Tuesday, November 13

Room C (The Terrace Room (1F))

13:00-16:45  Technical Seminar "EUV Lithography Tutorial" in Japanese

Park Hall (3F)

17:20-19:20  Welcome Reception

Wednesday, November 14

Room P1 (Eminadl, 3F)

14P-1: Plenary Session I

Chairs: Y. Ono (Shizuoka Univ.) and K. Nishiguchi (NTT)

14P-1-0  9:30-10:00  Opening Remarks: S. Kasai (Hokkaido Univ.), Award Presentation: Y. Ono (Shizuoka Univ.) and S. Kasai (Hokkaido Univ.)

Local Announcement from Committee: T. Kozawa (Osaka Univ.)

14P-1-1  9:50  AI Based Self-Driving Vehicles and Its Relation with Nano Electronics (Plenary)

T. Nobe, Intel and Ngoya Univ., Japan

Coffee Break

14P-1-2  10:50  EUV Lithography at Threshold of High-Volume Manufacturing and Beyond (Plenary)

A. Yen, ASML, USA

14P-1-3  11:30  Materials Innovation and Integration for New Computing Paradigms (Plenary)

K. Moselund, IBM Research Zurich, Switzerland

Lunch

Room A (Park Plaza D (B2F))


Chairs: T. Sato (Toshiba Memory) and A. Fujimoto (Hitachi High-Technologies)

14B-2: Microsystem Technology and MEMS I

Chairs: R. Takigawa (Kyushu Univ.) and Y. Hasegawa (Hirosima City Univ.)

14C-2: Nano-Tool

Chairs: R. Kometani (Univ. of Tokyo) and T. Hoshino (Hiroshima Univ.)

14D-2: Inorganic Nanomaterials I

Chairs: T. Tsuchiya (NIMS) and M. Suzuki (AIST)

13:30  Theme Films and Nanoparticles Made from The Self-Assembly of Carbohydrates Block Copolymers (Invited)

R. Borsali, Univ. of Grenoble Alpes, France

14A-2-1  13:30  Highly Sensitive Spintronic Strain-Gauge Sensor and Spin-MEMS Microphone (Invited)

Y. Fuji, Y. Higashi, S. Kaji, K. Masunishi, A.Yuzawa, T. Nagata, K. Okamoto, S. Baba, T. Ono and M. Hara, Toshiba, Japan


H. Tomizawa, T. Saito, A. Fujimoto, Y. Kurui and A. Kojima, Toshiba, Japan

14A-2-3  14:00  Temporal-Stop of Microtubule Movement by Electrical Stimulation on Virtual Cathode

K. Hatazawa 1, H. Miyazaki 2, R. Kawamura 3 and T. Hoshino 1, 2

14A-2-4  14:10  Development of Optomechanical Nanoresonators Elastically Coupled in Series for Q Factor Independent Wavelength Measurement

K. Tanaka, S. Warisawa and R. Kometani, Univ. of Tokyo, Japan

Room B (Park Plaza A (B2F))

14B-2-1  13:30  Application of Helium Ion Microscopy (HIM) to Nano-Electronics and bio-science (Invited)

S. Ogawa, AIST, Japan

14B-2-2  14:00  Damage-Free Nano Sampling Technique for Carbon Nanotube Characterization

K. Beppu 1, A. Fukui 1, A. Takakura 2, T. Nishihara 2, Y. Miyauchi 3, K. Imai 2 and T. Namazu 1, 1 Aichi Inst. of Technol., 2 Nagoya Univ. and 3 Kyoto Univ., Japan

14B-2-3  14:20  Repair of Surface Adsorbed Kinesin by Multi-Photon Laser Ablation and Reloading toward Arbitral Patterning of Microtubule Driving Track


14B-2-4  14:40  Removal of Surface Adsorbed Kinesin by Multi-Photon Laser Ablation and Reloading toward Arbitral Patterning of Microtubule Driving Track


Room C (The Terrace Room (1F))

14C-2-1  13:30  Low-Temperature Formation of GeSn Nanodots by Tin Mediation

H. Okamoto 1, K. Takita 1, K. Tsushima 1, T. Tawara 2, K. Tateno 2, G. Zhang 2 and H. Gotoh 2, 1 Hiroshima Univ. and 2 NTT, Japan

14C-2-2  14:00  Excited Spin Engineering of In0.2Ga0.8As Quantum Dots by an Adjacent Two-Dimensional In0.5Ga0.5As Quantum Well Potential

S. Hiura 1, K. Takeishi 1, J. Takayama 1, T. Kiba 2 and A. Murayama 1, 1 Hokkaido Univ. and 2 Kiitami Inst. of Technol., Japan

Room D (Eminadl, 3F)

14D-2-1  13:30  Broadband Anti-Reflection Effect Based on Oblique Angle Deposition for InGaAsP/InGaAs Double Junction Solar Cells

G. Oh, C.W. Ahn and E.K. Kim, Hanyang Univ., Korea

14D-2-2  13:50  Excited Spin Engineering of In0.2Ga0.8As Quantum Dots by an Adjacent Two-Dimensional In0.5Ga0.5As Quantum Well Potential

S. Hiura 1, K. Takeishi 1, J. Takayama 1, T. Kiba 2 and A. Murayama 1, 1 Hokkaido Univ. and 2 Kiitami Inst. of Technol., Japan

14D-2-3  14:10  Solution-Processed All-Inorganic Silicon Nanocrystal Thin Film for Electronic Device Application

S. Kano and M. Fuji, Kobe Univ., Japan

14D-2-4  14:30  Broadband Anti-Reflection Effect Based on Oblique Angle Deposition for InGaAsP/InGaAs Double Junction Solar Cells

G. Oh, C.W. Ahn and E.K. Kim, Hanyang Univ., Korea

14D-2-5  15:00  Development of Optomechanical Nanoresonators Elastically Coupled in Series for Q Factor Independent Wavelength Measurement

K. Tanaka, S. Warisawa and R. Kometani, Univ. of Tokyo, Japan
<table>
<thead>
<tr>
<th>Room A (Park Plaza D (B2F))</th>
<th>Room B (Park Plaza A (B2F))</th>
<th>Room C (The Terrace Room (1F))</th>
<th>Room D (Emina (1F))</th>
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</thead>
<tbody>
<tr>
<td><strong>14A-3-2</strong> 15:45 X-Ray Nanoscopic Phase Imaging with Grating Interferometry (Invited) A. Momose Tohoku University, Japan</td>
<td><strong>14B-3-2</strong> 15:15 2D Fe-Based Metallic Glass Micromirror Driven by Electromagnetic Actuator C.-H. Ou 1, Y.-C. Lin 2, Y. Keikoin 3, T. Ono 2, M. Esashi 2 and Y.-C. Tsai 1, 1 Natl. Chung Hsing Univ., Taiwan, 2 Tohoku Univ. and 3 MEMS-CORE, Japan</td>
<td><strong>14C-3-2</strong> 16:35 Anomalous Phonon Diffusion in Isotopically Disordered Armchair-Edge Graphene Nanoribbons N. Mori, T. Kamioka and G. Miñikov, Osaka Univ., Japan</td>
<td><strong>14D-3-2</strong> 15:25 Investigation of Conducting Ni-Co Spinel Oxide Thin Film for Photoelectrochemical Cell Applications S.-Y. Tsai 1, K.-Z. Fung 1 and H.-C. Yang 2, 1 Natl. Cheng Kung Univ. and 2 Kun Shan Univ., Taiwan</td>
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**Author's Interview:** none

**Author's Interview:** none

**Author's Interview:** none

**Author's Interview:** none

17:35-19:00 Happy Hour
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Authors</th>
<th>Location</th>
<th>Room A</th>
<th>Room B</th>
<th>Room C</th>
<th>Room D</th>
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<tbody>
<tr>
<td>9:00</td>
<td>15A-4-1</td>
<td>Defect Reduction Strategies for Directed Self-Assembly</td>
<td>(Invited)</td>
<td>H.S. Suh, imec, Belgium</td>
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<td>9:20</td>
<td>15B-4-2</td>
<td>Electrostatic Actuation of Cantilevered h-BN Shear</td>
<td>(Invited)</td>
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<td>9:40</td>
<td>15C-4-3</td>
<td>Synthesis of Sulfur-And Phosphorous-Doped Graphene</td>
<td>(Invited)</td>
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<td>10:00</td>
<td>15D-4-4</td>
<td>Charge Coupling between Polyoxometalate Molecule and a GaAs-Based Nanowire</td>
<td>(Invited)</td>
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<td>10:30</td>
<td>15A-4-5</td>
<td>Reaction Mechanism of Zr Metal Resist</td>
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<td>Author's Interview: 10:50-11:00</td>
<td>Author's Interview: 10:20-10:30</td>
<td>Author's Interview: 10:20-10:30</td>
<td>Author's Interview: 10:30-10:40</td>
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<td>10:45</td>
<td>15B-4-4</td>
<td>Wearable Strain Sensor with Electrothermal Property Based on Reduced Graphene Oxide</td>
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<td>10:55</td>
<td>15C-4-4</td>
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<td>11:10</td>
<td>15A-5-1</td>
<td>Sources of Resist Surface Charging in Electron Beam Lithography</td>
<td>(Invited)</td>
<td>N. Nakayama, H. Nomura and T. Kamikubo, NuFlare Technol., Japan</td>
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<td>11:30</td>
<td>15B-5-1</td>
<td>Inorganic Nanomaterials III</td>
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<td>11:50</td>
<td>15C-5-1</td>
<td>Nanodevices III</td>
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<td>12:30</td>
<td>15A-5-2</td>
<td>Electron and Ion Beam Technologies</td>
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<td>12:50</td>
<td>15B-5-2</td>
<td>Nanomaterials III</td>
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<td>13:30</td>
<td>15A-5-3</td>
<td>Organic Nanomaterials I</td>
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<td>13:50</td>
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<td>14:30</td>
<td>15A-5-4</td>
<td>Microsystem Technology and MEMS III</td>
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<td>14:50</td>
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<td>15C-5-4</td>
<td>Organic Nanomaterials I</td>
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Room P2 (Park Plaza BC (B2F))

Coffee Break
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<tr>
<th>Time</th>
<th>Session</th>
<th>Room A (Park Plaza D (B2F))</th>
<th>Room B (Park Plaza A (B2F))</th>
<th>Room C (The Terrace Room (1F))</th>
<th>Room D (Emina (1F))</th>
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<tbody>
<tr>
<td>11:40</td>
<td>15A-5-2 Experimental Demonstration of Large Depth of Focus Using Annullar Illumination Scanning Electron Microscope</td>
<td>M. Kimura 1, M. Enyama 1, K. Hamada 1, H. Kazumi 2 and K. Kuosawa 2, 1 Hitachi and 2 Hitachi High-Technol., Japan</td>
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<td>11:45</td>
<td>15B-5-2 Controlled Synthesis and Transport Properties of 2D Oxide Nanosheets</td>
<td>Y. Shi 1, M. Osada 1,2, T. Sasaki 2, 1 Nagoya Univ. and 2 NIMS, Japan</td>
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<td>12:10</td>
<td>15B-5-3 Integration of Functional Oxide Nanosheets for Solution-Processed Ultra-Thin Electromagnetic Shielding</td>
<td>T. Taniguchi, S. Li, H. Takehira, M. Osada, NIMS, Japan</td>
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<td>12:20</td>
<td>15A-5-4 Characterization of Proximity Effects in Helium Ion Beam Lithography by Direct Monte Carlo Simulation and Resist Calibration</td>
<td>C.-L. Lee, S.-W. Chien, K.-Y. Tsai, Natl. Taiwan Univ., Taiwan</td>
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<td>12:40</td>
<td>15B-5-4 Atomic Layer Engineering of 2D Perovskite Nanosheets</td>
<td>M. Osada 1,2 and T. Sasaki 2, 1 Nagoya Univ. and 2 NIMS, Japan</td>
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<td>13:00</td>
<td>15A-6-1 14:10 EUV Material Challenges and Solutions (Invited)</td>
<td>G. Vandenberghe, imec, Belgium</td>
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<td>13:20</td>
<td>15B-6-1 Room Temperature coating of Ceramic Film by Aerosol Deposition (Invited)</td>
<td>J. Akedo, AIST, Japan</td>
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<td>13:40</td>
<td>15A-6-2 14:40 Solution-Processed 2D Organic Crystals for Transistor Applications (Invited)</td>
<td>Y. Li, Nanjing Univ., China</td>
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<td>13:50</td>
<td>15B-6-2 14:20 Conductivity Modulation in SrVO₃-Based All-Solid-State Redox Transistor with Ions Transport of Li⁺ or H⁺</td>
<td>M. Takayanagi 1,2, T. Tsuchiya 2, W. Namiki 1,2, Y. Kitagawa 1,2, T. Higuchi 1 and K. Terabe 2, 1 Tohoku Univ. and 2 NIMS, Japan</td>
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<td>14:00</td>
<td>15A-6-3 15:20 Fabrication Challenge: Standard Sample with Programmed Defect for Evaluation of beyond-7 nm Node Pattern Inspection Tool</td>
<td>S. Iida and T. Uchiyama, EIDEC, Japan</td>
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<td>14:10</td>
<td>15B-6-3 15:00 Measurements of Charge, Heat and Spin Transport in Organic Semiconductors (Invited)</td>
<td>Y. Li, Nanjing Univ., China</td>
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<tr>
<td>14:20</td>
<td>15A-6-4 15:40 Fabrication of Polymer pn Homo-Junction Diodes by Spray Deposition</td>
<td>S. Sakiyama, T. Komura, M. Mizutani and K. Fujita, Kyushu Univ., Japan</td>
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**Lunch**

Room A (Park Plaza D (B2F))

**Room B (Park Plaza A (B2F))

**Room C (The Terrace Room (1F))

**Room D (Emina (1F))

**Room A (Park Plaza D (B2F))

**Room B (Park Plaza A (B2F))

**Room C (The Terrace Room (1F))

**Room D (Emina (1F))
### Photolithography and Patterning

**15P-7-1** Fabrication of High-Aspect-Ratio Transmission Grating Using Dry Development Process for 10-nm EUV Resist Evaluation by EUV Interference Lithography

M. Yoshifuji, S. Niihara, T. Harada, and T. Watanabe
Univ. of Hyogo, Japan

**15P-7-2** Application of Projection Exposure Using a Gradient Index Lens Array and Wet Etching to Texturing and Hydrophobic-Property Control of Stainless-Steel Plates

T. Horiiuchi, Y. Kazama, H. Yoshida, A. Yanagida and H. Kobayashi
Tokyo Denki Univ., Japan

**15P-7-3** Development and Its Application of One-Step Fabrication Process for Multi-Angled Micro-Structure via Synchrotron X-ray Lithography

K. Kim, K. Park, G. Lim and J.H. Kim
POSTECH, Korea

**15P-7-4** Periodic Diamond Pattern Formation on Resist by Simple Orthogonally-Crossed Two Line-Scans of the Electron Beam

K. Okada, T. Hikoi, M. Ichiyami and J. Yanagisawa
Univ. of Shiga Pref., Japan

**15P-7-5** Three-Dimensional Trajectory Simulation of Fogging Electrons in Scanning Electron Microscope

Y. Ito, T. Donga, K. Morimoto and M. Kotera
Osaka Inst. of Technol., Japan

**15P-7-6** Energy Analysis of Fogging Electrons by The Same Electric Field

H. Mizuno, S. Nisimura, K. Kubo and M. Kotera
Osaka Inst. of Technol., Japan

**15P-7-7** Energy Analysis of Fogging Electrons in Scanning Electron Microscope

K. Morimoto, T. Donga, Y. Ito and M. Kotera
Osaka Inst. of Technol., Japan

**15P-7-8** 60 keV Ar Ion Irradiation Effect on Ge(110) Surfaces

R. Tsukamoto 1, M. Ichiyami 1, K. Takamiya 2, A. Kinomura 2 and J. Yanagisawa 1
1 Univ. of Shiga Pref. and 2 Kyoto Univ., Japan

**15P-7-9** Refractive Index Tunable Metamaterial Fabrication by Block Copolymer Self-Assembly

K.H. Han, J.Y. Kim, J. Shin and S.O. Kim
KAIST, Korea

**15P-7-10** Rapid Self-Assembly of Large Area, Sub-10 nm Nanopattern with High Flory-Huggins Interaction Parameter Block Copolymer by Flash Light

KAIST, Korea

**15P-7-11** Laser Writing Block Copolymer Self-Assembly on the Chemically Modified Graphene Light Absorbing Layer

G.G. Yang, H.M. Jin and S.O. Kim
KAIST, Korea

**15P-7-12** Au and Ag Nanoparticles Dual-Coated Calcium Alginate Fibers with Uniform Single-Layered Structure Fabricated by Molecule-Directed Self-Assembly

L. Dong, K. Li, X. Liao, S. Liu, S. Xu, X. Xu and G. Zhang
1 Nantong Univ. and 2 Shenzhen Univ., China

**15P-7-13** The Revolution of Machine Learning to Accelerate The Development of Nanotechnologies is Becoming a Reality

A. Derville, G. Gey, J. Baderot, S. Martinez, G. Bernard, J. Foucher
POLLEN Metrology, France
Nanocarbons

15P-7-14 Synthesis of S Doped g-C3N4 Pinhole Nanosheet for Selectively Detection of Silver Ion
A.N. Kadam, W.S. Jung, S.H. Park and S.W. Lee, Gachon Univ., Korea

15P-7-15 Geometric and Electronic Structures of Two-Dimensionally Polymerized Triptycene
Y. Fujii, M. Maruyama and S. Okada, Univ. of Tsukuba, Japan

15P-7-16 Hydrogen Boride Sheets Showing Catalytic Activity As Solid Acid Catalyst
A. Fujino 1, H. Nisino 1, R. Ishibiki 1, S. Ito 2, T. Fujitani 1,3, J. Nakamura 1, H. Hosono 2, T. Kondo 1,2, 1 Univ. of Tsukuba, 2 Tokyo Inst. of Technol. and 3 AIST, Japan

15P-7-17 Composite of Nanocellulose with SnO2 As Electrode Materials
G.N. Tran, I.T. Kim, J. Hur, C.W. Bark, H.W. Choi and S.J. Park, Gachon Univ., Korea

15P-7-18 Mechanism of Oxygen Reduction Reaction Studied with Model Catalysts of Pyridinic-N Containing Molecules on HOPG
T. Akimitsu, R. Shibuya, K. Takeyasu, T. Kondo and J. Nakamura, Univ. of Tsukuba, Japan

15P-7-19 Temperature Dependence of Catalytic Activity in Graphitization for Sn Nanoparticles
M.I. Arably, S. Sharma, S. Elnobii, G. Kalita and M. Tanemura, Nagoya Inst. of Technol., Japan

15P-7-20 Theoretical Study on Adsorption/Desorption of Hydrogen Molecule to the Surface of Graphene Nanoflakes
H. Kawabata and H. Tachikawa, Hokkaido Univ., Japan

15P-7-21 Improvement of Power Generating Ability of "Thermoelectric Power Generating Threads" Using Carbon-Nanotube-Composite Threads
R. Arakaki and T. Oya, Yokohama Natl. Univ., Japan

15P-7-22 Facile Process for Additive-Free Electrode Fabrication with Reduce Graphene Oxide by High-Kinetic Spray for Flexible Lithium Ion Battery Anodes
S.D. Kim 1, J.-G. Lee 2, T.-G. Kim 2, K. Rana 3, J.Y. Jeong 1, J.H. Park 1, S.S. Yoon 2 and J.-H. Ahn 1, 1 Yonsei Univ., 2 Korea Univ., Korea and 3 Ctr Power Res. Inst., India

15P-7-23 Evaluation of MoS2 Film Fabricated by DC Bias Sputtering Method with Raman Spectroscopy
Y. Oyanagi 1, S. Ishihara 1,3, Y. Hibino 1,3, N. Sawamoto 1, T. Ohashi 2, K. Matsuura 2, H. Wakabayashi 2 and A. Ogura 1, 1 Meji Univ., 2 Tokyo Inst. of Technol. and 3 JSPS, Japan

15P-7-24 Structural and Electrical Properties of Graphene-Polymer Composites Observed under Transmission Electron Microscope
N.F. Hasumni, I. Sildin, M. Aziz, A.Z.A. Kadir and M.Z.M. Yusop, Univ. Teknologi Malaysia, Malaysia

15P-7-25 Direct Electroluminescence Imaging of Polycrystalline Monolayer Transition Metal Dichalcogenide Light-Emitting Devices
H. Matsuoka 1, T. Juliette 1, L.-J. Li 2, T. Sakano 1, J. Pu 1 and T. Takenobi 1, 1 Nagoya Univ., Japan and 2 KAUST, Saudi Arabia

15P-7-26 Electrical and Transport Properties of Single Hybrid Graphite-Diamond Nanowire Grown via a Wet Chemical Route
L.-C. Li and K.W. Sun, Natl. Chiao Tung Univ., Taiwan

15P-7-27 Ultra-Low Leakage Technology for Sub 10nm FinFET and GAAFET by Optimized Anti Punch-Through Implantation
S. Kim 1, S. Kim 1, K. Lee 1, S. Kim 1, S. Kim 1, S. Kim 1, K. Choo 2, S. Kim 3 and B.-G. Park 1, 1 Seoul Natl. Univ., 2 Samsung Electronics and 3 Ajou Univ., Korea

15P-7-28 Investigation of SOI-CMOS Integrated Thermocouple and Heater for Antenna-Coupled Bolometer
D. Elamaran, H. Satoh, N. Hiromoto and H. Nisino, Shizuoka Univ., Japan

15P-7-29 Exploring the Origin of Vth Fluctuation Caused by Ion Implantation to Source and Drain Extensions of SOI Tri-Gate FinFETs by 3D Process and Device Simulations
T. Tsutsumi, Meiji Univ., Japan

15P-7-30 Self-Consistent Simulations of Transport Characteristics in Plane MoS2/WS2 Heterojunction Tunnel Transistors
T. Kuroda, F. Hashimoto and N. Mori, Osaka Univ., Japan

15P-7-31 Double-Gate Single-Electron Transistor Characteristics of Single-Layer Fe-MgF2 Granular Films
T. Gyakushi, Y. Asai, A. Tsurumaki-Fukuchi, M. Arita and Y. Takahashi, Hokkaido Univ., Japan

15P-7-32 Fabrication and Evaluation of Multi Layered Nanoparticles Embedded V-Grooved Junctionless-FET
T. Ban 1, M. Uenuma 2, S. Mizuta 3, I. Yamasita 2, Y. Uraoka 2 and S. Yamamoto 1, 1 Kyungpook Natl. Univ. and 2 Seoul Natl. Univ., Korea

15P-7-33 Nonequilibrium Green Function Simulation of Coupled Electron-Phonon Transport in One-Dimensional Nanostructure
Y. Kajiwara and N. Morii, Osaka Univ., Japan

15P-7-34 Green Nano-Second Laser Annealing for S/D Dopants Activation in n-Channel Polycrystalline-Germanium Thin-Film Transistors via Continuous Wave Laser Crystalization
Y.-S. Li, H.-H. Liang, C.-Y. Wu and H.-C. Cheng, Natl. Chiao Tung Univ., Taiwan

15P-7-35 Double-Gate Single-Electron Transistor Embedding SiGe Quantum Well And Charge-Trap Layer with Capabilities of Short- and Long-Term Potentiation in The Biological System
E. Yu 1, S. Cho 1, and B.-G. Park 2, 1 Gachon Univ. and 2 Seoul Natl. Univ., Korea

15P-7-36 Sub-Bandgap Photodetection from Plasmonic Titanium Nitride and Germanium Heterostructure
S.L. Shinde 1, S. Ishii 1 and T. Nagao 1,2, 1 IMST and 2 Hokkaido Univ., Japan

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11:10 Fabrication of InAs Quantum Dots on SiOx Films by Molecular Beam Deposition
A. Makaino, Y. Tanaka and K. Yamaguchi, Univ. of Electro-Comm., Japan

11:30 Ultra-Fine H-ELGP Pt-Based Nanogap Electrodes
Y. Choi, A. Kwon and Y. Majima, Tokyo Inst. of Technol., Japan
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### Nanocarbons

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P.T.M. Phuong and S.Y. Park, Korea Natl. Univ. of Transportation, Korea

**16P-11-2** Preparation of Fluorescent Polymer Dot from The Carbonized of MnOx Nanosheets Encapsulated Hyaluronic Acid for Smart Redox-Responsive Release of Paclitaxel.
B. Rypild and S.Y. Park, Korea Natl. Univ. of Transportation, Korea

**16P-11-3** Observation of the Interaction between Avidin and Immobinotin Using Graphene FET on SiC Substrate.
Y. Taniguchi, T. Miki, Y. Ohno, M. Nagaee, Y. Arakawa, and M. Yasuzawa, Tokushima Univ., Japan

**16P-11-4** Vertically Aligned Single-Walled Carbon Nanotube Growth from Ir Catalysts by Alcohol Gas Source Method.
T. Okada, K.P. Sharma, T. Saida, S. Naritsuka and T. Maruyama, Meijo Univ., Japan

**16P-11-5** Comparative Study of Direct and Mediated Electron Transfer in Biosensors with Flavin Adenine Dinucleotide Glucose Dehydrogenase.
K. Ishida 1, A. Suzuki 1, K. Orhara 1,2, H. Muguruma 1,2, H. Iwasa 2, A. Hiratsuka 2, K. Tsuji 3 and T. Kishimoto 3, 1 Shibaura Inst. of Technol., 2 AIST and 3 TOYOBO, Japan

**16P-11-6** Electrochemical Determination of Individual Catechins in Green Tea with Electrode Fabricated by Long-Length Carbon Nanotube Dispersed Solution.
S. Murakami 1, S. Takahashi 1, H. Muguruma 1, N. Osakabe 1, H. Inoue 2, and T. Ohsawa 2, 1 Shibaura Inst. of Technol. and 2 Nippon Shizai, Japan

**16P-11-7** Carbon Nanotube-Based Strain Sensor for Structural Health Monitoring.
J.Y. Lee 1,2, J.K. Kim 1,2, S.H. Kong 1 and D. Jung 2, Kyungpook Natn. Univ. and 2 KITECH, Korea

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