Day 1: Tuesday, February 28, 2017

as of February 23, 2017

Room	Room A (201+202), 2F			Room B (203+204), 2F		
Time	**Tutorial 1 (in Japanese)** Moderator: Akira Toriumi, The Univ. of Tokyo			**Tutorial 2 (in English)** Moderator: Fernando Guarin, GLOBALFOUNDRIES Inc.		
8:30-08:45	Introduction			Introduction		
8:45-09:30	**Nano Imprint**	Shinji Matsui	Univ. of Hyogo	**3D Design and Process** Design for 2.5D- and 3D -Stacked ICs	Paul D. Franzon	North Carolina State Univ.
9:30-10:15		Anupam Mitra	Toshiba Corporation, Storage & Device Solutions Company			
10:15-10:30	**Break**					
10:30-11:15	**Adhesion and Bonding**	Katsuhiko Horigome	Lintec Corp.	**3D Design and Process** Overview of Monolithic 3D IC Processing	Zvi Or-Bach	MonolithIC 3D$^{\text{TM}}$ Inc.
11:15-12:00		Takehito Shimatsu	Tohoku Univ.			
12:00-13:00	**Discussion w/ lunch**					
Time	**Short Course 1: Memory-Based Technology** Moderator: Akira Toriumi, The Univ. of Tokyo			**Short Course 2: Advanced FET Technology** Moderator: J. Ida, Kanazawa Inst. of Tech. / Toshihide Nabatame, NIMS		
13:00-14:00	**Fundamentals for Resistance Switching RAM**	Cheol Seong Hwang	Seoul National Univ.	**Device Challenges in Advanced CMOS Technologies**	Frédéric Boeuf	STMicroelectronics
14:00-15:00	**ReRAM and PCM Device Structure and Technology**	Daniele Ielmini	DEIB – Politecnico di Milano and IU.NET	**Gate Stack Reliability**	Tibor Grasser	Technische Universität Wien
15:00-15:15	**Break**					
15:15-16:15	**Nano-Scale Analog Synaptic Devices for Neuromorphic System**	Hyunsang Hwang	POSTECH	**Contact and Doping Technology for Advanced CMOS**	Kah-Wee Ang	National Univ. of Singapore
16:15-17:15	**Emerging Non-Volatile Memory (NVM) based Computing System**	Shimeng Yu	Arizona State Univ.	**Characterization-Based Yield Engineering**	Kazunori Nemoto	Hitachi High-Tech
17:15-18:00	**Break / Session Chair Meeting**					
18:00-19:00	**Reception @ Foyer, 3F** (*beverage only) **/ Exhibition**					

Day 2: Wednesday, March 1, 2017

as of February 23, 2017

Time/Room	Main Hall, 3F				Room A (201+202), 2F				Room B (203+204), 2F			
08:30-09:00	**Opening Remarks**											
09:00-09:40	**Plenary** Chair H. Wakabayashi	**0166**	**Dimensions of Innovation to Enable the Next Era of Intelligent Systems**									
			John G. Pellerin	GLOBALFOUNDRIES Inc.								
09:40-10:20		**0066**	**Flexible and Printed OTFT Devices for Emerging Electronic Applications**									
			Shizuo Tokito	Yamagata Univ.								
10:20-11:00		**0165**	**Advanced Heterogeneous Integration Technology Trend for Cloud and Edge**									
			Douglas Yu	TSMC								
11:00-12:00	**Exhibition Talks** Chairs K. Ishimaru R. Arghavani	Ex-1 Hitachi Kokusai Electric Inc. Ex-2 Toshiba Corporation, Storage & Device Solutions Company Ex-3 Atomera Inc. Ex-4 National Institute of Advanced Industrial Science and Technology (AIST) Ex-5 TowerJazz Panasonic Semiconductor Co., Ltd. Ex-6 Yokogawa Solution Service Corporation										
12:00-13:35	**Lunch (Poster Displayed)**				**12:00-13:00 / Luncheon Seminar (SCIVAX Corporation)**				**Lunch (Poster Displayed)**			
13:35-14:00	**Emerging: Emerging Technologies** Chairs B. Zhao H. Akinaga	**0087**	**[Invited] Future Computing Devices - Excitation, Physarum, Fluerics, Actin**		**Process: Process Technology for Advanced Devices** Chairs J. Yugami X. Guo	**0001**	**[Invited] The Impact of Fin Number on Device Performance and Reliability in Trigate FinFETs**		**Modeling: Reliability Analysis** Chairs A. Oates S. Koul	**0160**	**[Invited] Assessing Device Reliability Margin in Scaled CMOS Technologies Using Ring Oscillator Circuits**	
			Adamatzky Andrew	University of the West of England			Wen-Kuan Yeh	National Nano Device Laboratories			Andreas Kerber	GLOBALFOUNDRIES Inc.
14:00-14:25		**0151**	**[Invited] Neuromorphic Technologies for Next-Generation Cognitive Computing**			**0026**	**Impact of e-SiGe S/D Processes on FinFET PFET TDDB Reliability**			**0132**	**The Impact of RTN-Induced Temporal Performance Fluctuation against Static Performance Variation**	
			Robert M. Shelby	IBM Research-Almaden			Rakesh Ranjan	GLOBALFOUNDRIES Inc.			Takashi Matsumoto	The University of Tokyo
14:25-14:50		**0050**	**[Invited] Stateful Logic Circuit and Material Using Memristors**			**0080**	**In Content Dependence of Pre-treatment Effects on $Al_2O_3/In_xGa_{1-x}As$ MOS Interface Properties**			**0049**	**Critical Discussion on Temperature Dependence of BTI in Planar and FinFET Devices**	
			Cheol Seong Hwang	Seoul National University			Chiaki Yokoyama	The University of Tokyo			Purushothaman Srinivasan	GLOBALFOUNDRIES Inc.
14:50-15:15		**0039**	**[Invited] New-Paradigm CMOS Ising Computing for Combinatorial Optimization Problems**			**0094**	**Deep Junction by Low Thermal Budget Process for Advanced Si Power Electronics**			**0097**	**Characterization of Critical Peak Current and Model of Cu/low-k Interconnects under Short Pulse-Width Conditions**	
			Masanao Yamaoka	Hitachi, Ltd.			Inès Toqué-Trésonne	SCREEN Semiconductor Solutions Co. Ltd			Ming-Hsien Lin	Taiwan Semiconductor Manufacturing Company, Ltd.
15:15-15:40		**0095**	**[Invited] Understanding the Limit and Potential in Emerging Perovskite Solar Cells**							**0058**	**New Analytical Equations for Skin- and Proximity-Effects in Interconnects Operated at High Frequency**	
			Wolfgang Tress	Swiss Federal Institute of Technology (EPFL)							Haojun Zhang	GLOBALFOUNDRIES Inc.
15:40-15:55	**Break**											
15:55-16:20	**Package: Subsystem Integration & Packaging** Chairs S. Yamamichi Y. Kurita	**0023**	**[Invited] System Integration in a Package for Cloud and Edge**		**Material: Advanced FEOL Materials** Chairs I. Muneta P. Li	**0120**	**[Invited] Biocompatible ALD Barrier Coatings for Medical Devices**					
			Tadahiro Kuroda	Keio University			Mikko Matvejeff	Picosun				
16:20-16:45		**0159**	**[Invited] III-V/Si Low Temperature Direct Bonding Technology for Photonic Device Integration on SOI**			**0091**	**[Invited] Enablement of Cost Effective CVD/ALD Processing Through Precursor Design**		**Device: Advanced FET Technology** Chairs J. Ida N. Horiguchi	**0109**	**Punch-Through Stop Doping Profile Control via Interstitial Trapping by Oxygen-Insertion Silicon Channel**	
			Nobuhiko Nishiyama	Tokyo Institute of Technology			Jean-Marc Girard	Air Liquide Advanced Materials Inc.			Robert J. Mears	Atomera Inc.
16:45-17:10		**0079**	**[Invited] Focus Technologies in Near Future from OSAT View Point**			**0012**	**Impact of Hydrogen Annealing Behavior of C_3H_5 Carbon Cluster Ion Implanted Projection Range using Microwave heat treatment**			**0156**	**[Invited] FinFET/Nanowire Design for 5nm/3nm Technology Nodes: Channel Cladding and Introducing a Bottleneck Shape to Remove Performance Bottleneck**	
			Akio Katsumata	J-DEVICES Corporation			Takeshi Kadono	SUMCO Corporation			Victor Moroz	Synopsys, Inc.
17:10-17:35		**0139**	**BGA Packaging Process for a Device Made by Minimal Fab**			**0150**	**New Opportunity of Ferroelectric Tunnel Junction Memory with Ultrathin HfO_2-Based Oxides**			**0093**	**A Computational Study of Fundamentals and Design Considerations for Vertical Tunneling Field-Effect Transistor**	
			Sommawan Khumpuang	National Institute of Advanced Industrial Science and Technology (AIST)			Xuan Tian	The University of Tokyo			Sheng Luo	National University of Singapore
17:35-18:00		**0077**	**Electrodeposited Cobalt for Advanced Packaging Applications**							**0145**	**Analysis of Break-Even Time for Nonvolatile SRAM with SOTB Technology**	
			Bryan Len Buckalew	Lam Research Corporation							Daiki Kitagata	Tokyo Institute of Technology
18:00-18:25		**0148**	**[Invited] Packaging Design Considerations for Mobile and Internet of Things (IOT)**							**0018**	**Role of Floating Body Effect on Super Steep Subthreshold Slope PN-Body Tied SOI FET**	
			Piyush Gupta	Qualcomm Inc.							Jiro Ida	Kanazawa Institute of Technology
18:25-19:05	**Authors Interview / Poster Session** (*w/wine & cheese)											
19:05-19:15	**Move to Hotel**											
19:15-21:30	**Banquet @ Banquet Room "OHTORI", 3F, ANA Crowne Plaza Toyama**											

Day 3: Thursday, March 2, 2017

as of February 23, 2017

Time/Room	Main Hall, 3F					Room A (201+202), 2F					Room B (203+204), 2F				
08:30-08:55	**Process: Innovative Process Tools** Chairs K. Nojiri Y. Kawasaki	**0158**	**[Invited] EUV Lithography Insertion for High Volume Manufacturing: Status and Outlook**	Alek Chen	ASML US Inc.	**Device: More-than-Moore Technologies** Chairs R. Huang K. Uchida	**0013**	**A Scalable Si-Based Micro Thermoelectric Generator**	Takanobu Watanabe	Waseda University	**Modeling: Multi Physics Simulation** Chairs A. Schenk M. Natarajan	**0032**	**Transient Characterization of Graphene NEMS Switch ESD Protection Structures**	Qi Chen	University of California, Riverside
08:55-09:20		**0029**	**Local, Isotropic, and Damageless Doping to Oxide Semiconductors by Using Electrochemistry**	Takeaki Yajima	The University of Tokyo		**0157**	**[Invited] Health Monitoring of Houses and Communities by Recording Earthquake Response of Buildings**	Minoru Yoshida	Hakusan Corporation		**0155**	**[Invited] Reliability Modeling of RF MEMS Switches and Phase Shifters for Microwave and Millimeter wave Applications**	Shiban K. Koul	Indian Institute of Technology
09:20-09:45		**0137**	**[Invited] Process Development for CMOS Fabrication Using Minimal Fab**	Sommawan Khumpuang	National Institute of Advanced Industrial Science and Technology (AIST)		**0085**	**[Invited] Smart Biosensing Technologies to Detect Single Bacteria and Viruses**	Masateru Taniguchi	Osaka University		**0122**	**[Invited] Multi-Scale and Multi-Domain Simulation of Electrical Power System**	Takayuki Sekisue	ANSYS Japan
09:45-10:10		**0062**	**New Compact ECR Plasma Source for Silicon Nitride Film Formation in Minimal Fab System**	Tetsuya Goto	Tohoku University		**0103**	**Strain-Engineering in Germanium Membranes towards Light Sources on Silicon**	Daniel Burt	University of Southampton					
10:10-10:25	**Break**														
10:25-10:50	**Material: Advanced BEOL Materials** Chairs S. Kim P.R. Berger	**0072**	**[Invited] Nano-Structure-Controlled Very Low Resistivity Cu Wires Formed by High Purity Electrolyte and Optimized Additives**	Jin Onuki	Ibaraki University	**Device: FET Reliability** Chairs G. Xiao Y.-C. King	**0161**	**[Invited] New Visions for IC Yield Detractor Detection**	Bill Nehrer	PDF Solutions	**Modeling: Reliability & Modeling** Chairs S. Huang M. Miura-Mattausch	**0076**	**[Invited] ESD Performance Enhancement Methodologies for CMOS Power Transistors**	Mahadeva Iyer Natarajan	GLOBALFOUNDRIES Inc.
10:50-11:15							**0099**	**Comparative Study on RTN Amplitude in Planar and FinFET Devices**	Zexuan Zhang	Peking University		**0056**	**Aging Simulation of SiC-MOSFET in DC-AC Converter**	Kenshiro Sato	Hiroshima University
11:15-11:40		**0154**	**[Invited] Advanced Materials and Interconnect Technologies for Next Generation Smart Devices**	Rozalia Beica	Dow Electronic Materials		**0164**	**[Invited] A BTI Analysis Tool (BAT) to Simulate p-MOSFET Ageing Under Diverse Experimental Conditions**	Souvik Mahapatra	Indian Institute of Technology Bombay		**0114**	**Degradation Caused by Negative Bias Temperature Instability Depending on Body Bias on NMOS or PMOS in 65 nm Bulk and Thin-BOX FDSOI Processes**	Ryo Kishida	Kyoto Institute of Technology
11:40-12:05		**0016**	**[Invited] Proximity Gettering Technology for Advanced CMOS Image Sensors Using C3H5 Carbon Cluster Ion Implantation Techniques**	Kazunari Kurita	SUMCO Corporation		**0031**	**Accurate Mapping of Oxide Traps in Highly-Stable Black Phosphorus FETs**	Yury Yuryevich Illarionov	Technische Universität Wien		**0004**	**JFETIDG: A Compact Model for Independent Dual-Gate JFETs**	Kejun Xia	NXP Semiconductors
12:05-13:00	**Lunch**														
13:00-14:20	**Poster Session / Exhibition**														
14:20-14:45	**Modeling: Device Characterization** Chairs P. Su D. Navarro	**0162**	**[Invited] How Non-Ideality Effects Deteriorate the Performance of Tunnel FETs**	Andreas Schenk	ETH Zurich	**Device: Non-conventional Material-based FET Technologies** Chairs K. Xia H. Lv	**0128**	**Analysis of Subthreshold Swing and Internal Voltage Amplification for Hysteresis-Free Negative Capacitance FinFETs**	Pin-Chieh Chiu	National Central University	**Process: Process Innovation in MEMS and Sensors** Chairs S. Tanaka M. Miura	**0163**	**[Invited] Growing Market of MEMS and Technology Development in Process and Tools Specialized to MEMS**	Hiroshi Yanazawa	MEM-CORE Co. Ltd.
14:45-15:10		**0015**	**Charge Splitting In-situ Recorder (CSIR) for Monitoring Plasma Damage in FinFET BEOL Processes**	Ting-Huan Hsieh	National Tsing Hua University		**0027**	**Design Space Exploration Considering Back-Gate Biasing Effects for Negative-Capacitance Transition-Metal-Dichalcogenide (TMD) Field-Effect Transistors**	Wei-Xiang You	National Chiao Tung University		**0045**	**Development of MEMS Vibrating Sensor with Phase-Shifted Optical Pulse Interferometry**	Yusaku Ohe	Tokyo Institute of Technology
15:10-15:35		**0052**	**Geometric Variation: A Novel Approach to Examine the Surface Roughness and the Line Roughness Effects in Trigate FinFETs**	E. R. Hsieh	National Chiao Tung University		**0065**	**A Simple Way to Grow Large-Area Single-Layer MoS$_2$ Film by Chemical Vapor Deposition**	Yan-Cong Qiao	Tsinghua University		**0153**	**Microstructuring Polydimethylsiloxane Elastomer Film with 3D Printed Mold for Low Cost and High Sensitivity Flexible Capacitive Pressure Sensor**	Xiaojun Guo	Shanghai Jiao Tong University
15:35-16:00		**0084**	**A Novel Method to Characterize DRAM Process Variation by the Analyzing Stochastic Properties of Retention Time Distribution**	Min Hee Cho	Samsung Electronics Co.,		**0081**	**High-Mobility and H$_2$-Anneal Tolerant InGaSiO/InGaZnO/InGaSiO Double Hetero Channel Thin Film Transistor for Si-LSI Compatible Process**	Nobuyoshi Saito	Toshiba Corporation		**0138**	**Effective Performance of a Tiny-chamber Plasma Etcher in Scallop Reduction**	Sommawan Khumpuang	National Institute of Advanced Industrial Science and Technology (AIST)
16:00-16:15	**Break**														
16:15-16:40	**Device: Memory Technology** Chairs M. Saito K. Tateiwa	**0002**	**Exploiting NbO$_x$ Metal-Insulator-Transition Device as Oscillation Neuron for Neuro-Inspired Computing**	Shimeng Yu	Arizona State University	**Process: Process Innovation on Ge Surface and Interface** Chairs Y. Akasaka O. Nakatsuka	**0022**	**Surface Preparation and Wet Cleaning for Germanium Surface**	Masayuki Otsuji	SCREEN Semiconductor Solutions Co.,Ltd.					
16:40-17:05		**0068**	**Ohmic Contact Formation Between Ge$_2$Sb$_2$Te$_5$ Phase Change Material and Vertically Aligned Carbon Nanotubes**	Panni Wang	Hong Kong University of Science and Technology		**0044**	**Oxidation Mechanism and Surface Passivation of Germanium by Ozone**	Xiaolei Wang	Institute of Microelectronics of Chinese Academy of Sciences					
17:05-17:30		**0117**	**Impact of Current Distribution on RRAM Array with High and Low I$_{ON}$/I$_{OFF}$ Devices**	Mohammed Zackriya V	National Chiao Tung University		**0096**	**The Impact of Atomic Layer Depositions on High Quality Ge/GeO$_2$ Interfaces Fabricated by Rapid Thermal Annealing in O$_2$ Ambient**	Laura Žurauskaitė	KTH Royal Institute of Technology					
17:30-17:55		**0017**	**3D Time-Contingent Physical Unclonable Function Array on 16nm FinFET Dielectric RRAM**	Yi-Hung Chang	National Tsing Hua University		**0059**	**Experimental Investigation on Growth Mechanism of GeO$_x$ Layer Formed by Plasma Post Oxidation Based on Angle Resolved X-Ray Photoelectron Spectroscopy**	Zhiqian Zhao	North China University of Technology					
17:55-18:25	**Authors Interview** (*w/wine & cheese)														
18:25-19:25	**Networking Session @ Foyer, 3F** (*beverage only) **Best Paper Award Ceremony**														