

Tuesday, 17 February 2009

Session 3: Organic Thin Films and Soft Materials

9:30	3.1	<i>Invited</i> – The Controlled Design of Nanostructured Inorganic and Hybrid Materials	C. Sanchez	<i>Univ. Pierre et Marie Curie</i>
10:20	3.2	<i>Invited</i> – Three-Dimensional Structuring of Materials via Light-Field Localization	S. Juodkakis and H. Misawa	<i>Hokkaido University</i>
10:50		Break		
11:05	3.3	Fabrication of Molecular Nanosystems and their Function Control	Y. Kuwahara ^{1,2} , A. Saito ^{1,2,3} , and M. Akai-Kasaya ^{1,3}	¹ <i>Osaka University</i> , ² <i>SPring-8/RIKEN</i> , ³ <i>JST, PRESTO</i>
11:35	3.4	Bio-Mimetic Optical Thin Film with Specific Nanostructure – <i>Morpho</i> -Butterfly's Mystery and Applications–	A. Saito ^{1,2,3} , Y. Miyamura ¹ , Y. Ishikawa ¹ , J. Murase ¹ , M. Akai-Kasaya ^{1,3} and Y. Kuwahara ^{1,2}	¹ <i>Osaka University</i> , ² <i>SPring-8/RIKEN</i> , ³ <i>JST, PRESTO</i>
11:55		Lunch		

Session 4: Process Technologies for Advanced Electronic Devices

13:30	4.1	<i>Invited</i> – Surface Passivation for Nanoscale Semiconductors – Atomic Layer Deposition of Metal Oxides and Group IV Nanowire Epitaxy	P. C. McIntyre ¹ , Y. Oshima ^{1,2} , I. Goldthorpe ¹ , and A. F. Marshall ¹	¹ <i>Stanford University</i> , ² <i>Tokyo Electron U.S. Holdings</i>
14:20	4.2	<i>Invited</i> – Advanced Nano CMOS Platform using Ge/III-V Channels	S. Takagi, M. Sugiyama, and M. Takenaka	<i>The University of Tokyo</i>
14:50		Break		
15:05	4.3	Fabrication of Advanced Metal/High- <i>k</i> Gate Stacks by Atomically Controlled <i>in-situ</i> PVD-based Method	H. Watanabe ¹ , H. Arimura ¹ , N. Kitano ^{1,2} , Y. Oku ¹ , M. Saeiki ¹ , Y. Naitou ³ , N. Yamaguchi ² , M. Kosuda ² , T. Hosoi ¹ , and T. Shimura ¹	¹ <i>Osaka University</i> , ² <i>Canon ANELVA</i> , ³ <i>AIST</i>
15:25	4.4	Ge-MIS Devices with Ge ₃ N ₄ Gate Dielectrics Fabricated by High-Density Plasma Nitridation	T. Hosoi, K. Kutsuki, G. Okamoto, M. Saito, T. Shimura, and H. Watanabe	<i>Osaka University</i>
15:45		Ceremony for Young Researcher's Awards		
15:55		Closing Remark	K. Yasutake	<i>Osaka University</i>

Poster Session

P1.1	Structural and Electrical Property of the Poly-Si Film Prepared by Atmospheric-Pressure Plasma Chemical Transport	H. Ohmi, T. Mori, A. Goto, H. Kakiuchi, and K. Yasutake	Osaka University
P1.2	FT-IR Analysis of Precursor Gases in Atmospheric-pressure Plasma Enhanced Chemical Transport Method	D. Kamada, T. Katayama, H. Kakiuchi, K. Yasutake, and H. Ohmi	Osaka University
P1.3	Low-Temperature and High-Rate Reduction of GeO ₂ on Glass Substrate by High Pressure Hydrogen Plasma	T. Mori, K. Iwamoto, A. Goto, H. Kakiuchi, K. Yasutake, and H. Ohmi	Osaka University
P1.4	Study on Sterilization Factor of <i>B. Atrophaeus</i> by an Atmospheric-Pressure Mist Plasma	K. Iwamoto, H. Ohmi, H. Kakiuchi, and K. Yasutake	Osaka University
P1.5	Si Selective Epitaxial Growth at Low Temperatures by Atmospheric-Pressure Plasma CVD	Y. Kirihata, T. Ohnishi, H. Ohmi, H. Kakiuchi, and K. Yasutake	Osaka University
P1.6	Characterization of Microcrystalline Si Films Deposited with High Rates by Atmospheric-Pressure Plasma Chemical Vapor Deposition	K. Ouchi, K. Tabuchi, H. Ohmi, H. Kakiuchi, and K. Yasutake	Osaka University
P1.7	Room-Temperature Formation of Silicon Dioxide Films by Atmospheric-Pressure Plasma CVD Using Cylindrical Rotary Electrode	Y. Yamaguchi, K. Nakamura, H. Ohmi, H. Kakiuchi, and K. Yasutake	Osaka University
P1.8	First-Principles Molecular-Dynamics Analysis of Surface Reaction in Low-Temperature Si Thin Film Growth – Adsorption of Reactive Precursors onto H-Terminated Si Surface –	K. Inagaki, R. Kanai, K. Hirose, and K. Yasutake	Osaka University
P1.9	First Principles Calculations on the Adsorption of Carbon Nanotubes on Transition Metal Surfaces	M. David, H. Nakanishi, and H. Kasai	Osaka University
P1.10	Dissociative Adsorption of O ₂ on Al ₂ O ₃ Surface with Pt Adatom	M. Chikaishi, F. Oemry, N.T. Quang, S. Kunikata, R. Belkada, H. Nakanishi, and H. Kasai	Osaka University
P2.1	Development of Graded Multilayer Mirrors for Hard-X-ray Focusing	S. Handa ¹ , T. Kimura ¹ , H. Mimura ¹ , H. Yumoto ¹ , S. Matsuyama ¹ , Y. Sano ¹ , K. Tamasaku ^{1,3} , Y. Nishino ³ , M. Yabashi ² , T. Ishikawa ^{2,3} , and K. Yamauchi ¹	¹ Osaka University ² SPring-8/JASRI ³ SPring-8/RIKEN
P2.2	Development of an Adaptive Mirror for Controlling Wavefront of X-ray Beam	T. Kimura ¹ , S. Handa ¹ , H. Mimura ¹ , H. Yumoto ² , D. Yamakawa ¹ , Y. Sano ¹ , K. Tamasaku ^{1,3} , Y. Nishino ³ , M. Yabashi ² , T. Ishikawa ^{2,3} , and K. Yamauchi ¹	¹ Osaka University ² SPring-8/JASRI ³ SPring-8/RIKEN
P2.3	Photo-Enhanced Chemical Planarization of Gallium Nitride Using a Solid Acidic Catalyst	J. Murata, S. Sadakuni, K. Yagi, Y. Sano, H. Hara, K. Arima, T. Okamoto, H. Mimura and K. Yamauchi	Osaka University
P2.4	First-principles Calculation of Surface Energy at 4H-SiC(0001)-1×1	H. Hara ¹ , Y. Morikawa ² , Y. Sano ¹ , and K. Yamauchi ¹	¹ Osaka University ² ISIR
P2.5	Novel Abrasive-Free Chemical Planarization of 4H-SiC 8° off Wafer Using a Catalyst	T. Okamoto ¹ , Y. Sano ¹ , H. Hara ¹ , T. Hatayama ² , K. Arima ¹ , K. Yagi ¹ , J. Murata ¹ , H. Mimura ¹ , T. Funaki ² , and K. Yamauchi ¹	¹ Osaka University ² Nara Institute of Science and Technology
P2.6	Development of Advanced Kirkpatrick-Baez System for X-ray Nano-Imaging	M. Fujii, S. Matsuyama, T. Wakioka, H. Mimura, Y. Sano, and K. Yamauchi	Osaka University

P2.7	Development of X-ray Free Electron Lasers Focusing System with 400mm Long Mirror	D. Yamakawa, H. Mimura, T. Kimura, S. Matsuyama, Y. Sano, and K. Yamauchi	<i>Osaka University</i>
P2.8	Improvement of Thickness Uniformity of SOI (Silicon On Insulator) Layer by Numerically Controlled Sacrificial Oxidation Using Atmospheric-Pressure Plasma	S. Kamisaka, Y. Sano, H. Mimura, S. Matsuyama, and K. Yamauchi	<i>Osaka University</i>
P2.9	Thinning of SiC Wafers by Plasma Chemical Vaporization Machining	T. Kato ¹ , Y. Sano ¹ , T. Hori ² , K. Yamamura ¹ , H. Mimura ¹ , Y. Katsuyama ² , and K. Yamauchi ¹	¹ <i>Osaka University</i> ² <i>Hitachi Metals</i>
P2.10	Development of Electroforming for Ultraprecise Mirror Fabrication	H. Ishikura, H. Mimura, S. Matsuyama, Y. Sano, and K. Yamauchi	<i>Osaka University</i>
P2.11	Recent Progress of Coherent X-ray Diffraction Microscopy for Nanostructure Analysis of Metallic Materials	H. Kubo ¹ , H. Furukawa ¹ , R. Tsutsumi ¹ , K. Yamauchi ¹ , Y. Nishino ² , T. Ishikawa ² , E. Matsubara ³ , and Y. Takahashi ¹	¹ <i>Osaka University</i> ² <i>SPring-8/RIKEN</i> ³ <i>Kyoto University</i>
P2.12	Absolute Surface Figure Measurement by Phase-Shifting Point Diffraction Interferometer with Two Optical Fibers	T. Matsuura, K. Udaka, Y. Oshikane, H. Inoue, M. Nakano, and T. Kataoka	<i>Osaka University</i>
P2.13	Measurement of Extreme Ultraviolet Radiation from Laser-produced Sn Plasma in Through-Hole	Y. Sanda, M. Nakano, T. Kataoka, Y. Oshikane, H. Inoue, S. Fujioka, and H. Nishimura	<i>Osaka University</i>
P2.14	Observation of Nanoscale Deep-Holes on Pt Thin Film with Scanning Near-Field Optical Microscope Using a Microsphere Probe	M. Nagai, T. Goto, Y. Oshikane, H. Inoue, M. Nakano and T. Kataoka	<i>Osaka University</i>
P2.15	3D-BEM Analyses of Electromagnetic Field Around Optical Probe Tip with Two Subwavelength Apertures	M. Esaki ¹ , M. Nakano ¹ , Y. Oshikane ¹ , H. Inoue ¹ , Y. Yamauchi ² and T. Kataoka ¹	¹ <i>Osaka University</i> ² <i>Neubrex</i>
P2.16	Uniformalization of AT-cut Quartz Crystal Wafer Thickness by Pulse-Modulated Open-Air Type Plasma CVM Process	T. Morikawa ¹ , M. Ueda ¹ , M. Shibahara ² , N. Zettsu ¹ , and K. Yamamura ¹	¹ <i>Osaka University</i> ² <i>Hyogo Prefectural Institute of Technology</i>
P2.17	Improvement of Thickness Distribution of Bulk Silicon Wafer by Numerically Controlled Local Wet Etching	T. Mitani, M. Nagano, N. Zettsu, and K. Yamamura	<i>Osaka University</i>
P2.18	Development of Plano-Elliptical Neutron Focusing Supermirror by Numerically Controlled Local Wet Etching	M. Nagano ¹ , H. Takai ¹ , N. Zettsu ¹ , D. Yamazaki ² , R. Maruyama ² , K. Soyama ² , and K. Yamamura ¹	¹ <i>Osaka University</i> ² <i>J-PARC Center</i>
P2.19	Figuring of Plano-Elliptical Hard X-ray Focusing Mirror Using One-Dimensional Numerically Controlled Local Wet Etching	M. Nagano, H. Takai, N. Zettsu, and K. Yamamura	<i>Osaka University</i>
P2.20	Development of Johansson-type Doubly-Curved-Crystal by Numerically Controlled Local Wet Etching	K. Ueda ¹ , M. Nagano ¹ , N. Zettsu ¹ , S. Maeo ² , S. Shimada ² , T. Utaka ³ , K. Taniguchi ³ , and K. Yamamura ¹	¹ <i>Osaka University</i> ² <i>Osaka Electro-Communication University</i> ³ <i>Institute of X-ray Technologies</i>
P2.21	Development of Surface Gradient Integrated Profiler – Precise Coordinate Determination of Normal Vector Measured Points by Self-Calibration Method and New Data Analysis from Normal Vector to Surface profile –	T. Ueno ¹ , S. Tachibana ¹ , Y. Higashi ² , and K. Endo ¹	¹ <i>Osaka University</i> ² <i>High Energy Accelerator Research Organization</i>
P2.22	Analysis of GaN(0001) Surface Structures after Cleaning procedures	A. N. Hattori ¹ , K. Endo ¹ , K. Hattori ² and, H. Daimon ²	¹ <i>Osaka University</i> ² <i>Nara Institute of Science and Technology</i>

P2.23	The Analysis of the Regenerative Functions of Perovskite Catalysts Surface	H. Kishi, H. Nakanishi, and H. Kasai	<i>Osaka University</i>
P2.24	The Real Space Imaging of Magnetic Interactions on Surface Nanostructure via Scanning Tunneling Spectroscopy	E. Minamitani, H. Nakanishi, W. A. Diño, and H. Kasai	<i>Osaka University</i>
P2.25	Reactions of Hydronium Ion on Fuel Cell Cathode	D. N. Son, H. Nakanishi, M. Y. David, and H. Kasai	<i>Osaka University</i>
P2.26	Manipulation Mechanism of Single Cu Atoms on Cu (110)-O Surface with Dynamic Force Microscopy	Y. Kinoshita, Y. Kamimori, Y. Nakamura, T. Satoh, K. Tenjin, Y. J. Li, Y. Naitoh, M. Kageshita, and Y. Sugawara	<i>Osaka University</i>
P2.27	Development of Measuring Instrument with a Wide Dynamic Range for Diameter of Nanoparticle using a Light Scattering Method	H. An ¹ , Y. Matsumura ¹ , K. Endo ² , and Y. Mori ²	¹ <i>Osaka Electro-Communication University</i> ² <i>Osaka University</i>
P2.28	Using Quantum Dots in Abrasive Slurries to Characterize Subsurface Damage in Polished Glass	W. Williams ¹ , B. Mullany ¹ , P. Moyer ¹ , W. Parker ¹ , and M. Pandles ²	¹ <i>University of North Carolina at Charlotte</i> ² <i>Northrop Grumman Synoptics</i>
P2.29	Optical Amplitude-Phase Modulation Device Based on Mesoscopic and Macroscopic Structures	H. Goto, T. Konishi, and K. Itoh	<i>Osaka University</i>
P2.30	Quantum Simulation of STM Image of Magnetic Atoms Adsorbed on Surface at High Temperature	N. T. M. Hoa, E. Minamitani, and H. Kasai	<i>Osaka University</i>
P2.31	Development of Vision Guided Grinding System for Diamond Turning Tools	Z. J. Qiu and F. Z. Fang	<i>Tianjin University</i>
P2.32	Ultra-Precision Machining of Intraocular Lens Implant With Zernike Polynomials Surface	X. D. Zhang, F. Z. Fang, Y. Cheng, and X. T. Hu	<i>Tianjin University</i>
P3.1	Surface-Plasmon-Enhanced Fluorescence in Electroluminescence Device	A. Fujiki ¹ , T. Uemura ¹ , N. Zettsu ¹ , M. Akai-Kasaya ^{1,3} , A. Saito ^{1,2,3} , and Y. Kuwahara ^{1,2}	¹ <i>Osaka University</i> ² <i>Spring-8/RIKEN</i> ³ <i>JST, PRESTO</i>
P3.2	Surface Metallization of PTFE Substrate through Atmospheric Pressure Plasma Liquid Deposition approach	H. Akiyama, N. Zettsu, and K. Yamamura	<i>Osaka University</i>
P3.3	Self-organizing Dimer Formation of Silver Nanocubes through Face Selective Functionalization and Surface Plasmon Coupling at Its Fractal Junction	S. Uchida ¹ , M. Mitani ¹ , T. Ichimura ¹ , A. Taguchi ² , S. Kawata ^{1,2} , and N. Zettsu ¹	¹ <i>Osaka University</i> ² <i>Nanophotonics Laboratory, RIKEN</i>
P3.4	Non-volatile Au Nanoparticle Memory Applications Enabled by Precisely Controlled Colloidal Self-Assembly	S. Uchida, S. Saitoh, T. Hosoi, H. Watanabe, and N. Zettsu	<i>Osaka University</i>
P3.5	Development of the Horizontal Drive Controlled Nano-Coater for Making Single Layer of Densely-Packed Polymeric Nanoparticle Arrays	K. Manabe, K. Yamamura, and N. Zettsu	<i>Osaka University</i>
P3.6	Local Potential Mapping Using Surface Photovoltage in Liquid	N. Kobayashi, Y. J. Li, Y. Naitoh, M. Kageshima, and Y. Sugawara	<i>Osaka University</i>
P3.7	Size Dependent Optical Properties of Pelylenediimide Nanoparticle Fabricated by Laser Ablation in Water	R. Yasukuni ¹ , M. Sliwa ¹ , J. Hofkens ³ , F. C. De Schryver ³ , K. Müllen ⁴ , and T. Asahi ¹	¹ <i>Osaka University</i> ² <i>LASIR</i> ³ <i>CECAT</i> ⁴ <i>Max-Planck-Institut für Polymerforschung</i>
P3.8	Theoretical Study on Interaction of Nitric Oxide with Metal Tape-Porphyrins	T. Q. Nguyen, H. Nakanishi, and H. Kasai	<i>Osaka University</i>

P3.9	Bonding Mechanism of C ₂₂ H ₁₄ Molecule on Au Surface: A First-principles Study	R. Belkada ¹ , Y. Shirakawa ² , M. Kohyama ³ , T. Shingo ³ , and H. Kasai ¹	¹ Osaka University ² Doshisha University ³ AIST
P4.1	Investigation of Flatband Voltage Instability in Metal/High- <i>k</i> Gate Stacks	T. Hosoi ¹ , Y. Kita ¹ , T. Shimura ¹ , H. Watanabe ¹ , K. Shiraiishi ² , Y. Nara ³ , and K. Yamada ⁴	¹ Osaka University ² University of Tsukuba ³ Selete ⁴ Waseda University
P4.2	Advantages of Fluorine Ion Implantation for Improving Ge ₃ N ₄ /Ge Interfaces	K. Kutsuki, G. Okamoto, T. Hosoi, T. Shimura, and H. Watanabe	Osaka University
P4.3	Excellent Electrical Property and Flatband Voltage Controllability of HfLaSiO High- <i>k</i> Gate Dielectrics Fabricated by <i>In-situ</i> Process	H. Arimura, Y. Oku, M. Saeki, N. Kitano, H. Hosoi, T. Shimura, and H. Watanabe	Osaka University
P4.4	Synchrotron Microbeam X-ray Diffraction Analysis of Strain Relaxation Process during Ge Condensation	T. Inoue ¹ , D. Shimokawa ¹ , T. Hosoi ¹ , T. Shimura ¹ , Y. Imai ¹ , O. Sakata ² , S. Kimura ² and H. Watanabe ¹	¹ Osaka University ² SPring-8/JASRI
P4.5	Impact of a Treatment Combining Nitrogen Plasma Exposure and Forming Gas Annealing on Defect Passivation of SiO ₂ /SiC Interfaces	Y. Watanabe ¹ , M. Harada ¹ , Y. Kagei ¹ , K. Kozono, T. Kirino ¹ , S. Mitani ² , Y. Nakano ² , T. Nakamura ² , T. Hosoi ¹ , T. Shimura ¹ , and H. Watanabe ¹	¹ Osaka University ² ROHM
P4.6	4H-SiC MIS Devices with AlON/SiO ₂ /SiC Gate Structures	Y. Kagei ¹ , M. Harada ¹ , Y. Watanabe ¹ , T. Hosoi ¹ , T. Shimura ¹ , S. Mitani ² , Y. Nakano ² , T. Nakamura ² , and H. Watanabe ¹	¹ Osaka University ² ROHM
P4.7	Lateral Liquid-Phase Epitaxy of Single-Crystal Germanium Wires on La ₂ O ₃ Dielectrics	T. Hashimoto, C. Yoshimoto, T. Hosoi, T. Shimura, and H. Watanabe	Osaka University
P4.8	Synchrotron X-ray Diffraction Studies of Thermal Oxide of Strained SiGe on Si	D. Shimokawa, Y. Okamoto, T. Inoue, T. Hosoi, T. Shimura, and H. Watanabe	Osaka University
P4.9	Sensing of DNA Solution with Metal-Gap-Insulator-Semiconductor Device	T. Hirokane, D. Kanzaki, H. Hashimoto, S. Urabe, K. Arima, J. Uchikoshi, and M. Morita	Osaka University
P4.10	Electrical Detection of Extended λDNA Molecules with Gap Electrodes by Ultraviolet Radiation	T. Hanada, Y. Okamoto, K. Hashimoto, Y. Ochi, T. Hirokane, S. Kajiyama, S. Uchiyama, K. Fukui, K. Arima, J. Uchikoshi, and M. Morita	Osaka University
P4.11	Electroluminescence in Metal-Oxide-Semiconductor Tunneling Diodes with Transparent Conductive Oxide Gate	R. Yamada, K. Matsumura, K. Arima, J. Uchikoshi, and M. Morita	Osaka University
P4.12	Formation of Organosilane Nanowires along One-dimensional Si oxides at Step Edges on Si (111) Surface	A. Yoshimatsu, H. Sakane, T. Shigetoshi, J. Uchikoshi, M. Morita, and K. Arima	Osaka University
P4.13	Step/terrace Structures of HCl-treated Ge (111) Surfaces Revealed by STM	K. Arima, K. Dei, T. Kawase, K. Yoneda, J. Uchikoshi, and M. Morita	Osaka University
P4.14	Path-Integral Renormalization Group Method for Accurate First-Principles Calculations of Coulombic Many-Body Systems	M. Kojo and K. Hirose	Osaka University
P4.15	Total-Energy Minimization of Few-Body Electron Systems in the Real-Space Finite-Difference Scheme	T. Yamashiki, K. Hirose, and H. Goto	Osaka University
P4.16	Direct Electricity Generation from Cellulose Using Fuel Cell – Environmental technology –	Y. Sugano, M. Saito, and E. Tamiya	Osaka University
P4.17	A Screening Method for Constructing ReRAM Based on Computational Materials Design	T. Ohya, H. Kishi, M. C. S. Escaño, H. Nakanishi, and H. Kasai	Osaka University