

Thursday, September 18

Room A	Room B	Room C	Room D	Room E	Room F	Room G
A-7: Advanced Silicon Devices and Device Physics -High-k Technology II- (9:00-10:30) Chairs: K. Shibahara (Hiroshima Univ.) M. Ogawa (Kobe Univ.)	B-7: Silicon Process / Materials Technologies -Metal Gate, Gate Oxide- (9:00-10:20) Chairs: T. Arikado (Selete) K. Suguro (Toshiba)	C-7: Organic Semiconductor Devices and Materials -Organic Thin Film Transistor- (9:15-10:30) Chais: T. Kamata (AIST) S. Shiratori (Keio Univ.)	D-7: New Materials and Characterization -Carbon Nanotube Devices and Materials- (9:20-10:30) Chairs: Y. Awano (Fujitsu Labs.) Y. Ochiai (NEC)	E-7:Novel Devices, Physics, and Fabrication -Novel Materials and Devices- (9:30-10:30) Chairs: Y. Kuwahara (Osaka Univ.) H. Yamaguchi (NTT)	F-7:Optoelectronic Devices and Photonic Crystal Devices -Photonic Crystal Devices I- (9:00-10:30) Chair: N. Yokouchi (Furukawa Electric) T. Baba (Yokohama National Univ.)	G-7:SiGe/III-V/III-N Devices and Circuits for Wireless and Optical Communications -III-V Devices & Circuits- (9:00-10:30) Chairs: Y. Taten (Fujitsu Quantum Devices Limited) Yi-J. Chan (Natl. Central Univ.)
9:00 A-7-1 (Invited) High-k/Oxynitride Gate Dielectric-Searching for Serendipitous Materials- M. Hiratani ¹ , S. Saito ¹ , Y. Shimamoto ² , S. Tsujikawa ¹ , Y. Matsui ¹ , O. Tonomura ¹ , K. Torii ¹ , J. Yugami ¹ , and S. Kimura ¹ , ¹ Hitachi, Ltd., Japan	9:00 B-7-1 Low Tinv (≤1.8 nm) Metal-Gated MOSFETs on SiO ₂ Based Gate Dielectrics for High Performance Logic Applications V. Ku ¹ , R. Amos ¹ , A. Steegen ¹ , C. Cabral, Jr. ¹ , V. Narayanan ¹ , P. Jamison ¹ , P. Nguyen ¹ , Y. Li ¹ , M. Gribelyuk ¹ , Y. Wang ¹ , J. Cai ¹ , A. Callegari ¹ , F. McFeely ¹ , F. Jamin ¹ , K. Wong ¹ , E. Wu ¹ , A. Chou ¹ , D. Boyd ¹ , H. Ng ¹ , M. Jeong ¹ , C. Wann ¹ , R. Jammy ¹ and W. Haensch ¹ , V. Ku ¹ , R. Amos ¹ , C. Cabral, Jr ¹ , V. Narayanan ¹ , P. Jamison ¹ , P. Nguyen ¹ , Y. Li ¹ , M. Gribelyk ¹ , Y. Wang ¹ , J. Cai ¹ , A. Callegari ¹ , F. McFeely ¹ , F. Jamin ¹ , K. Wong ¹ , E. Wu ¹ , A. Chou ¹ , D. Boyd ¹ , H. Ng ¹ , M. Jeong ¹ , C. Wann ¹ , R. Jammy ¹ , and W. Haensch ¹ , ¹ IBM, USA	9:15 C-7-1 (Invited) Towards Printed Organic Electronics: Semiconductor Materials Design for Plastic Transistors B.S. Ong ¹ , ¹ Xerox Research Centre of Canada, Canada	9:20 D-7-1 Characteristics of a Carbon Nanotube FET Analyzed as a Ballistic Nanowire FET Y. Kimura ¹ , T. Shimizu ¹ and K. Natori ^{1,2} , ¹ Univ. of Tsukuba and ² CREST-JST, Japan	9:30 E-7-1 Solid-electrolyte nanometer switch T. Sakamoto ^{1,2} , H. Sunamura ^{1,2} , H. Kawaura ^{1,2} , T. Hasegawa ^{2,3} , T. Nakayama ^{2,3} and M. Aono ^{2,3} , ¹ Fundamental Research Labs., NEC Corp., ² SORST, JST and ³ NIMS, Japan	9:00 F-7-1 (Invited) 3D Photonic Crystal as a Novel Dielectric Material S. Kawakami ¹ , T. Kawashima ² , T. Sato ^{1,2} , T. Aoyama ² , W. Ishikawa ² , Y. Ohtera ² , H. Ohkubo ² , Kenta Miura ¹ , and Y. Honma ² ¹ Tohoku Univ., ² NICHE, ³ Photonic Lattice Inc., Japan	9:00 G-7-1 Over 65% Efficiency 300MHz Bandwidth C-Band Internally-Matched GaAs FET H. Ohtsuka ¹ , K. Mori ¹ , H. Yukawa ¹ , H. Minamide ¹ , Y. Kittaka ¹ , T. Tsunoda ¹ , S. Ogura ¹ and T. Takagi ¹ , ¹ Mitsubishi Electric Corporation, Japan
9:30 A-7-2 Effect of Coulomb Scattering on Stress-Induced Mobility Degradation in nMOSFETs with HfAlO _x /SiO ₂ Dielectrics W. Mizubayashi ¹ , N. Yasuda ² , H. Hisamatsu ² , H. Ota ¹ , K. Tominaga ² , K. Iwamoto ² , K. Yamamoto ² , T. Horikawa ¹ , T. Nabatame ² and A. Toriumi ^{1,3} , ¹ MIRAI-ASRC, ² MIRAI-ASET and ³ The Univ. of Tokyo, Japan	9:20 B-7-2 New Dual Metal Gate by Using WSix for nMOS and Pt-alloyed WSix for pMOS K. Matsuo ¹ , O. Arisumi ¹ and S. Kyoichi ¹ , ¹ Toshiba Corporation, Japan	9:45 C-7-2 Self-Alignment Organic Field-Effect Transistor using Back-Side Exposure Method T. Hyodo ¹ , F. Morita ¹ , S. Naka ¹ , H. Okada ¹ and H. Onnagawa ¹ ¹ Toyama Univ., Japan	9:40 D-7-2 (Invited) Performance Estimation and Benchmarking for Carbon Nanotube FETs and Nanodiode Arrays H.-S.P. Wong ¹ , G.S. Ditlow ¹ , P.M. Solomon ¹ , X. Wang ² , ¹ IBM Research, T.J. Watson Research Center, ² IBM Microelectronics, SRDC	9:45 E-7-2 Piezoresistive Nanomechanical Cantilever based on InAs/AlGaSb Heterostructure L.F. Houlet ¹ , H. Yamaguchi ¹ , S. Miyashita ² and Y. Hirayama ^{1,3} , ¹ NTT Basic Research Labs, ² NTT-AT and ³ CREST-JST, Japan	9:30 F-7-2 Coupled Waveguide Devices Based on Autocloned Photonic Crystals M. Shirane ¹ , A. Gomyo ¹ , K. Miura ² , Y. Ohtera ² , H. Yamada ¹ and S. Kawakami ² , ¹ NEC Corporation and ² Tohoku Univ., Japan	9:15 G-7-2 High-Performance InP HBTs with a Composite Collector K. Kurishima ¹ , M. Ida ¹ , K. Ishii ¹ and N. Watanabe ¹ , ¹ NTT Photonics Labs, Japan
9:50 A-7-3 Influence of Dielectric Constant Distribution in Stacked Gate Dielectrics on Electron Mobility in Inversion Layers M. Ono ¹ , T. Ishihara ¹ and A. Nishiyama ¹ , ¹ Toshiba Corporation, Japan	9:40 B-7-3 Highly Selective Etching of Ta/TaNx Metal Electrode to Si ₃ N ₄ Gate Dielectric Employing SiCl ₄ -NF ₃ Gas Mixture Plasma H. Shimada ¹ and K. Maruyama ¹ , ¹ SEIKO EPSON Corp., Japan	10:00 C-7-3 A Water-Soluble Photolithography Process and the Application to OTFT Fabrication C.K. Song ¹ and K.H. Kim ¹ , ¹ DONG-A University, Korea	10:10 D-7-3 Ultra-low Energy Nitrogen-Irradiation for Improvement of Carbon Nanotube Channel Single Electron Transistor T. Kamimura ^{1,4} , K. Yamamoto ² and K. Matsumoto ^{3,4} , ¹ Univ. of Tsukuba, ² AIST, ³ Osaka Univ. and ⁴ CREST/JST, Japan	10:00 E-7-3 InP hot electron transistors modulated by gate electrodes sandwiching emitter mesa K. Takeuchi ¹ , H. Maeda ¹ , R. Nakagawa ¹ , Y. Miyamoto ^{1,2} and K. Furuya ^{1,2} , ¹ Tokyo Inst. of Technology and ² CREST-JST, Japan	9:45 F-7-3 Reflection Characteristics of Coupled Defect Waveguides in Photonic Crystals T. Katsuyama ^{1,2} , K. Hosomi ^{1,2} , T. Fukumachi ^{1,2} and Y. Arakawa ¹ , ¹ The Univ. of Tokyo, ² Hitachi Ltd., Japan	9:30 G-7-3 A High Reliability and High Gain InP-HEMT with Composite Channel Structure S. Kurachi ¹ , Y. Nonaka ¹ and J. Nikaido ¹ , ¹ Fujitsu Quantum Devices Limited, Japan

Room A	Room B	Room C
10:10 A-7-4 Characterization of Soft Breakdown Effects for Post-deposition NH ₃ Plasma Treated HfO ₂ Gate Dielectrics J.-C. Wang ¹ , D.-C. Shie ¹ , T.-F. Lei ¹ and C.-L. Lee ¹ , ¹ National Chiao Tung Univ., Taiwan	10:00 B-7-4 High Quality Silicon Nitride Film Formed by Microwave-Excited Plasma Enhanced Chemical Vapor Deposition with Dual Gas Shower Head H. Tanaka ¹ , C. Zhong ² , Y. Hayakawa ² , M. Hirayama ² , A. Teramoto ² , S. Sugawa ¹ and T. Ohmi ² , ¹ Tohoku Univ. and ² NICHE, Tohoku Univ., Japan	10:15 C-7-4 Time-of-flight measurement for lateral carrier transport in organic thin films M. Kitamura ¹ , T. Imada ¹ , S. Kako ¹ and Y. Arakawa ¹ , ¹ Univ. of Tokyo, Japan

Break		
A-8: Advanced Silicon Devices and Device Physics -Advanced CMOS Technology II- (10:45-12:05) Chairs: T. Eimori (Renesas) K. Goto (Fujitsu Labs.)	B-8: Silicon Process / Materials Technologies -Si Process-(10:45-12:05) Chairs: M. Hori (Nagoya Univ.) T. Horikawa (MIRAI-ASRC)	C-8: Organic Semiconductor Devices and Materials -Organic Optics- (10:45-12:00) Chais: K. Kudo (Chiba Univ.) C. Adachi (Chitose Inst. of Sci & Technol.)
10:45 A-8-1 Schottky Barrier Height Reduction and Drive Current Improvement in Metal Source/Drain MOSFET with Strained-Si Channel A. Yagishita ¹ , T.-J. King ² and J. Bokor ² , ¹ Toshiba Corporation and ² Univ. of California at Berkeley, USA	10:45 B-8-1 Ni-salicided Poly-Si/poly-SiGe Layered Gate Technology for 65nm-node CMOSFETs A. Muto ¹ , H. Ohji ¹ , T. Maeda ¹ and K. Torii ¹ , ¹ SELETE, Japan	10:45 C-8-1 Electric Field Induced Second Harmonic Generation from Vacuum Evaporated Metal-Phthalocyanine Film/Metal Electrode Interface C.-Q. Li ¹ , T. Manaka ¹ and M. Iwamoto ¹ , ¹ Tokyo Inst. of Technology, Japan

Room D	Room E	Room F	Room G
	10:15 E-7-4 Single-Electron Transistors with Large-Energy Binary States in a GaN Quantum Dot K. Kawasaki ^{1,2} , Y. Kitaichi ¹ , M. Takeuchi ² and Y. Aoyagi ^{1,2} , ¹ Tokyo Inst. of Technology and ² CREST-JST, Japan	10:00 F-7-4 Enhancement of Cavity-Q in a Quasi-Three Dimensional Photonic Crystal Microcavity M. Ito ¹ , S. Iwamoto ¹ and Y. Arakawa ¹ , ¹ Univ. of Tokyo, Japan	9:45 G-7-4 75-GHz Optical Clock Divide-by-Two OEIC using InP HEMTs and Uni-Travelling-Carrier Photodiode K. Sano ¹ , K. Murata ¹ , H. Matsuzaki ¹ , H. Kitabayashi ¹ , T. Akeyoshi ¹ , H. Ito ¹ , T. Enoki ¹ and H. Sugahara ¹ , ¹ NTT Photonics Labs, Japan

		10:15 F-7-5 Proposal of a Novel Ring Waveguide Device of 2D Photonic Crystal Slab - The Transmittance Simulated by FDTD Analysis - K. Furuya ^{1,2} , N. Yamamoto ¹ , Y. Watanabe ¹ and K. Komori ^{1,2} , ¹ AIST, and ² CREST-JST, Japan	10:00 G-7-5 (Invited) High-Speed III-V/III-N HBT Devices and Circuits for ETDM Transmission beyond 80 Gbit/s R. Quay ¹ , M. Schlechtweg ¹ , A. Leuther ¹ , M. Lang ¹ , U. Nowotny ¹ , O. Kappeler ¹ , W. Benz ¹ , M. Ludwig ¹ , M. Leich ¹ , R. Driad ¹ , W. Bronner ¹ , and G. Weimann ¹ ¹ Fraunhofer Institut für Angewandte Festkörperphysik
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Break			
D-8: New Materials and Characterization -High-k Dielectrics I- (10:45-11:25) Chairs: S. Miyazaki (Hiroshima Univ.) K. Torii (Selete)	E-8:Novel Devices, Physics, and Fabrication -Carbon Nanotubes- (10:45-12:00) Chairs: Y. Homma (NTT) F. Nihei (NEC)	F-8:Optoelectronic Devices and Photonic Crystal Devices -Photonic Crystal Devices II- (10:45-11:45) Chairsr: H. Yamada (NEC) T. Katsuyama (Univ. of Tokyo)	G-8:SiGe/III-V/III-N Devices and Circuits for Wireless and Optical Communications -SiGe Technologies- (10:45-11:45) Chairs: K. Washio (Hitachi) N. Suematsu (Mitsubishi Electric)
10:45 D-8-1 Thermal Instability of Poly-Si Gate Al ₂ O ₃ MOSFETs W. Kim ¹ , T. Kawahara ¹ , H. Itoh ¹ , A. Horiuchi ¹ , A. Muto ¹ , T. Maeda ¹ , R. Mitsuhashi ¹ , K. Torii ¹ and H. Kitajima ¹ , ¹ SELETE, Japan	10:45 E-8-1 (Invited) Carbon Nanotube SPM Probe Fabricated by NanoEngineering S. Akita ¹ , and Y. Nakayama ^{1,2} , ¹ Osaka Pref. Univ., ² Osaka Univ., Japan	10:45 F-8-1 (Invited) Semiconductor Photonic Crystal Devices T. Baba ¹ , ¹ Yokohama National Univ., Japan	10:45 G-8-1 (Invited) High-Performance, Low-Cost SiGe:C BiCMOS Technology B. Tillack ¹ , D. Knoll ¹ , B. Heinemann ¹ , K.-E. Ehwald ¹ , H. Rucker ¹ , R. Barth ¹ , J. Bauer ¹ , K. Blum ¹ , D. Bolze ¹ , J. Borngraber ¹ , J. Drews ¹ , G. Fischer ¹ , A. Fox ¹ , F. Fuernhammer ¹ , O. Fursenko ¹ , T. Grabolla ¹ , U. Haak ¹ , W. Hoppner ¹ , K. Kopke ¹ , D. Kruger ¹ , B. Kuck ¹ , R. Kurps ¹ , M. Marschmeyer ¹ , H. H. Richter ¹ , D. Schmidt ¹ , P. Schley ¹ , R. Scholz ¹ , W. Winkler ¹ , D. Wolansky ¹ , H.-E. Wulf ¹ , Y. Yamamoto ¹ and P. Zaumseil ¹ , ¹ IHP

Room A	Room B	Room C
11:05 A-8-2 Experimental Evidence of Gate-Induced Schottky Barrier Height Lowering Due to Image Force in Gated Schottky Diodes A. Kinoshita ¹ , K. Uchida ¹ and J. Koga ¹ , <i>¹Advanced LSI Technology Lab., Toshiba Corp., Japan</i>	11:05 B-8-2 Pre-amorphization and co-implantation suitability for advanced PMOS devices integration R. Surdeanu ¹ , B. Pawlak ¹ , R. Lindsay ² , M. van Dal ¹ , G. Doornbos ¹ , C. Dachs ¹ , Y. Ponomarev ¹ , J.J. Loo ¹ , K. Henson ² , M. Verheijen ³ , M. Kaiser ¹ , X. Pages ⁴ , M. Jurczak ² and P. Stolk ¹ , <i>¹Philips Research Leuven, ²IMEC, ³Philips Research Labs and ⁴ASM International, Eindhoven, Belgium</i>	11:00 C-8-2 Conversion Between Three And Two Dimensional Optical Waves In Attenuated Total Reflection Kretschmann Configuration With Nanostructured Langmuir-Blodgett Films F. Kaneko ¹ , K. Wakui ¹ , H. Hatakeyama ¹ , S. Toyoshima ¹ , K. Shinbo ¹ , K. Kato ¹ , T. Kawakami ¹ , Y. Ohdaira ¹ and T. Wakamatsu ² , <i>¹Niigata Univ. and ²Ibaraki National College of Tech., Japan</i>
11:25 A-8-3 Intelligent BSIM4 Model Parameter Extraction for Sub-100 nm MOSFETs era Y. Li ^{1,2} and Y.-Y. Cho ² , <i>¹National Nano Device Labs, Taiwan and ²National Chiao Tung Univ., Taiwan</i>	11:25 B-8-3 Kinetics of Boron Activation by Flash Lamp Annealing K. Yamashita ¹ , M. Noguchi ¹ , H. Nishimori ¹ , T. Ida ¹ , M. Yoshioka ² , T. Kusuda ³ , T. Arikado ¹ and K. Okumura ⁴ , <i>¹SELETE, ²Ushio Inc, ³Dainippon Screen MFG. Co. Ltd. and ⁴Univ. of Tokyo, Japan</i>	11:15 C-8-3 Low-birefringent slab waveguide fabricated with hot-embossing for sol-gel derived phenyl-methyl silsesquioxane films K. Hasui ^{1,2} , M. Tomiki ¹ and N. Okamoto ¹ , <i>¹Shizuoka Univ., ²Corning Japan K.K, Japan</i>
11:45 A-8-4 0.13μm Low-K/Cu Logic CMOS Based Technology for High Performance Analog Devices J.-C. Guo ¹ , W.Y. Lien ² , T.L. Tsai ² , S.M. Chen ² , C.M. Wu ² , Y.C. Sun ² and P. Yang ² , <i>¹National Chiao Tung Univ. and ²Taiwan Semiconductor Manufacturing Corp., Taiwan,</i>	11:45 B-8-4 High-Speed Damage-Free Contact Hole Etching using Dual Shower Head Microwave-Excited High-Density Plasma Equipment T. Goto ¹ , H. Yamauchi ¹ , T. Kato ¹ , A. Teramoto ¹ , M. Hirayama ¹ , S. Sugawa ² and T. Ohmi ¹ , <i>¹Tohoku Univ. and ²NICHE, Tohoku Univ., Japan</i>	11:30 C-8-4 Waterproof Anti-reflection films fabricated by layer-by-layer adsorption process S. Fujita ¹ and S. Shiratori ¹ , <i>¹Keio Univ., Japan</i>
		11:45 C-8-5 Optical Waveguide Characterization of Some Pyroelectric Polymer Thin Films G.K. Tiwari ¹ , H.V. Tiwary, <i>¹Ravishankar Shukla Univ., India</i>

Lunch

Room D	Room E	Room F	Room G
11:05 D-8-2 W/HfO ₂ gate stacks with T _{inv} ~1.2nm and low charge trapping A. Callegari ¹ , P. Jamison ¹ , B.H. Lee ² , D. Neumayer ¹ , V. Narayanan ¹ , S. Zafar ¹ , E. Gousev ¹ , C.D. Emic ¹ , D. Lacey ¹ , M. Gribelyuk ² , C. Cabral ¹ , A. Steegen ² , V. Ku ² , R. Amos ² , Y. Li ³ , P. Nguyen ² , F.Mc. Feely ¹ , G. Singco ¹ , J. Cai ¹ , S-H Ku ² , Y.Y. Wang ² , C. Wajda ⁴ , D. O'Meara ¹ , H. Shinriki ¹ , and T. Takahashi ¹ , <i>¹IBM, SRDC, ²IBM T. J. Watson Research Center, and ³Tokyo Electron America</i>	11:15 E-8-2 Top-Gate Carbon-Nanotube Field-Effect Transistors with Very High Intrinsic Transconductance F. Nihey ^{1,2} , H. Hongo ^{1,2} , Y. Ochiai ^{1,2} , M. Yudasaka ^{1,2} and S. Iijima ^{1,2,4,5} , <i>¹NEC Corporation, ²JST, ³Japan Fine Ceramics Center, ⁴AIST and ⁵Meijo Univ., Japan</i>	11:15 F-8-2 Ultraviolet Second Harmonic Generation and Sum-Frequency Mixing in Nonlinear-Optical Polymer Photonic-Crystal Waveguides S. Inoue ¹ , K. Kajikawa ¹ and Y. Aoyagi ¹ , <i>¹Tokyo Inst. of Technology, Japan</i>	11:15 G-8-2 Base Current Control in Low V _{BE} Operated SiGeC Heterojunction Bipolar Transistors Using SiGe-cap Structure and High Carbon Content Base T. Saitoh ¹ , T. Kawashima ¹ , Y. Kanzawa ¹ , J. S. Iwanaga ¹ , K. Idota ¹ , T. Takagi ¹ , T. Ohnishi ¹ , K. Yuki ¹ , T. Sano ¹ and S. Sawada ¹ , <i>¹Matsushita Electric Industrial Co., Ltd., Japan</i>
	11:30 E-8-3 Fabrication of Two-Dimensional Carbon Nanostructures Using Radio-Frequency Plasma-Enhanced Chemical Vapor Deposition M. Hiramatsu ¹ , K. Shiji ¹ , H. Amano ¹ , Y. Ando ¹ and M. Hori ² , <i>¹Meijo Univ. and ²Nagoya Univ., Japan</i>	11:30 F-8-3 Enhanced Light Extraction Efficiency of GaN-Based Blue LED Using Extended-Pitch Surface Photonic Crystal K. Orita, S. Tamura, T. Takizawa, T. Ueda, M. Yuri, S. Takigawa and D. Ueda, <i>Matsushita Electric Industrial Co., Ltd, Japan</i>	11:30 G-8-3 A Low Power SiGe Micromixer for 2.4/5.2/5.7 GHz Multi-band WLAN Applications C.-Y. Wang ¹ , H.-W. Chiu ¹ , H.-C. Chen ¹ , S.-S. Lu ¹ and C.-C. Meng ¹ , <i>¹National Taiwan Univeristy, Taiwan</i>
	11:45 E-8-4 Control of Electrical Property in Multi-Wall Carbon Nanotube using Electrical Breakdown N. Aoki ¹ , K. Miyamoto ¹ , N. Oguri ¹ , T. Sasaki ¹ , K. Ishibashi ² and Y. Ochiai ¹ , <i>¹Chiba Univ., ²RIKEN, Japan</i>		

Lunch

Room A	Room B	Room C	Room D	Room E	Room F	Room G
A-9: Advanced Silicon Devices and Device Physics -Electron Mobility Characteristics- (13:30-14:50) Chairs: S. Inaba (Toshiba) N. Sugii (Hitachi)	B-9: Silicon-on-Insulator Technologies -SOI Low Power Applications- (13:30-14:40) Chairs: K. Ino (Toshiba) T. Ipposhi (Renesas)	C-9: Organic Semiconductor Devices and Materials -Molecular Devices and Materials- (13:30-14:45) Chais: M. Iwamoto (Tokyo Inst. of Technol.) A. Sugimura (Osaka Sangyo Univ.)	D-9: New Materials and Characterization -High-k Dielectrics II- (13:30-14:30) Chairs: T. Nabatame (ASET) Y. Sugita (Fujitsu)	E-9: Novel Devices, Physics, and Fabrication -Si Nanowire and Dots- (13:30-14:30) Chairs: Y. Miyamoto (Tokyo Inst. of Technol.) S. Miyazaki (Hiroshima Univ.)	F-9: Optoelectronic Devices and Photonic Crystal Devices -Ultrafast Photonic Devices- (13:30-14:45) Chairs: N. Suzuki (Toshiba) S. Arahira (Oki Electric)	G-9: SiGe/III-V/III-N Devices and Circuits for Wireless and Optical Communications -GaN Devices- (13:30-14:45) Chairs: M. Kuzuhara (NEC) Y. Ohno (Tokushima Univ.)
13:30 A-9-1 Re-Examination on the Universality of Si-MOS Inversion Layer Mobility H. Irie ¹ , K. Kita ² , K. Kyuno ¹ , S. Takagi ² , K. Takasaki ² , M. Kubota ² , S. Saito ² , S. Nishikawa ² and A. Toriumi ¹ , <i>¹The Univ. of Tokyo and ²STARC, Japan</i>	13:30 B-9-1 (Invited) Ultralow-power CMOS/SOI Circuit Technology for Ubiquitous Communications Y. Kado ¹ , Y. Matsuya ¹ , S. Mutoh ¹ , J. Terada ¹ , H. Morisawa ¹ , Y. Sato ¹ , T. Douseki ¹ and H. Kyuragi ¹ , <i>¹NTT Microsystem Integration Labs, Japan</i>	13:30 C-9-1 (Invited) Potential Profile and Opto-Electronic Properties at Nano Interface of Conducting Polymer and Metals K. Kaneto ¹ and W. Takashima ¹ , <i>¹Kyushu Inst. of Technology, Japan</i>	13:30 D-9-1 Separate and Independent Control of Interfacial Band Alignments and Dielectric Constants in Transition Metal-Rare Earth Oxides G. Lucovsky ¹ , Y. Zhang ¹ , J.L. Whitten ¹ , D.G. Schlom ² and J.L. Freeouf ³ , <i>¹North Carolina State Univ., ²Pennsylvania State Univ. and ³Oregon Graduate Inst., USA</i>	13:30 E-9-1 Multiple-Step Electron Charging in Si Quantum-Dot Floating Gate nMOSFETs M. Ikeda ¹ , Y. Shimizu ¹ , T. Shibaguchi ¹ , H. Murakami ¹ and S. Miyazaki ¹ , <i>¹Hiroshima Univ., Japan</i>	13:30 F-9-1 (Invited) SOA-Based Functional Devices for Future Optical Networks M. L. Nielsen ¹ , J. D. Buron ¹ , M. Nord ² , and M. N. Petersen ¹ , <i>¹Research Center COM, Technical Univ. of Denmark, Denmark</i>	13:30 G-9-1 (Invited) GaN-based microwave power devices: A survey on the activities in Europe J. Würfl ¹ , <i>¹Ferdinand-Braun-Institut für Hochstfrequentztechnik, Germany</i>
13:50 A-9-2 Channel direction impact of (110) surface Si substrate on performance improvement in sub-100 nm MOSFETs H. Nakamura ¹ , T. Ezaki ¹ , T. Iwamoto ¹ , M. Togo ¹ , N. Ikarashi ¹ , M. Hane ¹ and T. Yamamoto ¹ , <i>¹NEC Corporation, Japan</i>	14:00 B-9-2 On the Performance Advantage of undoped ultra thin-film FD-SOI MOSFETs H. Matsuhashi ¹ , T. Okamura ¹ , T. Douseki ² , N. Miura ¹ , T. Chiba ¹ and S. Baba ¹ , <i>¹OKI Electric Industry co., Ltd., and ²NTT Microsystem Integration Labs, Japan</i>	14:00 C-9-2 Effects of different materials use for internal floating electrode on the photovoltaic properties of tandem type organic solar cell K. Triyana ¹ , T. Yasuda ¹ , K. Fujita ¹ and T. Tsutsui ¹ , <i>¹Kyushu Univ., Japan</i>	13:50 D-9-2 Chemical Structures of HfO ₂ /Si Interfacial Transition Layer H. Nohira ¹ , Y. Takata ² , K. Kobayashi ² , M.B. Seman ¹ , S. Joumori ¹ , K. Nakajima ¹ , M. Suzuki ¹ , K. Kimura ¹ , Y. Sugita ¹ , O. Nakatsuka ¹ , A. Sakai ² , S. Zaima ² , T. Ishikawa ² , S. Shin ² and T. Hattori ¹ , <i>¹Musashi Inst. of Technology, ²RIKEN, ³JASRI, ⁴Kyoto Univ., ⁵Fujitsu Ltd. and ⁶Nagoya Univ., Japan</i>	13:45 E-9-2 Hybrid Silicon Nanocrystal Silicon Nitride Memory R. Steimle ¹ , R. Rao ¹ , B. Hradsky ¹ , R. Muralidhar ¹ , M. Sadd ¹ , M. Ramon ¹ , S. Straub ¹ , S. Bagechi ¹ , X.-D. Wang ¹ , J. Hooker ¹ and B. White ¹ , <i>¹Motorola SPS, USA</i>	14:00 F-9-2 100-Gbit/s Full-Rate Operation of PD-EAM Optical Gate for Retiming Function T. Yoshimatsu, S. Kodama, K. Yoshino and H. Ito, <i>¹NTT Photonics Labs, NTT Corporation, Japan</i>	14:00 G-9-2 Gate Direction of AlGaIn/GaN MODFET's with Low Temperature Coefficient of Threshold Voltage H. Ishida ¹ , T. Murata ¹ , T. Matsuno ¹ , Y. Ikeda ¹ , Y. Hirose ¹ , Y. Uemoto ¹ and T. Tanaka ¹ , <i>¹Matsushita Electric Industrial Co., Ltd., Japan</i>
14:10 A-9-3 Characterization of Plasma Nitridation Impact on Lateral Extension Profile in 50nm N-MOSFET by Scanning Tunneling Microscopy H. Fukutome ¹ , T. Saiki ² , M. Hori ² , T. Tanaka ² , R. Nakamura ² and H. Arimoto ² , <i>¹Fujitsu Labs Ltd. and ²Fujitsu Limited, Japan</i>	14:20 B-9-3 A 0.5-V Noise-Shaping A/D Converter Using Low-Threshold FD-SOI Transistors Y. Matsuya ¹ and T. Douseki ¹ , <i>¹NTT Microsystem Integration Labs, Japan</i>	14:15 C-9-3 Photoinduced Gate Operation and Temperature Dependence in the Coulomb staircase of Organic Single Electron Tunneling Junctions Y. Noguchi ¹ , T. Manaka ¹ and M. Iwamoto ¹ , <i>¹Tokyo Inst. of Technology, Japan</i>	14:10 D-9-3 Pulsed-source MOCVD HfO ₂ ultrathin film growth optimized by <i>in situ</i> ellipsometry monitoring Y. Tsuchiya ¹ , M. Endoh ¹ and S. Oda ¹ , <i>¹Tokyo Inst. of Technology, Japan</i>	14:00 E-9-3 Monte-Carlo Simulation of Single-Electron Nanocrystal Memories J.S. Sim ¹ , J. Kong ¹ , J.D. Lee ¹ and B.-G. Park ¹ , <i>¹Seoul National Univ., Korea</i>	14:15 F-9-3 Semiconductor Dispersion Compensators Based on Asymmetric Coupled Waveguides Y. Lee ¹ , T. Shiota ¹ , A. Takei ¹ , T. Taniguchi ¹ and H. Uchiyama ¹ , <i>¹Central Research Lab, Hitachi, Ltd., Japan</i>	14:15 G-9-3 AlGaIn/GaN Power HEMT Using Advanced Ohmic Structure with Recessed Ohmic Technique M. Kanamura ¹ , T. Kikkawa ¹ , N. Adachi ² , T. Kimura ¹ , S. Yokokawa ² , M. Nagahara ² , N. Hara ¹ and K. Joshin ¹ , <i>¹Fujitsu Labs Ltd. and ²Fujitsu Quantum Devices Ltd., Japan</i>
14:30 A-9-4 High Performance Strained Si/SiGe N-channel MOSFETs: Impact of Alloy Composition and Layer Architecture S. Olsen ¹ , L. Driscoll ¹ , K. Kwa ¹ , S. Chattopadhyay ¹ and A. O'Neill ¹ , <i>¹Univ. of Newcastle, UK</i>		14:30 C-9-4 Thin film transistors with oriented copper phthalocyanine micro-crystals fabricated by physical vapor deposition under DC electric field M. Sakai ¹ , M. Iizuka ¹ , M. Nakamura ¹ and K. Kudo ¹ , <i>¹Chiba Univ., Japan</i>		14:15 E-9-4 Growth of Si Nanowire Using Metal-Induced Lateral Crystallization K. Makihiro ¹ and T. Asano ¹ , <i>¹Kyushu Inst. of Technology, Japan</i>	14:30 F-9-4 Linear and Nonlinear Femtosecond Pulse Propagation through a Quantum Nano-Structure Optical Waveguide Observed with XFROG Spectroscopy N. Tsurumachi ^{1,2} , N. Watanabe ¹ , K. Hikosaka ^{1,2} , X.-L. Wang ^{1,2} , K. Komori ^{1,2} , T. Hattori ¹ and M. Ogura ^{1,2} , <i>¹AIST, ²CREST-JST and ³Univ. of Tsukuba, Japan</i>	14:30 G-9-4 AlGaIn/GaN/graded-AlGaIn Double-Heterostructure HEMTs Y. Zhou ¹ , R. Chu ¹ , K.J. Chen ¹ and K.M. Lau ¹ , <i>¹Hong Kong Univ. of Science and Technology, Hong Kong</i>

Break

Break

Room A	Room B	Room C	Room D	Room E	Room F	Room G
A-10: Advanced Silicon Devices and Device Physics -Poly-Si Device and Sensor- (15:00-16:00) Chairs: N. Sugii (Hitachi) T. Eimori (Renesas)	B-10: Silicon-on-Insulator Technologies -SOI CMOS Technologies- (15:00-16:30) Chairs: Y. Kado (NTT) M. Terauchi (Hiroshima City Univ.)	C-10: Organic Semiconductor Devices and Materials -Electroluminescent Devices and Materials- (15:00-16:00) Chairs: Y. Ohmori (Osaka Univ.) K. Kaneto (Kyushu Inst. of Technol.)	D-10: New Materials and Characterization -High-k Dielectrics III- (15:00-16:20) Chairs: M. Hiratani (Hitachi) H. Watanabe (NEC)	E-10: Novel Devices, Physics, and Fabrication -Quantum Computing Devices- (15:00-16:15) Chairs: K. Ishibashi (RIKEN) Y. Pashkin (NEC)	F-10: Optoelectronic Devices and Photonic Crystal Devices -New Photonic Materials- (15:00-16:00) Chair: O. Wada (Kobe Univ.) T. Mizumoto (Tokyo Inst. of Technol.)	G-10: SiGe/III-V/III-N Devices and Circuits for Wireless and Optical Communications -High Voltage Devices- (15:00-16:00) Chairs: K. Morizuka (Toshiba) T. Enoki (NTT)
15:00 A-10-1 High Performance Poly-Si Device with Thin Gate Oxide Film Grown by Plasma Oxidation Technology F. Imaizumi ¹ , T. Hayashi ¹ , K. Ishii ² , A. Teramoto ³ , M. Hirayama ¹ , S. Sugawa ² and T. Ohmi ¹ , ¹ NICHE, Tohoku Univ. and ² Tohoku Univ., Japan	15:00 B-10-1 (Invited) Quality Comparison of Commercial Silicon-on-Insulator Wafers by Photoluminescence M. Tajima ¹ , ¹ Inst. of Space and Astronautical Science	15:00 C-10-1 Analysis of a charged bio molecular particle passing through semi conductive ion channel on biological membrane H. Hirayama ¹ , ¹ Asahikawa medical college, Japan	15:00 D-10-1 Molecular Dynamic Simulation on the Crystallization of HfO ₂ , Hf-aluminate, and Hf-silicate Y. Kosaka ¹ , T. Yamasaki ¹ and C. Kaneta ¹ , ¹ Fujitsu Labs Limited ² , Japan	15:00 E-10-1 (Invited) Quantum Oscillations in Two Coupled Charge Qubits Y. Pashkin ¹ , T. Yamamoto ^{1,2} , O. Astafiev ¹ , Y. Nakamura ^{1,2} , D. Averin ¹ , and J.-S. Tsai ^{1,2} , ¹ RIKEN, ² NEC Corporation, ³ State Univ. of New York, USA	15:00 F-10-1 Intersubband Transition Based on a Novel II-VI Quantum Well Structure for Ultrafast All-optical Switching R. Akimoto ¹ , B. Li ¹ , F. Sasaki ¹ and T. Hasama ¹ , ¹ AIST, Photonics Research Inst., Japan	15:00 G-10-1 (Invited) Development of AlGaIn/GaN power HFET for the application of an inverter circuit S. Yoshida ¹ , ¹ Yokohama R&D Labs, The Furukawa Electric Co., Ltd., Japan
15:20 A-10-2 A Novel High Performance Power MOSFET with Split Well and Split Poly Structure F.-T. Chien ¹ , K.-W. Tu ² , S.-T. Su ³ , C.-L. Cheng ¹ , J.-H. Dung ¹ , C.-Y. Kung ² and Y.-C. Huang ² , ¹ Feng Chia Univ., ² Chung Hsing Univ. and ³ R&D Dept., Chino-Excel Technology Corp., Taiwan	15:30 B-10-2 Low-Noise and High-Frequency 0.10μm body-tied SOI-CMOS Technology with High-Resistivity Substrate for Low-Power 10Gbps Network LSI T. Iwamatsu ¹ , M. Tujiuchi ¹ , Y. Hirano ¹ , T. Matsumoto ¹ , H. Takashino ¹ , T. Ikeda ¹ , T. Yoshimura ² , D. Chen ² , T. Oka ² , H. Kondoh ² , T. Ipposhi ¹ , S. Maegawa ¹ , Y. Inoue ¹ , M. Inuishi ¹ and Y. Ohji ¹ , ¹ Renesas Technology Corp and ² Mitsubishi Electric Corporation, Japan	15:15 C-10-2 Fabrication and Characteristics of Increased Efficiency of Layered Polymeric Electroluminescent Diodes Y. Hino ¹ , M. Yamazaki ¹ , H. Kajii ¹ and Y. Ohmori ¹ , ¹ Osaka Univ, CRCast, Japan	15:20 D-10-2 Theoretical Analysis of Oxygen Diffusion in monoclinic HfO ₂ M. Ikeda ¹ , G. Kresse ² , T. Nabatame ¹ and A. Toriumi ^{1,4} , ¹ MIRAI ASET, ² Universitaet Wien, ³ MIRAI AIST and ⁴ Univ. of Tokyo, Japan	15:30 E-10-2 Measurement of Two-Qubit States detected by Quantum Point Contacts T. Tanamoto ¹ and H. Xuedong ² , ¹ Toshiba Corporation and ² Univ. at Buffalo, SUNY, USA, Japan	15:15 F-10-2 Control of InGaAs Capping Layer Induced Optical Polarization in Edge-Emitting Photoluminescence of InAs Quantum Dots J. Pachamuthu ¹ , H. Tanaka ¹ , T. Kita ¹ , O. Wada ¹ , H. Ebe ¹ , M. Sugawara ¹ , J. Tatebayashi ² , Y. Arakawa ¹ , Y. Nakata ¹ and T. Akiyama ¹ , ¹ Kobe Univ., ² Research Centre for Advanced Science and Technology, Univ.of Tokyo and ³ Fujitsu Labs Ltd., Japan	15:30 G-10-2 Si/SiGe Heterojunction Collector for Low Loss Operation of Carrier Stored Trench-Gate Bipolar Transistor T. Kudoh ¹ and T. Asano ¹ , ¹ Center for Microelectronic Systems, Kyushu Inst. of Technology, Japan
15:40 A-10-3 Optimization of The Ultra-Low Dark Current CMOS Image Sensor Cell Using n+ Ring Reset P.-H. Huang ¹ and Y.-C. King ¹ , ¹ STAR, National Tsing-Hua Univ., Taiwan	15:50 B-10-3 Fully Depleted SOI CMOS Device with Raised Source/Drain for 90nm Embedded SRAM Technology M.-H. Oh ¹ , C.-H. Park ¹ , H. S. Kang ¹ , C.-B. Oh ¹ , Y.-W. Kim ¹ and K.-P. Suh ¹ , ¹ Samsung Electronics, Korea	15:30 C-10-3 Passivation of organic light emitting diodes with plasma polymerized p-xylene thin films deposited by PECVD S. Sohn ¹ , S. Kho ¹ and D. Cho ¹ , ¹ Sungkyunkwan Univ., Physics, Korea	15:40 D-10-3 Etching yields of HfO ₂ under Ar ⁺ and CF _x ⁺ (X = 1, 2, 3) ion beam irradiation K. Karahashi ¹ , N. Yamagishi ¹ , T. Horikawa ² and A. Toriumi ^{1,3} , ¹ MIRAI ASET, ² MIRAI ASRC, AIST and ³ Univ. of Tokyo, Japan	15:45 E-10-3 Coherent control in inhomogeneously broadened quantum dots ensemble and its coherent transient phenomena N. Tsurumachi ^{1,2} , K. Komori ^{1,2} and T. Hattori ¹ , ¹ AIST, ² CREST-JST and ³ Inst. of Applied Physics, Univ. of Tsukuba, Japan	15:30 F-10-3 High Performance Electroluminescence from Nanocrystalline Si with Carbon Buffer B. Gelloz ¹ and N. Koshida ¹ , ¹ Tokyo Univ. Agr.&Tech., Japan	15:45 G-10-3 Design and Demonstration of High Breakdown Voltage GaN-HEMT using Field Plate Structure for Power Electronics Applications W. Saito ¹ , Y. Takada ² , M. Kuraguchi ³ , K. Tsuda ² , I. Omura ¹ and T. Ogura ¹ , ¹ Toshiba Corporation, Semiconductor Company and ² Toshiba Corporation, Research & Development Center, Japan
	16:10 B-10-4 Body Contact Structure using Elevated Field Insulator for Ultra-Thin Film SOI-MOSFETs S. Yamagami ¹ , R. Koh ¹ , H. Wakabayashi ¹ , J.-W. Lee ¹ , Y. Saito ² , A. Ogura ¹ , M. Narihiro ¹ , K. Arai ² , H. Takemura ¹ , Y. Ochiai ¹ , K. Takeuchi ¹ and T. Mogami ¹ , ¹ Silicon Systems Research Labs, NEC Corporation and ² R&D Technical Support Center, NEC Corporation, Japan	15:45 C-10-4 High efficiency fluorescent organic light emitting devices utilizing a phosphorescent sensitizer S. Liu ¹ , ¹ Jilin Univ., China	16:00 D-10-4 Selective Dry Etching of HfO ₂ in CF ₄ , Cl ₂ and HBr Based Chemistry T. Maeda ¹ , H. Ito ¹ , R. Mitsuhashi ¹ , A. Horiuchi ¹ , T. Kawahara ¹ , A. Muto ¹ , T. Sasaki ¹ , K. Torii ¹ and H. Kitajima ¹ , ¹ Semiconductor Leading Edge Technologies, Inc., Japan	16:00 E-10-4 Observation of the spin-related even-odd effect in single-wall carbon nanotube quantum dots H. Maki ¹ , M. Suzuki ¹ , Y. Ishiwata ¹ and K. Ishibashi ¹ , ¹ RIKEN, Japan	15:45 F-10-4 Optical Component Coupling Using Self-Written Waveguides N. Hirose ¹ and O. Ibaragi ¹ , ¹ ASET, Japan	