

PL: Opening Session(10:00-12:00)

Chairperson: T. Mogami, Selete and H. Ohno, Tohoku Univ.

10:00 PL-1-0

Welcome Address and SSDM Award Presentation
T. Shibata, Univ. of Tokyo

10:30 PL-1-1

CMOS Paradigm Change through Material Integration on a Chip
M. Hirose, AIST, Japan

11:15 PL-1-2

One Dimensional Electronics: Physics or Technology?
M. Lundstrom, Purdue Univ., USA

12:00-14:00 Lunch

Room 101 (A)	Room 102 (B)	Room 201A (C)	Room 201B (D)	Room 202A (E)
Area 1: Advanced Gate Stack/Si Processing Science	Area 3: CMOS Devices/Device Physics	Area 2: Characterization and Materials Engineering for Interconnect Integration	Area 5: Advanced Circuits and Systems	Area 7: Photonic Devices and Device Physics
A-1: Ge MIS Structures (14:00-16:05) Chairs: Y. Nara (Selete) J. Yugami (Renesas Tech. Corp.)	B-1: III-V and Ge Channel Devices (14:00-16:05) Chairs: M. Hane (NEC Electronics Corp.) K. Shibahara (Hiroshima Univ.)	C-1: Package & Characterization (14:00-16:00) Chairs: N. Hata (NEDO) S. Matsumoto (Matsushita Electric Industrial Co., Ltd.)	D-1: RF & Optical Circuits (14:00-15:50) Chairs: T. Matsuoka (Osaka Univ.) R. Fujimoto (Toshiba Corp.)	E-1: Quantum Dot Devices (14:00-16:00) Chairs: M. Sugawara (Fujitsu Labs. Ltd.) Y. Lee (Hitachi, Ltd.)

Room 202B (F)	Room 303 (G)	Room 304 (H)	Room 405 (I)	Room 406 (J)
Area 8: Advanced Material Synthesis and Crystal Growth Technology	Area 6: Compound Semiconductor Circuits, Electron Devices and Device Physics	Area 9: Physics and Applications of Novel Functional Materials and Devices	Area 10: Organic Materials Science, Device Physics, and Applications	Area 4: Advanced Memory Technology
F-1: Nano Structure (14:00-16:00) Chairs: D. L. Kwang (IME) A. Yamada (Tokyo Tech.)	G-1: GaN HEMTs (14:00-16:00) Chairs: A. Nakagawa (New Japan Radio Co., Ltd.) M. Kuzuhara (Univ. of Fukui)	H-1: Silicon Devices with New Materials (14:00-16:00) Chairs: Y. Uraoka (NAIST) Y. Takahashi (Hokkaido Univ.)	I-1: Organic Transistor & Memory (14:00-16:00) Chairs: T. Kamata (AIST) S. Aratani (Hitachi, Ltd.)	J-1: DRAM (14:00-16:10) Chairs: K. Hamada (Elpida Memory, Inc.) H. Hada (NEC Corp.)

※ Country of first author's affiliation is shown in parentheses.

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Room 101 (A)	Room 102 (B)	Room 201A (C)	Room 201B (D)	Room 202A (E)
Area 1: Advanced Gate Stack/Si Processing Science	Area 3: CMOS Devices/Device Physics	Area 2: Characterization and Materials Engineering for Interconnect Integration	Area 5: Advanced Circuits and Systems	Area 7: Photonic Devices and Device Physics
14:00 A-1-1 (Invited) Control of Interface Properties of High-k/Ge with GeO ₂ Interface Layer K. Kita, T. Nishimura, K. Nagashio and A. Toriumi, <i>Univ. of Tokyo (Japan)</i>	14:00 B-1-1 (Invited) III-V CMOS: Challenges and Opportunities J. A. del Alamo, D. H. Kim and N. Waldron, <i>MIT (USA)</i>	14:00 C-1-1 (Invited) Plastic Material Solutions for Advanced Thin Packages H. Tanaka, <i>Sumitomo Bakelite Co., Ltd. (Japan)</i>	14:00 D-1-1 (Invited) Millimeter-Wave CMOS Pulse Communication M. Fujishima, <i>Univ. of Tokyo (Japan)</i>	14:00 E-1-1 (Invited) Development of Self-assembled Quantum Dot Lasers for Telecommunications Applications D. J. Mowbray ¹ , T. J. Badcock ² , Y. D. Jang ^{1,3} , H. Y. Liu ^{1,4} , R. J. Royce ¹ , E. Nabavi ¹ , R. A. Hogg ⁴ , M. S. Skolnick ¹ , M. Hopkinson ⁴ , J. Park ³ , D. Lee ³ and A. D. Andreev ⁵ , ¹ Univ. of Sheffield, ² Univ. of Manchester, ³ Chungnam National Univ., ⁴ Univ. College London and ⁵ Univ. of Surrey (UK)
14:30 A-1-2 High-k Gated Germanium Metal-Oxide-Semiconductor Capacitors with GeO ₂ Surface Passivation and Fluorine Incorporation R. Xie ^{1,2} , W. He ¹ , M. Yu ² and C. Zhu ¹ , ¹ National Univ. of Singapore and ² Inst. of Microelectronics (Singapore)	14:30 B-1-2 Enhancement-Mode In _{0.53} Ga _{0.47} As n-MOSFET with Self-aligned Gate-first Process and CVD HfAlO Gate Dielectric J. Lin ¹ , S. J. Lee ¹ , H. J. Oh ¹ , G. K. Dalapati ² , D. Z. Chi ² , G. Q. Lo ³ and D. L. Kwong ³ , ¹ National Univ. of Singapore, ² Inst. of Materials Res. and Eng. and ³ Inst. of Microelectronics (Singapore)	14:30 C-1-2 3D-Stacking Process for Si Interposer with Integrated Thin-film Capacitors A. Shibuya, A. Ohuchi and K. Takemura, <i>NEC Corp. (Japan)</i>	14:30 D-1-2 Characteristics of Si On-chip Integrated Antennas Fabricated on Dielectric Substrates W. Moriyama, K. Kimoto, S. Kubota, N. Sasaki and T. Kikkawa, <i>Hiroshima Univ. (Japan)</i>	14:30 E-1-2 (Invited) Recent Progress on Quantum Dot Solar Cells Y. Okada, <i>Univ. of Tokyo (Japan)</i>

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Area 8: Advanced Material Synthesis and Crystal Growth Technology	Area 6: Compound Semiconductor Circuits, Electron Devices and Device Physics	Area 9: Physics and Applications of Novel Functional Materials and Devices	Area 10: Organic Materials Science, Device Physics, and Applications	Area 4: Advanced Memory Technology
14:00 F-1-1 (Invited) Semiconductor Nanowires: from Growth to Device Applications D. L. Kwong ¹ , G. Q. Lo ¹ , J. D. Ye ¹ , S. T. Tam ¹ , S. J. Lee ² and X. W. Sun ³ , ¹ A*STAR, ² National Univ. of Singapore and ³ Nanyang Technological Univ. (Singapore)	14:00 G-1-1 (Invited) GaN on Silicon RF Devices: Current Status and Future Directions K. Linthicum, A. Hanson, E. Piner, A. Chaudhari, T. Nichols, W. Johnson and I. Kizilyalli, <i>Nitronex Corp. (USA)</i>	14:00 H-1-1 (Invited) Nanowire Impact Ionization Transistors (I-FETs) Y. C. Yeo, G. Samudra, C. H. Heng, E. H. Toh and C. Shen, <i>National Univ. of Singapore (Singapore)</i>	14:00 I-1-1 (Invited) Organic Field Effect Devices: Physics and Materials B. Batlogg, W. Kalb, T. Mathis, S. Haas, T. Morf, M. Walser, K. Mattenberger and K. Pernstich <i>ETH Zürich (Switzerland)</i>	14:00 J-1-1 (Invited) Overview and Future Challenges of DRAM Technologies G. Jeong and K. Kim, <i>Samsung Electronics Co., Ltd. (Korea)</i>
14:30 F-1-2 Novel Field-Induced Gray-Level Selective Patterning of Self-Assembled Aminosilane Monolayer on the SiO ₂ Surfaces by using Scanning Probe Bond Breaking Lithography C. H. Wu ¹ , J. T. Sheu ² , J. S. Jiang ¹ , K. L. Pai ¹ and T. S. Chao ² , ¹ MingDao Univ. and ² National Chiao Tung Univ. (Taiwan)	14:30 G-1-2 AlGaIn/GaN/AlGaIn Double Heterostructures on 4 inch Si Substrates for High Breakdown Voltage Field-Effect Transistors with Low On-Resistance D. Visalli ^{1,2} , J. Derluyn ¹ , S. Degroote ¹ , M. Leys ¹ , K. Cheng ^{1,2} , M. Germain ¹ , M. Van Hove ¹ and G. Borghs ^{1,2} , ¹ IMEC and ² Katholieke Univ. Leuven (Belgium)	14:30 H-1-2 Fabrication of N-type and P-type Schottky Barrier Thin-Film-Transistors Crystallized by Excimer Laser Annealing and Solid Phase Crystallization Method J. W. Shin ¹ , C. J. Choi ² and W. J. Cho ¹ , ¹ Kwangwoon Univ. and ² Chonbuk Univ. (Korea)	14:30 I-1-2 Improvement in Repeatability for Organic Bistable Device using Hyper-Branched Polymer / Gold Nanoparticles Composite H. Ichikawa ¹ , K. Yasui ² , M. Ozawa ² and K. Fujita ¹ , ¹ Kyushu Univ. and ² Nissan Chemical Industries, Ltd. (Japan)	14:30 J-1-2 1TBulk eDRAM using Gate-Induced Drain-Leakage (GIDL) Current for High Speed and Low Power Applications S. Puget ^{1,2} , G. Bossu ^{1,2} , F. Berthollet ^{1,3} , P. Mazoyer ¹ , J. M. Portal ² , P. Masson ⁴ , R. Bouchakour ² and T. Skotnicki ¹ , ¹ STMicroelectronics, ² IM2NP, ³ INL-INSA Lyon and ⁴ LEAT (France)

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Area 1: Advanced Gate Stack/Si Processing Science	Area 3: CMOS Devices/Device Physics	Area 2: Characterization and Materials Engineering for Interconnect Integration	Area 5: Advanced Circuits and Systems	Area 7: Photonic Devices and Device Physics
14:50 A-1-3 Improvement of Interface Properties of GeO ₂ /Ge MOS Structures Fabricated by Thermal Oxidation T. Sasada, H. Matsubara, M. Takenaka and S. Takagi, <i>Univ. of Tokyo (Japan)</i>	14:50 B-1-3 High Mobility sub-60nm Gate Length Germanium-On-Insulator Channel pMOSFETs with Metal Source/Drain and TaN MIPS Gate K. Ikeda ¹ , Y. Yamashita ¹ , M. Harada ¹ , T. Yamamoto ¹ , S. Nakaharai ¹ , N. Hirashita ¹ , Y. Moriyama ¹ , T. Tezuka ¹ , N. Taoka ² , I. Watanabe ³ , N. Hirose ³ , N. Sugiyama ¹ and S. Takagi ^{2,4} , ¹ MIRAI-ASET, ² MIRAI-ASRC, ³ NICT and ⁴ Univ. of Tokyo (Japan)	14:50 C-1-3 A New Scaled Through Si Via with Polymer Fill for 3D Wafer Level Packaging D. S. Tezcan, F. Duval, O. Luhn, P. Soussan and B. Swinnen, <i>IMEC (Belgium)</i>	14:50 D-1-3 A 2-GHz-band CMOS Low Noise Amplifier with High-Q Inductors Embedded in Wafer-Level Package S. Sadoshima ¹ , S. Fukuda ¹ , H. Ito ¹ , K. Itoi ² , M. Sato ² , T. Ito ² , R. Yamauchi ² , K. Okada ¹ , N. Ishihara ¹ and K. Masu ¹ , ¹ Tokyo Tech. and ² Fujikura Ltd. (Japan)	15:00 E-1-3 Two Section Quantum Dot Lasers for Tuning and Modulation D. T. D. Childs, B. J. Stevens, K. M. Groom, M. Hopkinson and R. A. Hogg, <i>Univ. of Sheffield (UK)</i>
15:10 A-1-4 Amorphous High-k LaLuO ₃ Dielectric Film for Ge MIS Gate Stack T. Tabata, K. Kita and A. Toriumi, <i>Univ. of Tokyo (Japan)</i>	15:10 B-1-4 Evaluation of Electron and Hole Mobility at Identical MOS Interfaces by using Metal Source/Drain GOI MOSFETs K. Morii ¹ , S. Dissanayake ¹ , S. Tanabe ¹ , R. Nakane ¹ , M. Takenaka ¹ , S. Sugahara ² and S. Takagi ¹ , ¹ Univ. of Tokyo and ² Tokyo Tech. (Japan)	15:10 C-1-4 (Invited) Aberration Corrected Microscopy and Spectroscopy for Pico-meter Characterization of Device Materials K. Takayanagi and Y. Tanishiro, <i>Tokyo Tech. (Japan)</i>	15:10 D-1-4 A High IIP3 Image Rejection Filter with Current Adapted Buffers for a Digital/Analog TV Tuner IC in a 0.25 μm RF-CMOS Technology T. Kamata ^{1,2} , T. Matsuoka ¹ and K. Taniguchi ¹ , ¹ Osaka Univ. and ² RfStream Corp. (Japan)	15:15 E-1-4 Excitation Corrected Wavelength Dependence of Carrier Relaxation in Self-assembled InAs Quantum Dots Embedded in Strain-relaxed In _{0.35} Ga _{0.65} As Barrier Layers T. Mukai, T. Takahashi, K. Morita, T. Kitada and T. Isu, <i>Univ. of Tokushima (Japan)</i>
15:30 A-1-5 Reaction Kinetics Control on Thermal Oxidation Process of Ge in High Pressure Oxygen C. H. Lee, T. Nishimura, K. Nagashio, K. Kita and A. Toriumi, <i>Univ. of Tokyo (Japan)</i>	15:30 B-1-5 Source-to-Drain vs. Band-to-Band Tunneling in Ultra-Scaled DG nMOSFETs with Alternative Channel Materials Q. Rafhay, R. Clerc, G. Pananakakis and G. Ghibaudo, <i>IMEP (France)</i>	15:40 C-1-5 In Situ High-resolution Transmission Electron Microscopy of Electromigration in Nanometer-sized Copper Contacts H. Aoki and T. Kizuka, <i>Univ. of Tsukuba (Japan)</i>	15:30 D-1-5 A 10 Gbit/s Optical Receiver Analog Front-End with Input Parasitic Capacitance Immunization Technique J. C. Huang, Y. S. Lai and K. Y. J. Hsu, <i>National Tsing Hua Univ. (Taiwan)</i>	15:30 E-1-5 Continuous Wave Spectroscopic Method for Measuring the Carrier Lifetime in Quantum Dot Devices R. R. Alexander, D. T. D. Childs, T. L. Choi and R. A. Hogg, <i>Univ. of Sheffield (UK)</i>

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Area 8: Advanced Material Synthesis and Crystal Growth Technology	Area 6: Compound Semiconductor Circuits, Electron Devices and Device Physics	Area 9: Physics and Applications of Novel Functional Materials and Devices	Area 10: Organic Materials Science, Device Physics, and Applications	Area 4: Advanced Memory Technology
14:45 F-1-3 Epitaxial Growth of Vertical Group IV Semiconductor Nanowires on Si(100) Substrate using Anodic Alumina Template T. Shimizu ¹ , Z. Zhang ¹ , T. Xie ¹ , J. Nishikawa ² , S. Shingubara ² , S. Senz ¹ and U. Gösele ¹ , ¹ Max Planck Inst. of Microstructure Physics and ² Kansai Univ. (Germany)	14:45 G-1-3 Mesa-gate AlGaIn/GaN HEMTs having Narrow-width Channels K. Ohi, T. Tamura, J. Kotani and T. Hashizume, <i>Hokkaido Univ. (Japan)</i>	14:45 H-1-3 Self-Aligned Top-Gate Nanocrystalline Silicon Thin-Film Transistors with Source/Drain Regions Activated by Diode-Pumped Continuous-Wave Green Laser W. Sato ¹ , A. Hara ¹ , S. Kurauchi ¹ , Y. Doi ¹ , M. Kobata ² and K. Kitahara ² , ¹ Tohoku Gakuin Univ. and ² Shimane Univ. (Japan)	14:45 I-1-3 Investigation on TiOPc Bistable Resistance Switching Characteristics for Memory Applications Y. Kuang ¹ , Z. Yu ¹ , X. Xu ¹ , Y. Wen ² , Y. Song ² and R. Huang ¹ , ¹ Peking Univ. and ² Chinese Academy of Sci. (China)	14:50 J-1-3 Current Flow Mechanism in Schottky-Barrier MOSFETs and Application to the 1T-DRAM S. J. Choi ¹ , J. W. Han ¹ , S. Kim ¹ , C. Choi ² , M. Jang ³ and Y. K. Choi ¹ , ¹ KAIST, ² Chonbuk Univ. and ³ ETRI (Korea)
15:00 F-1-4 Structural Observation, and Conductance and Force Measurements for Nanometer-Sized Silver Contacts H. Masuda, K. Monna, T. Matsuda and T. Kizuka, <i>Univ. of Tsukuba (Japan)</i>	15:00 G-1-4 Device Characteristics of MOCVD-Grown InAlN/GaN HEMTs on AlN/Sapphire Template J. Selvaraj ¹ , L. Selvaraj ¹ , M. Miyoshi ² , Y. Kuraoka ² , M. Tanaka ² and T. Egawa ¹ , ¹ Nagoya Inst. of Tech. and ² NGK Insulators Ltd. (Japan)	15:00 H-1-4 Novel F-shaped Triple Gate Structure for Improvement of Hot Carrier Reliability in Low Temperature Poly-Si TFT S. H. Choi, H. S. Shin, S. G. Park and M. K. Han, <i>Seoul National Univ. (Korea)</i>	15:00 I-1-4 Unipolar Switching Characteristics of Non-volatile Memory Devices based on Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) (PEDOT:PSS) Thin Films H. Ha and O. Kim, <i>Pohang Univ. of Sci. and Tech. (Korea)</i>	15:10 J-1-4 A Novel Multi-Fin DRAM Periphery Transistor Technology using a Spacer Transfer through Gate Polysilicon Technique M. Yoshida, K. Kim, J. Kahng, C. Lee, H. Sung, K. H. Jung, J. S. Moon, W. Yang and K. S. Oh, <i>Samsung Electronics Co., Ltd. (Korea)</i>
15:15 F-1-5 Control of Structure and Electrical Properties of Carbon Nanowalls : Effect of N ₂ /O ₂ Addition to Fluorocarbon Plasma CVD with H Radical Injection W. Takeuchi ¹ , M. Hiramatsu ² , Y. Tokuda ³ , H. Kano ⁴ and M. Hori ¹ , <i>Nagoya Univ., ²Meijo Univ., ³Aichi Inst. of Tech. and ⁴NU Eco-Eng. Co., Ltd. (Japan)</i>	15:15 G-1-5 Gate Recessed AlGaIn/GaN based Normally-Off HEMTs for High Frequency Operation S. Maroldt, C. Haupt, W. Pletschen, S. Müller, R. Quay and O. Ambacher, <i>IAF (Germany)</i>	15:15 H-1-5 Floating Gate Memory based on Ferritin Nanodots with High-k Gate Dielectrics K. Ohara ¹ , Y. Uraoka ¹ , T. Fuyuki ¹ , I. Yamashita ¹ , T. Yaegashi ² , M. Moniwa ² and M. Yoshimaru ² , ¹ NAIST and ² STARC (Japan)	15:15 I-1-5 Unipolar Memory Operation of Resistance RAM (RRAM) using Compliance Current Controller M. Kim, B. Park and O. Kim, <i>Pohang Univ. of Sci. and Tech. (Korea)</i>	15:30 J-1-5 Electrical Characteristics of TiO ₂ /Al ₂ O ₃ /TiO ₂ Stacked Films H. Hara ¹ , M. Tanioku ² , M. Yamato ¹ and T. Kikkawa ¹ , ¹ Hiroshima Univ. and ² Elpida Memory, Inc. (Japan)

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15:45 E-1-6
 Strong Linear Polarization of Exciton/Biexciton Photoluminescence from Single Self-Assembled Hexagonal GaN/AlN Quantum Dots
 C. Kindel, S. Kako, T. Kawano, H. Oishi and Y. Arakawa, *Univ. of Tokyo (Japan)*

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15:30 F-1-6
 Facile Fabrication of Densely Packed Multistructure Assemblies of Gold Nanoparticles using Layer-by-layer Method
 K. Sugawa, T. Kawahara, T. Akiyama and S. Yamada, *Kyushu Univ. (Japan)*

15:30 G-1-6
 High-frequency Characteristics and Effective Saturation Electron Velocity of AlGaIn/GaN Heterojunction Field Effect Transistors with AlN or SiN Passivation
 N. Tanaka¹, Y. Sumida², H. Kawai² and T. Suzuki¹, ¹JAIST and ²POWDEC K. K. (Japan)

15:30 H-1-6
 Charge Injection and Emission Characteristics of Hybrid Floating Gate Stack Consisting of NiSi-Nanodots and Silicon-Quantum-Dots
 M. Ikeda, R. Matsumoto, K. Shimanoe, K. Makihara and S. Miyazaki, *Hiroshima Univ. (Japan)*

15:50 J-1-6
 Properties of Al₂O₃/Nb₂O₅ and Ta₂O₅/Nb₂O₅ Stacked and Mixed Films for Gigabit DRAM Capacitor
 M. Yamato¹, M. Tanioku², H. Hara¹ and T. Kikkawa¹, ¹Hiroshima Univ. and ²Elpida Memory, Inc. (Japan)

15:45 F-1-7
 InN Nano-Column Grown on Si (111) Substrate using Au Catalyst by MOCVD
 S. H. Lee, E. S. Jang, S. H. Yun, I. H. Lee, D. W. Kim, S. Kannappan and C. R. Lee, *Chonbuk National Univ. (Korea)*

15:45 G-1-7
 Improved Microwave Performance of AlGaIn/GaN MOS-HEMT with Stack Gate HfO₂/Al₂O₃ Structure
 Y. Z. Yue, Y. Hao and J. C. Zhang, *Xidian Univ. (China)*

Break

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A-2: MOS Reliability (16:15-18:05)
 Chairs: S. Tsujikawa (Sony Corp.) Y. Tsunashima (Toshiba Corp.)

B-2: Nanowire and Double-gate FETs (16:15-18:05)
 Chairs: H. Wakabayashi (Sony Corp.) D. Hisamoto (Hitachi, Ltd.)

C-2: New Structure & Materials (16:15-18:15)
 Chairs: Y. Hayashi (NEC Electronics Corp.) M. Nihei (Fujitsu Labs. Ltd.)

D-2: Device Characteristics for Circuit Application (16:15-18:05)
 Chairs: R. Fujimoto (Toshiba Corp.) T. Matsuoka (Osaka Univ.)

E-2: Light Control (16:15-18:15)
 Chairs: M. Ezaki (Toshiba Corp.) M. Gotoda (Mitsubishi Electric Corp.)

Break

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F-2: Advanced Material Synthesis and Crystal Growth Technology (16:15-18:15)
 Chairs: H. Fujioka (Univ. of Tokyo) M. Nakada (NEC Corp.)

G-2: High-speed Devices and Circuits (16:15-18:00)
 Chairs: S. Yamahata (NTT Corp.) K. S. Seo (Seoul National Univ.)

H-2: Novel Optical Nanostructures (16:15-18:15)
 Chairs: B. G. Park (Seoul National Univ.) T. Fujisawa (NTT Corp.)

I-2: Organic Light Emitting Diode (16:15-18:15)
 Chairs: S. Aratani (Hitachi, Ltd.) T. Kamata (AIST)

J-2: Flash Memory I (16:15-18:25)
 Chairs: R. Shen (eMemory Tech. Inc.) M. Moniwa (Renesas Tech. Corp.)

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16:15 A-2-1 (Invited) Performance and Reliability of High-k/Metal Gate Stacks: Interfacial Layer Defects G. Bersuker, <i>SEMATECH (USA)</i>	16:15 B-2-1 (Invited) Recent Progress in Carbon Nanotube Electronics - Modeling, Materials, Devices, Circuits, and Interconnects H. S. P. Wong, <i>Stanford Univ. (USA)</i>	16:15 C-2-1 Low Temperature Processes using Ni-induced Crystallization Technique for Monolithic Three Dimensional Integration J. H. Park ¹ , M. Tada ^{1,2} , H. Peng ¹ and K. C. Saraswat ¹ , ¹ Stanford Univ. and ² NEC Corp. (USA)	16:15 D-2-1 (Invited) Characteristics and Modeling of Bulk FinFETs for Circuit Application J. H. Lee ¹ , B. K. Choi ¹ , H. A. R. Jung ¹ and H. I. Kwon ² , ¹ Kyungpook National Univ. and ² Daegu Univ. (Korea)	16:15 E-2-1 Quasi-Phase-Matched Second-Harmonic Generation in AlGaAs Waveguides Pumped at 1.5 μ m J. Ota, W. Narita, I. Ohta, T. Matsushita and T. Kondo, <i>Univ. of Tokyo (Japan)</i>
16:45 A-2-2 Impact of the Activation Annealing Temperature on the Performance, NBTI and TDDDB Lifetime of High-k/Metal Gate Stack pMOSFETs M. Sato, T. Aoyama, Y. Nara and Y. Ohji, <i>Selete (Japan)</i>	16:45 B-2-2 Compact Modeling of Ballistic Nanowire MOSFETs K. Natori, <i>Univ. of Tsukuba (Japan)</i>	16:35 C-2-2 Narrow Trench Filled Source/Drain Contact for 3D MOSFET H. B. Lee, S. H. Ahn, B. G. Kim, W. C. Choi, J. H. Jung, J. H. Lee and S. H. Hahm, <i>Kyungpook National Univ. (Korea)</i>	16:45 D-2-2 Scaling Trend of Analog Integrated Circuit with Process Variations on Future Ultra Deep Submicron CMOS Technology T. Oshita, K. Tsutsui, N. Ishihara and K. Masu, <i>Tokyo Tech. (Japan)</i>	16:30 E-2-2 Silicon Optical Modulator based on Accumulation-Carrier Absorption of Metal-Oxide-Semiconductor Capacitor Waveguide K. Kajikawa, T. Tabei and H. Sunami, <i>Hiroshima Univ. (Japan)</i>

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Area 8: Advanced Material Synthesis and Crystal Growth Technology	Area 6: Compound Semiconductor Circuits, Electron Devices and Device Physics	Area 9: Physics and Applications of Novel Functional Materials and Devices	Area 10: Organic Materials Science, Device Physics, and Applications	Area 4: Advanced Memory Technology
16:15 F-2-1 (Invited) Metalorganic Vapor Phase Epitaxy of III-Mn-V Thin Films for Spintronics B. W. Wessels, <i>Northwestern Univ. (USA)</i>	16:15 G-2-1 (Invited) Development of Ultrahigh-Wideband InP/GaAsSb/InP DHBTs C. R. Bolognesi, H. Liu, O. Ostinelli and Y. Zeng, <i>ETH-Zürich (Switzerland)</i>	16:15 H-2-1 (Invited) Single Artificial Atom Lasing J. S. Tsai ^{1,2,3} , O. Astafiev ^{1,2} , K. Inomata ² , A. O. Niskanen ^{3,4} , T. Yamamoto ^{1,2,3} , Y. A. Pashkin ^{1,2} and Y. Nakamura ^{1,2,3} , ¹ NEC Corp., ² RIKEN, ³ CREST-JST and ⁴ VTT Technical Res. Center of Finland (Japan)	16:15 I-2-1 The Influence of Hole Transport Layer on the Performance of Polymer Light-Emitting Diodes with Bilayer Structure M. Shakutsui, T. Tsutsui and K. Fujita, <i>Kyushu Univ. (Japan)</i>	16:15 J-2-1 (Invited) Impact of Random Telegraph Noise (RTN) on Future Memory H. Miki, <i>Hitachi, Ltd. (Japan)</i>
16:45 F-2-2 Effects of Ion-Bombardment-Assist and High Temperature on Growth of Zinc Oxide Films by Microwave Excited High Density Plasma Enhanced MOCVD H. Asahara ^{1,2} , A. Inokuchi ^{1,3} , K. Watanuki ^{1,4} , M. Hirayama ¹ , A. Teramoto ¹ and T. Ohmi ¹ , ¹ Tohoku Univ., ² ROHM Co., Ltd., ³ Tokyo Electron Ltd. and ⁴ Ube Industries, Ltd. (Japan)	16:45 G-2-2 Electron Injection from Emitter to Base in InAlAs/GaAsSb/InP and InP/GaAsSb/InP Double Heterostructure Bipolar Transistors Y. Matsuoka, Y. Ohkubo, T. Matsumoto, T. Koji, Y. Amano and A. Takagi, <i>Anritsu Corp. (Japan)</i>	16:45 H-2-2 Perfect Invisibility using a Partially Left-handed Refracting Material J. C. Nacher ¹ , U. Leonhardt ² and T. Ochiai ³ , ¹ Future Univ.-Hakodate, ² Univ. of St. Andrews and ³ Toyama Prefectural Univ. (Japan)	16:30 I-2-2 Top Emission Organic Light-Emitting Diodes Fabricated on Copper Substrate Y. S. Tsai ¹ , S. Y. Chen ¹ , S. H. Wang ¹ , P. J. Lin ¹ , F. S. Juang ¹ , M. H. Chang ² , T. E. Hsieh ² and M. O. Liu ³ , ¹ National Formosa Univ., ² National Chiao Tung Univ. and ³ Industrial Tech. Res. Inst. (Taiwan)	16:45 J-2-2 Distributed-cycling Effects for Data Retention Characteristics of Flash Memories N. Matsukawa, T. Funatsu and R. Abe, <i>Toshiba Corp. (Japan)</i>

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Area 1: Advanced Gate Stack/Si Processing Science	Area 3: CMOS Devices/Device Physics	Area 2: Characterization and Materials Engineering for Interconnect Integration	Area 5: Advanced Circuits and Systems	Area 7: Photonic Devices and Device Physics
17:05 A-2-3 Mechanisms of Oxygen and Hydrogen Passivation using High Pressure Post-annealing Processes to Enhance the Performance of MOSFETs with Metal Gate/High-k Dielectric C. Y. Kang ¹ , C. S. Park ¹ , H. K. Park ¹ , S. C. Song ¹ , R. Choi ¹ , B. H. Park ² , B. Woo ² , K. T. Lee ³ , J. Lee ⁴ , H. Hwang ⁴ , G. Bersuker ¹ , B. H. Lee ¹ , H. H. Tseng ¹ and R. Jammy ⁵ , ¹ SEMATECH, ² Poongsan Microtech, ³ POSTECH, ⁴ GIST and ⁵ IBM Assignee (USA)	17:05 B-2-3 Investigate the Effects of Channel Materials & Channel Orientations on the Performance of Nanowire FETs C. S. Koong, G. Samudra and G. Liang, <i>National Univ. of Singapore (Singapore)</i>	16:55 C-2-3 A Novel Gate Electrode Structure for Reduction of Gate Resistance of sub-0.1 μ m RF/mixed-signal MOSFETs H. Nagase, A. Tanabe, K. Umeda, T. Watanabe and Y. Hayashi, <i>NEC Electronics Corp. (Japan)</i>	17:05 D-2-3 A New Analytical Model for 3D Parasitic Capacitance Simulation in Nanoscale MOSFETs J. C. Guo and C. T. Yeh, <i>National Chiao Tung Univ. (Taiwan)</i>	16:45 E-2-3 Enhanced Two-photon Absorption in a GaAs/AlAs Multilayer Cavity T. Kanbara, S. Nakano, S. Yano, K. Morita, T. Kitada and T. Isu, <i>Univ. of Tokushima (Japan)</i>
17:25 A-2-4 V_i Variation Suppressed Al ₂ O ₃ -Capped HfO ₂ Gate Dielectrics for Low V_i pMISFETs with High-k/Metal Gate Stacks T. Morooka, T. Matsuki, N. Mise, S. Kamiyama, T. Nabatame, T. Eimori, Y. Nara and Y. Ohji, <i>Selete (Japan)</i>	17:25 B-2-4 Advantages of Densely Packed Multi-Wire Transistors with a Planar Gate Structure and a Low-k Buried Insulator over Planar SOI Devices M. Ono ¹ , K. Uchida ² and T. Tezuka ¹ , ¹ Toshiba Corp. and ² Tokyo Tech. (Japan)	17:15 C-2-4 Electrochemical Etching of Ru Film for Bevel Cleaning of BEOL H. Aoki, D. Watanabe, N. Ooi, J. Jong-Hyeon, C. Kimura and T. Sugino, <i>Osaka Univ. (Japan)</i>	17:25 D-2-4 Misalignment Tolerance in Inductive-Coupling Inter-Chip Link for 3D System Integration K. Niitsu ¹ , Y. Kohama ¹ , Y. Sugimori ¹ , K. Osada ² , N. Irie ² , H. Ishikuro ¹ and T. Kuroda ¹ , ¹ Keio Univ. and ² Hitachi, Ltd. (Japan)	

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17:00 F-2-3 Y ₂ O ₃ Buffer Layer for High-quality ZnO Epitaxial Growth on Si(111) W. R. Liu ¹ , Y. H. Li ¹ , W. F. Hsieh ¹ , C. H. Hsu ^{1,2} , W. C. Lee ³ , Y. J. Lee ³ , M. Hong ³ and J. Kwo ³ , ¹ National Chiao Tung Univ., ² National Synchrotron Radiation Res. Center and ³ National Tsing Hua Univ. (Taiwan)	17:00 G-2-3 InAs-Channel HEMTs for Ultra-Low-Power LNA Applications C. Y. Chang ¹ , H. T. Hsu ² , E. Y. Chang ¹ , C. I. Kuo ¹ and Y. Miyamoto ³ , ¹ National Chiao Tung Univ., ² Yuan Ze Univ. and ³ Tokyo Tech. (Taiwan)	18:00 H-2-3 Observation of a New Isoelectronic Trap Luminescence in Nitrogen δ -doped GaP M. Ikezawa ¹ , Y. Sakuma ² , M. Watanabe ¹ and Y. Masumoto ¹ , ¹ Univ. of Tsukuba and ² NIMS (Japan)	16:45 I-2-3 Transient Electroluminescence of White Organic Light-emitting Diodes with Blue Phosphorescent and Red Fluorescent Emissive Layers H. Kajii, N. Takahota, Y. Sekimoto and Y. Ohmori, <i>Osaka Univ. (Japan)</i>	17:05 J-2-3 Improving Read Disturb Characteristics by Self-boosting Read Scheme for MLC NAND Flash Memories M. Kang ¹ , K. T. Park ¹ , D. Kim ¹ , S. Hwang ¹ , B. Y. Choi ¹ , Y. Song ² , Y. T. Lee ¹ and C. Kim ¹ , ¹ Samsung Electronics Co., Ltd. and ² Hanyang Univ. (Korea)
17:15 F-2-4 Growth Direction Control and Magnetic Characterizations of MnAs Grown by Selective-Area Metal-Organic Vapor Phase Epitaxy T. Wakatsuki ¹ , S. Hara ^{1,2} , S. Ito ¹ and T. Fukui ¹ , ¹ Hokkaido Univ. and ² JST-PRESTO (Japan)	17:15 G-2-4 Analysis of Gate Delay Scaling in In _{0.7} Ga _{0.3} As-Channel HEMTs S. Fukuda ¹ , T. Suemitsu ¹ , T. Otsuji ¹ , D. H. Kim ² and J. A. del Alamo ² , ¹ Tohoku Univ. and ² MIT (Japan)	17:15 H-2-4 Graphene Nanoribbon Phototransistor: Proposal and Analysis V. Ryzhii ^{1,4} , M. Ryzhii ^{1,4} , N. Ryabova ^{1,4} , V. Mitin ² and T. Otsuji ^{3,4} , ¹ Univ. of Aizu, ² Univ. at Buffalo, ³ Tohoku Univ. and ⁴ CREST-JST (Japan)	17:00 I-2-4 Fabrication of Active Light-emitting Device Combined with ZnO Transistors H. Yamauchi, Y. Watanabe, M. Iizuka and K. Kudo, <i>Chiba Univ. (Japan)</i>	17:25 J-2-4 A Study on Scaling Limit of Programming Characteristics of NOR-Flash Memories using Device Simulation T. Ishihara, T. Marukame, K. Matsuzawa and T. Nakauchi, <i>Toshiba Corp. (Japan)</i>

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17:45 A-2-5 Generation of a New Interface-State Associated with Ultra-Thin Gate Dielectrics/Silicon under Electric Stress H. Mori ¹ , H. Matsuyama ¹ and S. Watanabe ² , ¹ Fujitsu Microelectronics Ltd. and ² Fujitsu Labs. Ltd. (Japan)	17:45 B-2-5 Modeling and Analysis of Short-Channel Effects in Double-Gate MOSFETs K. Ishimura, N. Sadachika and M. Miura-Mattausch, <i>Hiroshima Univ. (Japan)</i>	17:35 C-2-5 Controlling Cu Corrosion in Single Wafer Cleaning Process M. Imai ¹ , Y. Yamashita ² , T. Futatsuki ² , M. Shiohara ¹ , S. Kondo ¹ and S. Saito ¹ , ¹ Selete and ² Organo Corp. (Japan)	17:45 D-2-5 Robust Flip-Flop against Soft Errors for Combinational and Sequential Logic Circuits T. Uemura ¹ , Y. Tosaka ¹ , H. Matsuyama ¹ , K. Takahisa ² and K. Hatanaka ² , ¹ Fujitsu Microelectronics Ltd. and ² Osaka Univ. (Japan)	17:15 E-2-5 Accurate Measurement of Nonlinear Optical Coefficients of 6H Silicon Carbide by Rotational Maker-Fringe Technique M. Abe ¹ , H. Sato ² , J. Suda ³ , I. Shoji ² and T. Kondo ¹ , ¹ Univ. of Tokyo, ² Chuo Univ. and ³ Kyoto Univ. (Japan)
		17:55 C-2-6 Suppression of Cu Oxidation using Environmentally Friendly Inhibitors in the Ambience of High Temperature and High Humidity for Cu/Low-K M. Hara, D. Watanabe, C. Kimura, H. Aoki and T. Sugino, <i>Osaka Univ. (Japan)</i>		17:30 E-2-6 Resonator-based Silicon Electro-optic Modulator with Ultra-low Power Consumption M. Xin ¹ , A. J. Danner ^{1,2} and C. E. Png ² , ¹ National Univ. of Singapore and ² Inst. of High Performance Computing (Singapore)

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17:30 F-2-5 Morphology Control of Ferroelectric PZT Thin Films Crystallized On Glass with Continuous-Wave Green Laser S. Kuroki, K. Tago, K. Kotani and T. Ito, <i>Tohoku Univ. (Japan)</i>	17:30 G-2-5 Lateral Buried Growth of N ⁺ -InGaAs Source/Drain Region to Undercut InGaAs Channel Structure for High Drive Current N-type MOSFET T. Kanazawa, H. Saito, K. Wakabayashi, Y. Miyamoto and K. Furuya, ¹ Tokyo Tech. (Japan)	17:30 H-2-5 Integration Recording System of Mechanoluminescence from Europium-doped SrAl ₂ O ₄ by using Photo Sensitive Material N. Terasaki ¹ , H. Kawahara ¹ and C. N. Xu ^{1,2} , ¹ AIST and ² CREST-JST (Japan)	17:30 I-2-6 High Performance Fully Transparent Polymer Light-Emitting Devices with Transparent Indium Zinc Oxide Cathode C. J. Tseng, Y. H. Liao, S. Y. Tsai, C. S. Li and K. C. Liu, <i>Chang Gung Univ. (Taiwan)</i>	17:45 J-2-5 Memory Characterization of MOS Memory Device with High Density Self-Assembled Tungsten Nanodots Floating Gate and HfO ₂ Blocking Dielectric Y. Pei, M. Nishijima, T. Fukushima, T. Tanaka and M. Koyanagi, <i>Tohoku Univ. (Japan)</i>
	17:45 G-2-6 Effect of Nonideality of the Gate-2DEG Channel Capacitance on the Frequency of Plasma Oscillations in the Plasma Wave Devices T. Nishimura ¹ , N. Magome ¹ , I. Khmyrova ² , T. Suemitsu ¹ , W. Knap ^{1,3} and T. Otsuji ¹ , ¹ Tohoku Univ., ² Univ. of Aizu and ³ Univ. Montpellier2 (Japan)	17:45 H-2-6 Visualization of Weak Confinement Potentials by Near-field Optical Imaging Spectroscopy of Exciton and Biexciton in a Single Quantum Dot Y. Sugimoto ¹ , T. Saiki ¹ and S. Nomura ² , ¹ Keio Univ. and ² Tsukuba Univ. (Japan)	18:05 J-2-6 Temperature Effects on Recrystallization and Improvements of Pure Gadolinium (Gd) Nanocrystal (NC) for Flash Memory Y. K. Chen ¹ , C. S. Lai ¹ , J. C. Wang ² , P. C. Chou ¹ , C. T. Lin ¹ , Y. C. Fang ³ , L. Hsu ³ , C. P. Liu ⁴ and R. S. Huang ⁴ , ¹ Chang Gung Univ., ² Nanya Tech. Corp., ³ Chung Shan Inst. of Sci. and Tech. and ⁴ National Cheng Kung Univ. (Taiwan)	

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				<p>17:45 E-2-7 Ferroelectric Transition in an Organic Superconductor: Nonlinear Optical Property and its Ultrafast Photocontrol K. Yamamoto¹, S. Iwai², A. Kowalska¹, S. Boyko³, N. Nishi¹ and K. Yakushi¹, ¹<i>Inst. for Molecular Sci.</i>, ²<i>Tohoku Univ.</i> and ³<i>Univ. of Ontario Inst. of Tech. (Japan)</i></p> <p>18:00 E-2-8 Optical Configuration using a Silver-halide Holographic Memory Including Four Configuration Contexts D. Seto and M. Watanabe, <i>Shizuoka Univ. (Japan)</i></p>

18:30-20:30 Banquet/Paper Award & Young Reseacher Award(Multi-Purpose Hall 1F)

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		<p>18:00 H-2-7 Observation of a New Isoelectronic Trap Luminescence in Nitrogen δ-doped GaP M. Ikezawa¹, Y. Sakuma², M. Watanabe¹ and Y. Masumoto¹, ¹<i>Univ. of Tsukuba</i> and ²<i>NIMS (Japan)</i></p>		
			<p>18:00 I-2-8 A Novel Active-Matrix Organic Light-Emitting Diode Pixel Structure Employing Top-Anode Contact OLEDs A. Shin, J. Choi and M. Y. Sung, <i>Korea Univ. (Korea)</i></p>	

18:30-20:30 Banquet/Paper Award & Young Reseacher Award(Multi-Purpose Hall 1F)