup>1,2</sup> , Rui Peng <sup>1,2</sup> , Dongsheng Xu <sup>1,2</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> Liaoning University, China;
S0766	S08-6	S08	Oral	Nov.1	0:15	HITSM: A Heuristic Algorithm for Independent Task Scheduling in Multicore	Yu-Jie Huang, Quan Zhang, Chen-Lu Li, Ming-E Jing, Xiao-Yang Zeng	Fudan University, China
S0767	P2-52	P2	Poster	Nov.2	0:00	A monolithic switches matrix with wide operating voltage for implantable bladder function restoration	Hanbing Yan <sup>1,2</sup> , Xu Zhang <sup>1</sup> , Ming Liu <sup>1</sup> , Fang Yuan <sup>1</sup> , Sikai Wang <sup>1,2</sup> , Hongda Chen <sup>1</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China
S0768	S53-2	S53	Oral	Nov.3	0:15	Machine-Learning-Based Early-Stage Timing Prediction in SoC Physical Design	Lida Bai and Lan Chen	Chinese Academy of Sciences, China
S0769	P1-51	P1	Poster	Nov.1	0:00	Bipolar resistive switching in Electrolyte-Oxide-Semiconductor (EOS) Structure	Tian Kang <sup>1,2</sup> , Jia Zhu <sup>2</sup> , Yun Huang <sup>2</sup> , Xiaoyu Chen <sup>2</sup> , Zhuojie Chen <sup>2</sup> , Guanzhou Lin <sup>2,3</sup> , Shengxiao Jin <sup>2</sup> , Wengang Wu <sup>2</sup>	<sup>1</sup> Shenzhen Graduate School of Peking University, China; <sup>2</sup> Peking University, China; <sup>3</sup> Fuzhou University, China

S0770	S02-5	S02	Oral	Nov.1	0:15	Plasma oxidation induced ultra-low power performance from a-SiNx:H resistive switching memory	Dingwen Tan, Zhongyuan Ma, Xinxin Zhang, Xiaofan Jiang, Hui Zhang, Yang Sun, Wei Li, Ling Xu, Kunji Chen, Duan Feng	Nanjing University, China
S0772	S09-1	S09	Oral	Nov.1	0:30	ESD Robustness of Silicon Nanowire Transistor (SNWT) Combined with Thermal Analysis and Optimization	Ming Li, Jiewen Fan	Peking University, China
S0773	P2-14	P2	Poster	Nov.2	0:00	A Self-Timed Ring Based True Random Number Generator on FPGA	Yifan Zhang <sup>1</sup> , Jianfei Jiang <sup>1</sup> , Qin Wang <sup>1</sup> , Nin Guan <sup>2</sup>	<sup>1</sup> Shanghai Jiao Tong University, China <sup>2</sup> Shanghai Institute of Aerospace Electronic Communication Equipment, China
S0774	S30-7	S30	Oral	Nov.2	0:15	A Digital Blind Adaptive Calibration Technique based on Timing Mismatch of Adjacent Channels in TIADC	Sujuan Liu, Zhiyue Deng, Ze Li, Yue Zhang Zhou	Beijing University of Technology, China
S0775	P1-22	P1	Poster	Nov.1	0:00	A Novel Super-Junction Structure to Improve SEB Performance	Lin Wang <sup>1,2,3</sup> , Limei Song <sup>1,2</sup> , Lixin Wang <sup>1,2,3</sup> , Bo Li <sup>1,3</sup> , Jiajun Luo <sup>1,2,3</sup> , Zhengsheng Han <sup>1,2,3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> Chinese Academy of Sciences, China
S0776	S30-2	S30	Oral	Nov.2	0:15	An 11-bit 350MS/s 2b/cycle-Assisted SAR ADC with Improved Comparator Clock Generator	Shuai Li, Yong-Zhen Chen, Fan Ye, Jun-Yan Ren	Fudan University, CHINA
S0777	S55-5	S55	Oral	Nov.3	0:15	Timing Model For GRM FPGA Based Routing	Zhu-Jun Qi <sup>1</sup> , Qinghua Duan <sup>2</sup> , Li-Ran Hu, Xin-Xuan Tao, Jian Wang, Meng Yang, Jin-Mei Lai	<sup>1</sup> Fudan University, China; <sup>2</sup> ChengduSino Microelectronic Technology Co., Ltd.
S0779	S24-6	S24	Oral	Nov.2	0:15	On-chip Adaptive Voltage Scaling Based on Flexible Critical Path Emulation Enabled by Buck Converter	Ping Luo, Jinyuan Meng, Xinyi Zheng, Xiang Zhang	University of Electronic Science and Technology of China, China
S0780	P2-53	P2	Poster	Nov.2	0:00	High Speed, Low Power Dynamic Comparator with Dynamic Biasing in Pre-amplifier Phase	Jingchao Lan, Yongzhen Chen, Zhekan Ni, Fan Ye, Junyan Ren	Fudan University, China
S0781	S30-6	S30	Oral	Nov.2	0:15	A histogram based calibration algorithm for MDAC linear and nonlinear errors in pipeline ADCs	Yue-Hong Gong <sup>1</sup> , Min Luo <sup>2</sup> , Hao-Yu Wang <sup>2</sup> , Shao-Jun Zhang <sup>1</sup> , Xiong-Fei Meng <sup>1</sup>	<sup>1</sup> Shandong Jiaotong University, China; <sup>2</sup> Harbin Institute of Technology in Weihai, China.
S0782	S04-4	S04	Oral	Nov.1	0:15	Assessment of Surface Roughness Limited Mobility in Ultra-thin GeOI pMOSFET and a Mobility Enhancement Strategy	Xiaolei Wang, Wenwu Wang	Institute of microelectronics, Chinese academy of sciences, China
S0783	P1-64	P1	Poster	Nov.1	0:00	Growth of Ga2O3 film by Mist-CVD and its application in UV photodetectors and thin film transistors	Yu Xu, Zhiyuan An, Qian Feng, Jincheng Zhang, Chunfu Zhang, Yue Hao	Xidian University, China
S0784	P2-33	P2	Poster	Nov.2	0:00	Implementing RISC-V System-on-Chip for Acceleration of Convolution Operation and Activation Function Based on FPGA	Dong-Ze Li, Hao-Ran Gong, Yu-Chun Chang	Jilin University, China
S0786	S55-3	S55	Oral	Nov.3	0:15	A new hyper-graph partitioning for 3D-FPGA	Li-Ran Hu, Qing-hua Duan, zhu-jun Qi,	<sup>1</sup> Fudan University, China; <sup>2</sup> Chengdu

							Jian Wang, Jin-Mei Lai, and Meng Yang	Sino Microelectronics Technology Co., Ltd
S0787	S44-4	S44	Oral	Nov.3	0:15	High-Performance Flexible ZnO Thin-Film Transistors by Atomic Layer Deposition	Mengfei Wang, Dan Zhan, Jian Song, Xuefei Li, and Yanqing Wu	Huazhong University of Science and Technology, China
S0788	S53-3	S53	Oral	Nov.3	0:15	A High Speed SoftMax VLSI Architecture Based on Basic-Split	Qiwei Sun <sup>1</sup> , Zhixiong Di <sup>1,2</sup> , Zhengyang Lv <sup>1</sup> , Fengli Song <sup>1</sup> , Qianyin Xiang <sup>1,2</sup> , Quanyuan Feng <sup>1,2</sup> , Yibo Fan <sup>3</sup> , Xulin Yu <sup>4</sup> , Wenqiang Wang <sup>4</sup>	<sup>1</sup> Southwest Jiaotong University, China; <sup>2</sup> Southwest Jiaotong University, China; <sup>3</sup> Fudan University, China; <sup>4</sup> Alibaba Group, China
S0789	S06-5	S06	Oral	Nov.1	0:15	First observation of Pt <sub>3</sub> Si phase at Ni <sub>0.86</sub> Pt <sub>0.14</sub> and Si Silicide Reactions	Qingzhu Zhang <sup>1,2</sup> , Hailing Tu <sup>1</sup> , Huaxiang Yin <sup>2,5</sup> , Feng Wei <sup>1</sup> , Hongbin Zhao <sup>1</sup> , Zhaohao Zhang <sup>2</sup> , Jianfeng Gao <sup>2</sup> , Qianhui Wei <sup>1</sup> , Xiao Zhang <sup>1</sup> , Zhangyu Zhou <sup>2</sup> , Yanyan Fan <sup>1</sup> , Jiang Yan <sup>3</sup>	<sup>1</sup> General Research Institute for Nonferrous Metals, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> North China University of Technology, China; <sup>5</sup> University of Chinese Academy of Sciences, China.
S0790	S35-5	S35	Oral	Nov.2	0:15	Design, Fabrication and Characterization of Ultra-High Voltage 4H-SiC MOSFET Transistors	Xiao-Chuan Deng <sup>1,2</sup> , Ben Tan <sup>1,2</sup> , Jun-Tao Li <sup>3</sup> , Xuan Li <sup>1,2</sup> , Bo Zhang <sup>1</sup>	<sup>1</sup> University of Electronic Science and Technology of China, China; <sup>2</sup> University of Electronic Science and Technology of China, China; <sup>3</sup> China Academy of Engineering Physics, China.
S0791	P2-70	P2	Poster	Nov.2	0:00	Codesign of 12-22 GHz Integrated PIN-diode Limiter and Low Noise Amplifier	Lu Cui, Xin Zhou, Yuan-Peng Li, Hong-Tao Wei	Hebei Semiconductor Research Institute, China
S0793	S48-6	S48	Oral	Nov.3	0:15	A High-efficiency Switched Capacitor Converter for Always-on Block	Chun-Fei Chen, Xin-Ning Liu	Southeast University, China
S0795	S43-1	S43	Oral	Nov.3	0:30	On the Reliability of Charge-Trap (CT) Type Three-dimensional (3D) NAND Flash Memory	Jiezhi Chen	Shandong University, P. R. China
S0797	S22-3	S22	Oral	Nov.2	0:15	A reconfigurable accelerator based on fast Winograd algorithm for convolutional neural network in Internet of Things	Chen Yang, YiZhou Wang, XiaoLi Wang, Li Geng	Xi'an Jiaotong University, China
S0799	S48-7	S48	Oral	Nov.3	0:15	A Low Power High Output Frequency Two-stage Output Buffer for 2720×2704 Infrared Focal Plane Array	Meicen Jin <sup>1,2</sup> , Yuze Niu <sup>1,2</sup> , Wengao Lu <sup>1,2</sup> , Yacong Zhang <sup>1,2</sup> , Zhongjian Chen <sup>1,2</sup> , Yi Zhuo <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University Information Technology Institute (Tianjin Binhai), China.
S0800	P2-54	P2	Poster	Nov.2	0:00	Design of High Dynamic Range Front-end Readout Circuit Based on MCP Detectors	Ruoxi Wang, Yuping Guo, Haoran Gong, Jingzhi Yin, Yuchun Chang	Jilin University, China
S0801	P2-27	P2	Poster	Nov.2	0:00	A 16-bit 8-channel Sigma-Delta ADC for Harmonics Detection System in Power Network	Guangyi Chen <sup>1,2</sup> , Wengao Lu <sup>1,2</sup> , You You <sup>1</sup> , Zhongjian Chen <sup>1,2</sup> and Yacong Zhang <sup>1,2</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University Information Technology Institute (Tianjin Binhai), China.
S0802	S54-2	S54	Oral	Nov.3	0:15	A 781Mbps-5Gbps DLL-Based CDR with Starting-Control Circuit	Cheng Li, Yuequan Liu, Song Jia, and	Peking University, China.

							Yuan Wang	
S0803	S39-4	S39	Oral	Nov.2	0:15	A Multi-Standard and Multi-Band Low-Noise Amplifier for 5G/4G-LTE/WiMAX Applications	Zhe-Yang Huang	Shanghai Fudan Microelectronics Group Company Limited, China.
S0804	S42-4	S42	Oral	Nov.3	0:15	A Novel Three-Layer Color-Modulating Optical Coating Non-volatile Display Structure based on Phase Change Material	Tong Zhou <sup>1</sup> , Zhigang Ni <sup>1</sup> , Shenghong Mou, Zhiyuan Cheng	Zhejiang University, China
S0805	S25-5	S25	Oral	Nov.2	0:15	A Study on the Voltage-Clamping caused by Dynamic Avalanche at Over-stress Turn-Off of GCTs	Wu-Hua Yang <sup>1</sup> , Cai-Lin Wang <sup>2</sup>	<sup>1,2</sup> Xi'an University of Technology, China
S0806	S02-6	S02	Oral	Nov.1	0:15	Actually Mimicking of Neuron Action Potential by A Single RRAM Device	Bowen Wang, Zongwei Wang, Yichen Fang, Qingyu Chen, Lin Bao, Yuchao Yang, Yimao Cai, Ru Huang	Peking University, China
S0807	S05-2	S05	Oral	Nov.1	0:30	Can AI help reliability analysis of 3D IC mobile devices?	K. N. Tu, Yingxia Liu	UCLA, USA
S0809	S53-4	S53	Oral	Nov.3	0:15	An Energy-Efficient and Flexible Accelerator based on Reconfigurable Computing for Multiple Deep Convolutional Neural Networks	Chen Yang, HaiBo Zhang, XiaoLi Wang, Li Geng	Xi'an Jiaotong University, China
S0810	P2-23	P2	Poster	Nov.2	0:00	Status Counting Double Edge Slope ADC for CMOS Image Sensors	Cheng Ma <sup>1,2</sup> , Guo-Song Xin <sup>2</sup> , Jing Li <sup>2</sup> , Yang Li <sup>2</sup> , Yang Liu <sup>2</sup> , Quan Zhou <sup>2</sup> , Xin-Yang Wang <sup>2</sup> , Yu-Chun Chang <sup>1</sup>	<sup>1</sup> Jilin University, China; <sup>2</sup> Gpixel Inc, China
S0811	P2-43	P2	Poster	Nov.2	0:00	Image signal processing based on DFCA technology Special high speed high precision analog-to-digital Converter	Bing-yan Hu, Yu-ping Guo, Hai-bin Li, Yu-chun Chang	Jilin University, China
S0814	P2-31	P2	Poster	Nov.2	0:00	A Maximum Efficiency Point Tracking Modulation for Switched-Capacitor Voltage Regulator	Xinyi Zheng, Ping Luo, Bo Zhang	University of Electronic Science and Technology of China, China
S0818	P2-25	P2	Poster	Nov.2	0:00	A 10-bit 160MS/s SAR ADC with Fast-Response Reference Voltage Buffer	Jianfeng Xue, Hanie Ghaedrahmati, Jing Jin	Shanghai Jiao Tong University, China
S0820	S50-5	S50	Oral	Nov.3	0:15	Path Delay Variation Prediction Model with Machine Learning	Jingjing Guo, Peng Cao, Jiangping Wu, Bingqian Xu, Jun Yang	Southeast University, China
S0821	P1-69	P1	Poster	Nov.1	0:00	RTN impacts on RRAM-based Nonvolatile logic circuit	Yao-Tian Ling <sup>1</sup> , Zong-Wei Wang <sup>1</sup> , Yi-Chen Fang <sup>1</sup> , Jian Kang <sup>1</sup> , Lin-Dong Wu <sup>1</sup> , Yu-Chao Yang <sup>1</sup> , Yi-Mao Cai <sup>1</sup> , Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China
S0823	P2-16	P2	Poster	Nov.2	0:00	A Standalone FPGA-test Platform with Bi-directional Ports Supported	Hao Deng, Jian Wang, Xinxuan Tao, Jinmei Lai	Fudan University, China
S0824	P1-57	P1	Poster	Nov.1	0:00	GaN Epitaxy in High Aspect Ratio Nanoscale Trenches over Silicon Substrate	Kejia Wang <sup>1</sup> , Yuzi Song <sup>1</sup> , Pengwei Du <sup>1</sup> , Yahong Xie <sup>2</sup> , Zhiyuan Cheng <sup>1</sup>	<sup>1</sup> Zhejiang University, China; <sup>2</sup> University of California Los Angeles, USA.
S0825	S10-5	S10	Oral	Nov.1	0:15	Experimental Investigation of the Scalability of RRAM Device with Pt/[HfOx/AlOy]m/TiN Structure	Wensheng Shen, Peng Huang, Yulin Feng, Zheng Zhou, Dongbin Zhu, Lifeng Liu, Jinfeng Kang, and Xing Zhang	Peking University, China

S0826	S29-4	S29	Oral	Nov.2	0:15	Temperature Dependence of Diode and ggNMOS ESD Protection Structures in 28nm CMOS	Cheng Li <sup>1</sup> , Feilong Zhang <sup>1</sup> , Chenkun Wang <sup>1</sup> , ChenQi <sup>1</sup> , Fei Lu <sup>1</sup> , Han Wang <sup>1</sup> , Mengfu Di <sup>1</sup> , Yuhua Cheng <sup>2</sup> , Haijun Zhao <sup>3</sup> and Albert Wang <sup>1</sup>	<sup>1</sup> University of California, USA; <sup>2</sup> Peking University, China; <sup>3</sup> SMIC.
S0827	P2-59	P2	Poster	Nov.2	0:00	An Ultra Low-power Processor with Dynamic Regfile Configuration	Meng Wang, Ningmei Yu , Wenheng Ma, Qilong Sheng, Wendong Zhang, Zili Huang	Xi'an University of Technology, China
S0828	P1-72	P1	Poster	Nov.1	0:00	Study on High-Resistance State Instability of TaOx-Based RRAM	Lindong Wu <sup>1</sup> , Zongwei Wang <sup>1</sup> , Yichen Fang <sup>1</sup> , Zhizhen Yu <sup>1</sup> , Jian Kang <sup>1</sup> , Qingyu Chen <sup>1</sup> , Yuchao Yang <sup>1</sup> , Zhigang Ji <sup>2</sup> , Yimao Cai <sup>1</sup> , Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Liverpool John Moores University, UK.
S0829	P2-40	P2	Poster	Nov.2	0:00	A Pre-Fabrication Malicious Hardware Implementation Method	Wenheng Ma, Ningmei Yu, Ga Liu, Qilong Sheng, Meng Wang, Li Dai	Xi'an University of Technology, China
S0830	P2-55	P2	Poster	Nov.2	0:00	Noise Immunity Improvement in High Voltage Gate Driver IC	Rui Peng <sup>1,2,3</sup> , Xiaowu Cai <sup>1,2</sup> , Hainan Liu <sup>1,2</sup> , Jiajun Luo <sup>1,2</sup> , Haitao Zhao <sup>1,2</sup> , Hongju Tang <sup>1,2</sup> , Dongsheng Xu <sup>1,2</sup> , Xiulong WU <sup>3</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> Chinese Academy of Sciences, China; <sup>3</sup> Anhui University, China.
S0831	S54-3	S54	Oral	Nov.3	0:15	A TAF-DPS DCO Based Full-Digital FLL and PLL: A Frequency And Phase Control Loop Built On Time-Average-Frequency Principle	Shenghong Mou <sup>1</sup> , Xuhang Zhang <sup>1</sup> , Jingzhou Shi <sup>1</sup> , Zhiyuan Cheng <sup>1</sup> , Liming Xiu <sup>2</sup>	<sup>1</sup> Zhejiang University, China; <sup>2</sup> BOE Technology Group Co., Ltd, China.
S0832	P2-47	P2	Poster	Nov.2	0:00	Study on Electrical Artifact Cancellation Approaches for Neural Signal Recording System	Xiao-Fu Pei, Xian-Liang Chen, Jun-Yu Wang	Fudan University, China
S0833	S39-6	S39	Oral	Nov.2	0:15	Approach of schottky diode nonlinear capacitance measurement for RF/microwave energy harvester	Baohong Liu <sup>1,2</sup> , Yanling Liu <sup>2</sup> , Ying Chen <sup>3</sup> , Tanghuai Fan <sup>1,2</sup>	<sup>1</sup> Nanchang Institute of Technology, China; <sup>2</sup> Nanchang Institute of Technology, China; <sup>3</sup> Nanchang Institute of Technology, China.
S0835	S32-2	S32	Oral	Nov.2	0:15	A 10 MHz Current Mode Buck DC-DC Converter With a Novel On-Chip Current Sensing Method	Yanzhao Ma <sup>1,2</sup> , Zhengjie Ye <sup>1,2</sup> , Kai Cui <sup>1,2</sup> , Song Fang <sup>1,2</sup> , and Xiaoya Fan <sup>1,2</sup>	<sup>1</sup> Research & Development Institute of Northwestern Polytechnical University in Shenzhen, China; <sup>2</sup> Northwestern Polytechnical University, China
S0836	S07-5	S07	Oral	Nov.1	0:15	A 23-30 GHz LNA with Noise-Cancelling in 28nm CMOS	Tao Wang, Wei Li, Jie Gong, Jiao Ye, Jintao Hu, Yuanyuan Xu	Fudan University, China
S0838	S33-5	S33	Oral	Nov.2	0:15	Design and Optimization of Four-Region Multistep Field Limiting Rings for 10kV 4H-SiC IGBTs	Ben Tan <sup>1,2</sup> , Xiao-Li Tian <sup>1</sup> , Jiang Lu <sup>1</sup> , Yun Bai <sup>1</sup> , Xiao-Chuan Deng <sup>2</sup> , Cheng-Zhan Li <sup>3</sup> and Xin-Yu Liu <sup>1</sup>	<sup>1</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>2</sup> University of Electronic Science and

								Technology of China, China; <sup>3</sup> ZhuZhou CRRC Times Electric Co., Ltd, China.
S0840	P1-56	P1	Poster	Nov.1	0:00	A Scale Factor Self-Calibration Method for a Batch of MEMS Gyroscopes Based on Virtual Coriolis Force	Yazhou Wang <sup>1</sup> , Yang Zhao <sup>2</sup> , Guoming Xia <sup>3</sup> , Anping Qiu <sup>4</sup> , Qin Shi <sup>5</sup> , Risheng Liu <sup>6</sup>	Nanjing University of Science and Technology, China.
S0844	S53-5	S53	Oral	Nov.3	0:15	An Efficient Convolutional Neural Network Accelerator on FPGA	Junye Si <sup>1</sup> , Jianfei Jiang <sup>1</sup> , Qin Wang <sup>1</sup> , Jia Huang <sup>2</sup>	<sup>1</sup> anghai Jiao Tong University, China; <sup>2</sup> Shanghai Chest Hospital, China
S0845	S40-7	S40	Oral	Nov.2	0:15	A 13.56MHz Integrated CMOS Active Rectifier With Adaptive DelayCompensated Loop for Wireless Power Transfer Systems	Yanzhao Ma <sup>1,2</sup> , Kai Cui <sup>1,2</sup> , Zhengjie Ye <sup>1,2</sup> , Song Fang <sup>1,2</sup> , and Xiaoya Fan <sup>1,2</sup>	<sup>1</sup> Research & Development Institute of Northwestern Polytechnical University in Shenzhen, China; <sup>2</sup> Northwestern Polytechnical University, China.
S0846	S12-5	S12	Oral	Nov.1	0:15	Simulation of a Novel Integrated 4H-SiC Temperature Sensor	Hang Gu <sup>1,2</sup> , Yourun Zhang <sup>1</sup> ,Juntao Li <sup>3</sup> Yidan Tang <sup>2</sup> , Yun Bai <sup>2</sup>	<sup>1</sup> University of Electronics Science and Technology of China, China; <sup>2</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>3</sup> China Academy of Engineering Physics, China.
S0847	S07-6	S07	Oral	Nov.1	0:15	An 8-18GHz class-AB power amplifier with 16dBm output power and 23% PAE over entire X-Ku band	Jie Gong, Wei Li , Jiao Ye, Jintao Hu, Tao Wang	Fudan University, China.
S0848	P1-33	P1	Poster	Nov.1	0:00	The thermal characteristics of SOI SiGe HBT with SiO2/Si3N4/SiO2 insulators	Bin Guo <sup>1</sup> ,Dong-Yue Jin <sup>1</sup> ,Wan-Rong Zhang <sup>1</sup> ,Rui Chen <sup>1</sup> ,Li-Fan Wang <sup>1</sup> ,Hu Chen <sup>1</sup> ,Feng-Yang Li <sup>1</sup>	<sup>1</sup> Beijing University of Technology, CHINA.
S0849	S28-2	S28	Oral	Nov.2	0:30	Nonvolatile memristor as a new platform for non-von Neumann computing	Liyong Xu, Lin Bao, Teng Zhang, Ke Yang, Yimao Cai, Yuchao Yang, Ru Huang	Peking University, China.
S0850	S55-2	S55	Oral	Nov.3	0:15	A Sub-threshold Reconfigurable Logic Block for Embedded Ultra-Low Power FPGA	Yuping Wu <sup>1,2,3,4,5</sup> , Lan Chen <sup>1,2,3,4,5</sup> , Xuelian Zhang <sup>1,2,4</sup> , Qi Zhang <sup>1,2,3,4</sup>	<sup>1</sup> EDA Center of Chinese Academy of Sciences, China; <sup>2</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>3</sup> School of Microelectronics of University of Chinese Academy of Sciences, China; <sup>4</sup> Beijing Key Laboratory of 3D & Nano IC Design Automation Technology, China; <sup>5</sup> Key Laboratory of Microelectronic Devices & Integrated



								Technology, China;
S0851	S43-6	S43	Oral	Nov.3	0:15	Impact of BEOL Film Deposition on Poly-Si 3D NAND Device Characteristics	Yue-Xin Zhao <sup>123</sup> , Jun Liu <sup>3</sup> , Xiao-Long Hu <sup>3</sup> , Yuan Li <sup>3</sup> , Zi-Qun Hua <sup>3</sup> , Lei Jin <sup>123</sup> , Zong-Liang Huo <sup>123</sup>	<sup>1</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> Yangtze Memory Technologies Co., Ltd., China.
S0856	S28-3	S28	Oral	Nov.2	0:30	Semi-Supervised Classification of Wafer Map Based on Ladder Network	YutingKong <sup>1</sup> , DongNi <sup>1</sup>	<sup>1</sup> Zhejiang University, China
S0857	P1-12	P1	Poster	Nov.1	0:00	Temperature-dependent mobility characteristics in one-dimension transport in junctionless nanowire transistor	Ya-Mei Dou <sup>1,2</sup> , Yang-Yan Guo <sup>1,3</sup> , Wei-Hua Han <sup>1,3</sup> , Xiao-Song Zhao <sup>1,3</sup> , and Fu-Hua Yang <sup>1,3,4</sup>	<sup>1</sup> Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China; <sup>3</sup> University of Chinese Academy of Sciences, China; <sup>4</sup> Chinese Academy of Sciences, China.
S0858	S36-5	S36	Oral	Nov.2	0:15	Design and simulation of a novel multi-floating-gate synaptic nanowire transistor for neuromorphic computing	Xiaokang Li, Yuancheng Yang, Gong Chen, Shuang Sun, Qifeng Cai, Xiaoqiao Dong, Xiaoyan Xu, Xia An, Ming Li, Ru Huang	Peking University, China
S0859	S18-5	S18	Oral	Nov.2	0:15	Glass-on-Silicon Interposer with High Heat Dissipation Capacity and Excellent RF Compatibility	Longguang Zhu <sup>1,2</sup> , Yudan Pi <sup>2</sup> , Wei Wang <sup>2,3</sup> , and Yufeng Jin <sup>1,2,3</sup>	<sup>1</sup> Peking University Shenzhen Graduate School, China; <sup>2</sup> Peking University, China; <sup>3</sup> Peking University, China.
S0861	S39-5	S39	Oral	Nov.2	0:15	A 8-12 GHz Vector-Sum Phase Shifter Using a Marchand Balun and Gilbert-Cell Structure	Jincheng Zhang, Tianxiang Wu, Shunli Ma, Qun Hong, Fan Ye, Junyan Ren	Fudan University, China.
S0862	P1-48	P1	Poster	Nov.1	0:00	Microfabrication and Characterization of Parylene AF4	Han Xu <sup>1</sup> , Yu-Chao Hua <sup>2</sup> , Bing-Yang Cao <sup>2</sup> , Wei Wang <sup>1,3</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Tsinghua University, China; <sup>3</sup> National Key Laboratory of Science and Technology on Micro/Nano Fabrication, China.
S0863	P1-58	P1	Poster	Nov.1	0:00	GaN Heteroepitaxy over Si Substrate via Serpentine Channel Patterned Mask	Kejia Wang <sup>1</sup> , Tiantian We <sup>2</sup> , Yuzi Song <sup>1</sup> , Yijun Sun <sup>1</sup> , Yahong Xie <sup>3</sup> , Xiaodong Hu <sup>2</sup> , and Zhiyuan Cheng <sup>1</sup> ,	<sup>1</sup> Zhejiang University, China; <sup>2</sup> Peking University, China; <sup>3</sup> University of California Los Angeles, USA.
S0864	P1-49	P1	Poster	Nov.1	0:00	MEMS Turbine Based Triboelectric Generator with Compound Sequential Current Spikes	Zhang-Xiong Chen, Ling Bu, Xin Zeng, Xuan-Zi Xu, Zhe-Wei Chen, Fei-Yu	China University of Geosciences, China

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S0865	P1-68	P1	Poster	Nov.1	0:00	Low-temperature processed TiO2 compact layer for perovskite solar cell	Xing Guo <sup>1</sup> , Zhenhua Lin <sup>1</sup> , Jing Ma <sup>1</sup> , Long Zhou <sup>1</sup> , Jingjing Chang <sup>1</sup>	<sup>1</sup> Xidian University, China
S0866	S41-4	S41	Oral	Nov.3	0:15	Novel Hybrid Computing Architecture with Memristor-Based Processing-in-Memory for Data-Intensive Applications	Xunming Zhang <sup>1,2</sup> , Quan Zhang <sup>1</sup> , Jianguo Yang <sup>1</sup> , Zedai Wanghen <sup>1</sup> , Ming'e Jing <sup>1</sup> , Mingyu Wang <sup>1</sup> , Xiaoyang Zeng <sup>1</sup> , Xiaoyong Xue <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Tongji University, China.
S0867	S01-5	S01	Oral	Nov.1	0:15	Sub-10 nm silicon FinFET devices on SOI substrate made by block copolymer lithography	Dong-Xue Li <sup>1,2</sup> , Chien-Liang Chien <sup>3</sup> , Xinnian Wei <sup>1</sup> , Yanwei Huang <sup>1</sup> , Xin-Ping Qu <sup>2</sup> , Tzu-Hsuan Chang <sup>3</sup> , Shisheng Xiong <sup>1</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Fudan University, China; <sup>3</sup> National Taiwan University, Taipei.
S0868	P1-45	P1	Poster	Nov.1	0:00	Current Degradation and Delay Analysis of Series-Connected Circuits Based on Novel TFET Design	Yuan Zhong <sup>1,2</sup> , Cheng Chen <sup>1</sup> , Qianqian Huang <sup>1</sup> , Zhixuan Wang <sup>1</sup> , Le Ye <sup>1</sup> , Jenchung Lou <sup>2</sup> and Ru Huang <sup>1</sup>	<sup>1</sup> Peking University, China; <sup>2</sup> Peking University, China.
S0869	S39-3	S39	Oral	Nov.2	0:15	A Low-Power, Regulated Cascode, Low Noise Amplifier in 40nm CMOS for Millimeter-Wave Applications	Xia-Meng Lian, Peng-Li Hong, Ting-Ting Mo	Shanghai Jiao Tong University, China; Laboratory of Center for Analog and RF Integrated Circuits, China.
S0870	P1-34	P1	Poster	Nov.1	0:00	TCAD Simulations of Nano-scale Functional Neuron MOSFETs with Splitted Gate Bias on Floating Gate	Hao-Yu Kong, Guan-Qing Wang and Lei Sun	Peking University, China
S0871	S05-5	S05	Oral	Nov.1	0:15	High Aspect Ratio TGV Fabrication Using Photosensitive Glass Substrat	Xudong Zhao <sup>1,2</sup> , Yudan Pi <sup>2</sup> , Wei Wang <sup>2,3</sup> , Shenglin Ma <sup>4</sup> , Yufeng Jin <sup>1,2,3</sup>	<sup>1</sup> Peking University Shenzhen Graduate School, China; <sup>2</sup> Peking University, China; <sup>3</sup> National Key Laboratory of Science and Technology on Micro/Nano Fabrication, Beijing; <sup>4</sup> Xiamen University, China.
S0874	P1-09	P1	Poster	Nov.1	0:00	A Physical Current Model for Self-Depleted T-gate Schottky Barrier Tunneling FET with Low SS and High ION/IOFF	Jin Luo, Zhu Lv, Qian-Qian Huang, Cheng Chen and Ru Huang	Institute of Microelectronics Peking University, China.
S0875	S38-5	S38	Oral	Nov.2	0:15	A Nonlinear ADC for CMOS Image Sensor	Miao Xie, Ningmei Yu, Hejiu Zhang, Nan Lyu	Xi'an University of Technology, China.
S0877	S16-5	S16	Oral	Nov.1	0:15	Design of a GNSS Signal Synchronization Chip	Min Luo <sup>1</sup> , Yue-Hong Gong <sup>2</sup> , Jin-Xiang Wang <sup>1</sup>	<sup>1</sup> Harbin Institute of Technology, China; <sup>2</sup> Shandong Jiaotong University, China.
S0879	P1-60	P1	Poster	Nov.1	0:00	Measurement and Modeling of Frequency Degradation of an oTFT Ring Oscillator	Michiaki Saito <sup>1</sup> , Michihiro Shintani <sup>2</sup> , Kazunori Kuribara <sup>3</sup> , Yasuhiro Ogasahara <sup>3</sup> , and Takashi Sato <sup>1</sup>	<sup>1</sup> Kyoto University, Japan; <sup>2</sup> Nara Institute of Science and Technology, Japan; <sup>3</sup> National Institute of Advanced Industrial Science and Technology

								(AIST), Japan.
S0881	P2-56	P2	Poster	Nov.2	0:00	A Dynamic Range Enhanced Current Feedback PGA Used In High-frequency Ultrasound Imaging Applications	Yi-Min Wu, Jian-Guo Diao, Long-Heng Luo, Fan-Ye, Jun-Yan Ren	Fudan University, China.
S0882	S15-6	S15	Oral	Nov.1	0:15	A 25-31 GHz 6-bit Switch-type Phase Shifter in 0.13um SOI CMOS Process for 5G mmWave Phased Array Communications	Minghua Wang <sup>1,2</sup> , Farman Ullah <sup>1,2</sup> , Xiaosong Wang <sup>1</sup> , Yanbin Xiao <sup>1</sup> , Yu Liu <sup>1</sup>	<sup>1</sup> Institute of Microelectronics of Chinese Academy of Sciences, China; <sup>2</sup> University of Chinese Academy of Sciences, China.
S0884	P2-18	P2	Poster	Nov.2	0:00	Design of High-Speed Data Transmission System for IC Test	Jia-Bao Gao <sup>1</sup> , Jian Wang, Xin-xuan Tao <sup>3</sup> , Jin-Mei Lai <sup>4</sup>	Fudan University, China.
S0885	P1-59	P1	Poster	Nov.1	0:00	An Experimental Design of Robust Current-mode Arbiter PUF using Organic Thin Film Transistors	Zhaoxing Qin <sup>1</sup> , Michihiro Shintani <sup>2</sup> , Kazunori Kuribara <sup>3</sup> , Yasuhiro Ogasahara <sup>3</sup> , and Takashi Sato <sup>1</sup>	<sup>1</sup> Kyoto University Yoshida-hon-machi, Japan; <sup>2</sup> Nara Institute of Science and Technology, Japan; <sup>3</sup> National Institute of Advanced Industrial Science and Technology (AIST), Japan
S0887	S29-5	S29	Oral	Nov.2	0:15	Chip-Level CDM Circuit Modeling and Simulation for ESD Protection Design in 28nm CMOS	Han Wang, Feilong Zhang, Cheng Li, Mengfu Di and Albert Wang	University of California, USA.
S0888	S12-1	S12	Oral	Nov.1	0:30	A Novel Customized RC Tightened Corner Modeling Methodology Using Statistical SPICE Simulation in Advanced FinFET Technology	Lijie Sun, Waisum Wong, Hung HsuTseng, RenbinShi, Xiaobo Jiang, Jiewen Fan, Guangxing Wan	Hisilicon Corporation, China
S0889	S26-5	S26	Oral	Nov.2	0:15	Detection of Abrin Using a Polyimide-based Piezoresistive Microcantilever Biosensor	Yang Wang#, Yuan Tian#, Xiaomei Yu	Peking University, China.
S0890	S12-2	S12	Oral	Nov.1	0:30	On-wafer Low-frequency Noise Characterization of Transistors Over a Wide Range of Operating Currents	James Ma, Fahad Ali Usmani, Lianfeng Yang, Zhihong Liu	ProPlus Design Solutions Inc., USA.
S0891	S12-3	S12	Oral	Nov.1	0:30	A Transient Approach for Input Capacitance Characterization of Power Devices	Takashi Sato	Kyoto University, Japan
S0892	S47-1	S47	Oral	Nov.3	0:30	High SFDR Pipeline ROM-less DDFS Design on FPGA Platform Using Parabolic Equations	Chua-Chin Wang, Hsiang-Yu Shih, Wei Wang	National Sun Yat-Sen University, Taiwan, China
S0894	S29-3	S29	Oral	Nov.2	0:15	Voidless metal filling and elimination of metal diffusion in PVD barrier and seed process for high performance Cu interconnect	Zheng-Jun Hu <sup>1,2</sup> , Xin-Ping Qu <sup>1</sup> , Hong Lin <sup>2</sup> , Qing-Yun Zuo <sup>2</sup> , Jun-Wei Wang <sup>2</sup> , Ming Li <sup>2</sup> , Shou-Mian Chen <sup>2</sup> , Yu-Hang Zhao <sup>2</sup>	<sup>1</sup> Fudan University, China; <sup>2</sup> Shanghai IC R&D Center, China.
S0895	S09-3	S09	Oral	Nov.1	0:30	Impact of Process Imperfection of CNFET on Circuit-level Performance and Proposal to Improve Using Approximate Circuits	Lan Wei, Kaship Sheikh	University of Waterloo, Canada

S0896	S34-1	S34	Oral	Nov.2	0:30	PEDOT:PSS Piezoresistive Pressure Sensing Array with Gold-Nanoparticle Incorporation	Jer-Chyi Wang <sup>1,2,3</sup> , Rajat Subhra Karmakar <sup>1</sup>	<sup>1</sup> Chang Gung University, Taiwan, China; <sup>2</sup> Chang Gung Memorial Hospital, Taiwan, China; <sup>3</sup> Ming Chi University of Technology, Taiwan, China
S0897	P1-73	P1	Poster	Nov.1	0:00	Bipolar resistive switching characteristics of Sm2O3 solid electrolyte thin film for nonvolatile memory applications	Hongbin Zhao, Hailing Tu, Qingzhu Zhang, Yanyan Fan, Feng Wei	General Research Institute for Nonferrous Metals, China.
S0899	S39-1	S39	Oral	Nov.2	0:30	Wave-Matter Interactions at the Chip Scale: Devices, Systems and Opportunities	Ruonan Han	Massachusetts Institute of Technology, MA
S0900	S53-1	S53	Oral	Nov.3	0:30	Deep Learning for Spatial Supply Noise Estimation in a Processor Chip	Rusong Weng, Yaguang Li, Wei Gao, Leilei Wang, Xufeng Kou, Pingqiang Zhou	ShanghaiTech University, China
S0901	S06-3	S06	Oral	Nov.1	0:30	Interfacial Layer Engineering for Ge MOSFET by Metal Element Doping and Characterization of Interface Density	Chao-Hsin Chien	National Chiao-Tung University, Taiwan, China
S0903	S27-2	S27	Oral	Nov.2	0:30	Engineering of Graphene-to-Semiconductor Contacts	Xintong Zhang <sup>1</sup> , Lining Zhang <sup>2</sup> , Mansun Chan <sup>1</sup>	<sup>1</sup> The Hong Kong University of Science and Technology, Hong Kong, China; <sup>2</sup> Shenzhen University, China
S0904	S20-1	S20	Oral	Nov.2	0:30	TCAD Based Design Technology Co-Optimisation in Advanced CMOS Technology	Asen Asenov	The University of Glasgow and Synopsys, UK
S0905	S20-2	S20	Oral	Nov.2	0:30	Robustness Analysis of Quantum State Transfer through Spin-Chain in Diamond for Room-Temperature Quantum Computing	Zhiping Yu, *Jiaqi Jiang, Yan Wang	Tsinghua University, China; *Stanford University, USA
S0906	S06-1	S06	Oral	Nov.1	0:30	Interfacial perfection for pushing InGaAs and Ge MOS device limits	M. Hong <sup>1</sup> , Y. H. Lin <sup>1</sup> , H. W. Wan <sup>1</sup> , W. S. Chen <sup>1</sup> , Y. T. Cheng <sup>1</sup> , C. P. Cheng <sup>2</sup> , T. W. Pi <sup>3</sup> , J. Kwo <sup>4</sup>	<sup>1</sup> Natl. Taiwan Univ., Taiwan, China; <sup>2</sup> National Chiayi University, Taiwan, China; <sup>3</sup> National Synchrotron Radiation Research Center, Taiwan, China; <sup>4</sup> National Tsing Hua University, Taiwan, China
S0907	S33-1	S33	Oral	Nov.2	0:30	Drift region engineering to reduce hot carrier effects on high voltage MOSFETs	J. Hao <sup>1</sup> , D. Hahn <sup>1</sup> , A. Ghosh <sup>1</sup> , M. Rinehimer <sup>2</sup> , J. Yedinak <sup>2</sup> , B. McGowan <sup>1</sup> , C. Choi <sup>1</sup> , T. Kopley <sup>3</sup>	<sup>1</sup> ON Semiconductor, USA; <sup>2</sup> ON Semiconductor, USA; <sup>3</sup> ON Semiconductor, USA
S0908	S30-1	S30	Oral	Nov.2	0:30	A New Capacitor Mismatch Calibration Technique for SAR ADCs	Xizhu Peng <sup>1</sup> , Tujian Fu <sup>1</sup> , Qingqing Bao <sup>1</sup> , Chuanwei Peng <sup>1</sup> , Haoyu Zhuang <sup>1</sup> , He Tang <sup>1</sup>	<sup>1</sup> University of Electronic Science and Technology of China, China
S0909	S36-1	S36	Oral	Nov.2	0:30	Stochastic Computing for Sub-0.2V Applications --Technology Evaluation and Design Optimization	Runsheng Wang	Peking University, China
S0911	S13-3	S13	Oral	Nov.1	0:30	Recent achievements and remaining challenges in Ge-MOSFETs from	Akira Toriumi	The University of Tokyo, Japan

						interface engineering viewpoints		
S0912	S34-2	S34	Oral	Nov.2	0:30	Imperceptible Graphene Electronic Tattoos for Health Monitoring and Human Machine Interface	Shideh Kabiri Ameri <sup>1,2</sup>	<sup>1</sup> Queen's University, Canada; <sup>2</sup> The University of Texas at Austin, USA
S0915	S07-1	S07	Oral	Nov.1	0:30	300-GHz-Band Wireless Transceiver with CMOS Integrated Circuits	Minoru Fujishima	Hiroshima University, Japan
S0917	S37-1	S37	Oral	Nov.2	0:30	Improving Data Retention Voltage in SRAM by Post-Fabrication Multiple Stress Application	Toshiro Hiramoto, Tomoko Mizutani, Kiyoshi Takeuchi, Takuya Saraya, Masaharu Kobayashi	University of Tokyo, Japan
S0918	P1-28	P1	Poster	Nov.1	0:00	Analysis of Thermal Reliability for Press Package Dual-GCT	Cailin Wang, Jing An, Tianci Xie	Xi'an University of Technology, China.
S0919	S10-2	S10	Oral	Nov.1	0:30	Resistive Switching Non-volatile Memory Feasible for 28nm and Beyond Embedded Logic CMOS Technology	Steve S. Chung	National Chiao Tung University, Taiwan, China
S0920	S22-1	S22	Oral	Nov.2	0:30	Circuit Design Challenges and Considerations for Portable Medical Instrument System Applications	Song Ma, Yuhua Cheng	Peking University, China
S0921	S20-3	S20	Oral	Nov.2	0:30	Circuit Level ESD Simulation with SPICE: Successes and Challenges	Yuanzhong (Paul) Zhou, Jean-Jacques Hajjar, Srivats Parthasarathy	Analog Devices Inc., USA
S0922	S14-2	S14	Oral	Nov.1	0:30	Recent insights in CMOS reliability characterization by the use of degradation maps	E. Bury <sup>1</sup> , A. Chasin <sup>1</sup> , B. Kaczer <sup>1</sup> , K.-H. Chuang <sup>1,2</sup> , J. Franco <sup>1</sup> , M. Simicic <sup>1,2</sup> , P. Weckx <sup>1</sup> , D. Linten <sup>1</sup>	<sup>1</sup> imec, Belgium; <sup>2</sup> KU Leuven, Belgium
S0924	S33-2	S33	Oral	Nov.2	0:30	Design Trends in Smart Gate Driver ICs for Power GaN HEMTs	Wai Tung Ng, Jingshu Yu, Mengqi Wang, Rophina Li, Weijia Zhang	University of Toronto, Canada
S0925	S35-2	S35	Oral	Nov.2	0:30	Monolithic III-V/CMOS Co-integrated Technology, Scalable Compact Modeling, and Hybrid Circuit Design	Xing Zhou, Siau Ben Chiah	Nanyang Technological University, Singapore
S0926	S27-3	S27	Oral	Nov.2	0:30	High-Performance MoS <sub>2</sub> Field Effect Transistors	Lei Liao, Xuming Zou, Jingli Wang	Hunan University, China
S0927	S35-3	S35	Oral	Nov.2	0:30	Integration of III-V Compounds on Silicon by Hetero-epitaxy	Kei May Lau	Hong Kong University of Science and Technology, Hong Kong, China
S0928	S09-2	S09	Oral	Nov.1	0:30	FinFET and Nanowire-FET Device Design and Integration: FEOL Challenges and Solutions	Hans-Joachim L. Gossmann <sup>a</sup> , Benjamin Colombeau <sup>b</sup> , Nicolas Breil <sup>c</sup>	<sup>a</sup> Applied Materials, USA; <sup>b</sup> Applied Materials, USA; <sup>c</sup> Applied Materials, USA
S0929	S50-1	S50	Oral	Nov.3	0:30	Recent Advance on Floating Random Walk Based Capacitance Solver for VLSI Circuit Design	Wenjian Yu, Mingye Song, Zhezha Xu	Tsinghua University, China.
S0930	S11-1	S11	Oral	Nov.1	0:30	Subthreshold Behavior of MFMIS and MFIS Transistors caused by Ferroelectric Polarization Switching	Qinghua Han, Paulus Aleksa, Juergen Schubert, Siegfried Mantl, Qing-Tai Zhao	Peter Grünberg Institute (PGI-9) and JARA-FIT, Germany
S0931	S43-2	S43	Oral	Nov.3	0:30	Non-volatile Memory Technology for Data Age	Kazunari Ishimaru	Toshiba Memory Corporation, JAPAN
S0932	S13-1	S13	Oral	Nov.1	0:30	Back to the Future: Germanium nanoengineering reemerges as the savior of Si functional devices	Pei-Wen Li	National Chiao Tung University, Taiwan, China

S0933	S13-2	S13	Oral	Nov.1	0:30	Langmuir-Type Mechanism for In-Situ Boron Doping in CVD Si <sub>1-x</sub> Ge <sub>x</sub> Epitaxial Growth	Junichi Murota	Tohoku University, Japan.
S0934	S15-1	S15	Oral	Nov.1	0:30	Ka Band FEM Design Comparison with 45nm RFSOI CMOS and High Performance SiGe BiCMOS	Chaojiang Li <sup>1</sup> , Arvind Kumar <sup>1</sup> , Xiaowei Tian <sup>1</sup> , Ned Cahoon <sup>1</sup> , Myra Boenke <sup>1</sup> , Dawn Wang <sup>1</sup> , Alvin Joseph <sup>1</sup> , Hua Wang <sup>2</sup> , Gabriel Rebeiz <sup>3</sup>	<sup>1</sup> GLOBALFOUNDRIES, USA; <sup>2</sup> Georgia Institute of Technology, USA; <sup>3</sup> University of California, USA
S0935	S11-2	S11	Oral	Nov.1	0:30	New Directions of Nanoelectronics Research for Computing	An Chen <sup>1,2</sup>	<sup>1</sup> Semiconductor Research Corporation, Durham; <sup>2</sup> IBM Research, CA
S0936	S55-1	S55	Oral	Nov.3	0:30	Deep Neural Network Model and FPGA Accelerator Co-Design: Opportunities and Challenges	Cong Hao, Deming Chen	University of Illinois, Urbana-Champaign
S0937	S27-4	S27	Oral	Nov.2	0:30	A Suspended Graphene Resonator for THz DC-to-AC Conversion	Jimmy Ng <sup>1</sup> , Talmage Jones <sup>2</sup> , Jonathan Hopkins <sup>2</sup> , Ya-Hong Xie <sup>1</sup>	<sup>1</sup> University of California Los Angeles, USA; <sup>2</sup> University of California Los Angeles, USA
S0938	S41-1	S41	Oral	Nov.3	0:30	Ultra-low voltage resistive switching of HfO <sub>2</sub> -buffered NiO epitaxial films on metal seed layers	Xiao-Yan Qiu <sup>1</sup> , Ming-Long Wei <sup>1</sup> , Xue Jiang <sup>1</sup> , Hei-Man Yau <sup>2</sup> , Jing-Wei Gao <sup>2</sup> , Ji-Yan Dai <sup>2</sup>	<sup>1</sup> Southwest University, China; <sup>2</sup> The Hong Kong Polytechnic University, Hong Kong, China.
S0939	S21-2	S21	Oral	Nov.2	0:30	Exploring potentials of NAND-like spintronics MRAM for cache design(Invited)	Bi Wu <sup>1</sup> , Beibei Zhang <sup>1</sup> , Yansong Xu <sup>1</sup> , Zhaohao Wang <sup>1,2,3</sup> , Dijun Liu <sup>4</sup> , Youguang Zhang <sup>1</sup> and Weisheng Zhao <sup>1,2,3</sup>	<sup>1</sup> Beihang University, China; <sup>2</sup> Beihang University, China; <sup>3</sup> Beihang University, China <sup>4</sup> China Academy of Information and Communications Technology (CAICT), China
S0940	S37-2	S37	Oral	Nov.2	0:30	Fast Development of IC Technologies in AI and IoT Era	Min-hwa Chi, Deyuan Xiao, Richard Chang	SiEn Integrated Circuits Co., China
S0941	S49-1	S49	Oral	Nov.3	0:30	Ultra-Low-Standby Power 6T Single-port and 8T Dual-port SRAMs on 65 nm Silicon-on-Thin-Box (SOTB) for Smart IoT Applications	Koji Nii <sup>1</sup> , Makoto Yabuuchi <sup>1</sup> , Yohei Sawada <sup>1</sup> , Shinji Tanaka <sup>1</sup> , Yoshihiro Shinozaki <sup>2</sup> , Kyoji Ito <sup>2</sup> , Yukiko Umemoto <sup>2</sup> , Yoshiki Yamamoto <sup>1</sup> , Takumi Hasegawa <sup>1</sup> , Hiroki Shinkawata <sup>1</sup> , and Shiro Kamohara <sup>1</sup>	<sup>1</sup> Renesas Electronics Corporation, Japan; <sup>2</sup> Nippon Systemware Co. Ltd., Japan
S0951	S36-2	S36	Oral	Nov.2	0:30	Multi-port SRAM with Multi-bank for Self-organizing Maps Neural Network(Invited paper)	Fengwei An	Panasonic Semiconductor Solutions Co., Ltd
S0952	S36-3	S36	Oral	Nov.2	0:30	Memristive devices by ALD: design aspects for high density 3D arrays for memory and neuromorphic applications	Boris Hudec, Che-Chia Chang, and Tuo-Hung Hou	National Chiao-Tung University, Taiwan, China

