The 14th International Workshop of Advanced Plasma Processing and Diagnostics
The 2nd Workshop for NU- SKKU Joint Institute for Plasma-Nano Materials

- Topic: Green Plasma Technology for Flexible Electronics and Renewable Energy -

Date: January 7 - 8, 2012
Venue: 1st Floor, Multipurpose Hall, 21st Century Plaza1, Hakozaki Campus,
Kyushu University, Japan
Registration Fee: 20,000yen (Regular) / 10,000yen (Student)

Organized by

- Nagoya University- Sungkyunkwan University Joint Institute for Plasma-Nano Materials
- Plasma-Nano Technology Center (PLANT), Nagoya University, Japan
- Center of Plasma Nano-interface Engineering (CPNE), Kyushu University, Japan
- Center for Advanced Plasma Surface Technology (CAPST), Sungkyunkwan University, Korea
- Plasma Bioscience Research Center (PBRC), Kwangwoon University, Korea

Supported by

- Brain Korea 21 Human Resource Center for Next Generation IT materials and Components, Sungkyunkwan University, Korea
- Aichi Science and Technology Foundation (Tokai Region Knowledge Cluster Headquarters), Japan
- Grant-in-Aid for Scientific Research on Innovative Areas "Frontier science of interactions between plasmas and nano-interfaces", Japan
- Systematic graduate school education reform promotion program Nurturing doctoral candidates by creating a synthesis of five comprehensive abilities
- The Japan Society of Applied Physics, Kyushu Chapter
- The Institute of Electrical Engineers of Japan, Kyushu Chapter
- The Japan Society of Plasma Science and Nuclear Fusion Research, Kyushu Chapter

Organizing Chairperson:

M. Hori (Nagoya University, Japan)
M. Shiratani (Kyushu University, Japan)
J G. Han (Sungkyunkwan University, Korea)

Executive Chairperson:

M. Shiratani (Kyushu University, Japan)

Jan. 7 (Sat.)

12:30 Registration desk open

13:30-13:40 Opening address

Masaharu Shiratani, Kyushu University, Japan

Jeon Geon Han, Sungkyunkwan University, Korea

Masaru Hori, Nagoya University

Plenary Talks (3) (30min +5min Q&A)

13:40 Mau Chien Dang, Vietnam National University

"Applications of Plasma Technology for Fabricating Micro-Nano Devices at Laboratory for Nano Technology (LNT)"

14:15 Masaru Hori, Nagoya University

"Challenge and Scope of Carbon Nanowalls for Green Plasma Innovation"

14:50 Won Ho Choe, Korea Advanced Institute of Science and Technology

"Non-thermal atmospheric pressure plasmas in parallel plate type geometry"

15:25-15:45 Break Time

Invited Talks (4) (15min +5min Q&A)

15:45 Hirotaka Toyota, Nagoya University

"Microwave Plasma Production under Water - Basic Research and Organic Decomposition -"

16:05 Chong-Yun Park, Sungkyunkwan University

"Low-temperature synthesis of graphene on nickel foil by microwave plasma chemical vapor deposition"

16:25 Keigo Takeda, Nagoya University

"Clarification of Si Oxidation Mechanism in O_2 and Rare gas Mixture Plasma with Plasma Diagnostics"

16:45 Yoon Seock Choi, Sungkyunkwan University

"Ultra-hydrophobic coatings with long-term reliability prepared by PECVD at room temperature"

17:05-17:25 Coffee break

17:25 Jenq-Gong Duh, National Tsing Hua University
"Development of high-voltage cathode and high-stability anode material in Li-battery"

17:45 Eun ha Choi, Kwangwoon University
"Measurement of extreme ultraviolet emission from coaxially focused plasma in Mather and Hypocycloidal Pinch electrodes"

18:05 Dheerawan Boonyawan, Chiangmai University
"Plasma-Bio Research Activities at Chiang Mai"

18:25 Yuichi Setsuhara, Osaka University
"ICP-Assisted Reactive Sputter-Deposition with Inner-Type Low-Inductance Antenna (LIA)"

18:45 – 19:25 Panel discussion session
Jeon G. Han, Sungkyunkwan University
"Current issues for plasma-nano processes on functional film design and synthesis"
- Open discussion on the issues and collaboration

20:00 Welcome Reception

Jan. 8 (Sun.)

Joint public symposium of Scientific Research on Innovative Areas
"Frontier science of interactions between plasmas and nano-interfaces",
Funding Program for Next Generation World-Leading Researchers
and Center of Plasma Nano-interface Engineering (CPNE), Kyushu University

Invited Talks (8) (15min +5min Q&A)

9:00 Masaharu Shiratani, Kyushu University
"Recent progress in frontier science of interactions between plasmas and nano-interfaces"

9:20 Tomohiro Nozaki, Tokyo Institute of Technology
"Plasma synthesis of silicon inks applied to single junction Schottky photovoltaics"

9:40 Suk Jae Yoo, National Fusion Research Institute
"Recent Status of Plasma Energy R&D at National Fusion Research Institute (NFRI)"

10:00-10:20 Break Time

10:20 Makoto Kanbara, Tokyo University
"Plasma spray PVD for nano composites devices"

10:40 Seong Ling Yap, University of Malaya
"X-ray and EUV Generation and Diagnostic of Pulsed Plasma System"

11:00 Kungen Teii, Kyushu University
"Plasma Deposition of Wide-Gap Materials for High-Temperature Condition"

11:20 Jin Hyo Boo, Sungkyunkwan University
"Oxide Nano-materials : Synthesis and Surface Modification for Energy Applications"

11:40-13:10 Lunch & AJC-APSE committee meeting

Invited Talks (5) (15min +5min Q&A)

13:10 Tsuyohito Ito, Osaka University
"Energetic Neutrals in the Cathode Sheath of Direct-Current Discharges"

13:30 Boonchoat Paosawatyanyong, Chulalongkornn University
"Potential of high speed devices based on CVD polycrystalline diamond and DLC"

13:50 H.Y. Chang, Korea Advanced Institute of Science and Technology
"Advanced Plasma Source for the future 450mm Process"

14:10 Seo Hyunwoong, Kyushu University
"The improvement on the combination between TiO_2 and Si nano-particles for higher performance of Si quantum dot-sensitized solar cells"

14:30 Pradoong Suanpoot, Maejo University
"Characterization of Hydrogen Peroxide Plasma for Medical Equipments Sterilization"

14:50 – 15:50 Poster Session with coffee break

P01 – P49 All plenary and invited talks are solicited for poster presentation for open forum

15:50-18:20 Student session (12 min. including Q&A)

Coordinated and preceded by students (7Japanese + 5Korean)

S01 Tatsuya Urakawa, Kyushu University
"Deposition profile control of carbon films on trench structure using plasma anisotropic CVD method"

S02 Sanghoo Park, Korea Advanced Institute of Science and Technology
"Change of plasma characteristics by introducing liquid vapors into plasma"

S03 Takumi Oike, Nagoya University
"Evaluation of High Energy Electrons in an Inductively-Coupled Plasma with Electronegative Gas"

S04 Su Bong Jin, Sungkyunkwan University
"Effect of ion current density on the hardness and gas barrier properties of amorphous silicon oxide film deposited by PECVD"

S05 Iping Suhariadi, Kyushu University
"Effect of N2/Ar Flow Rate Gas Ratio on the AZO Thin Films with Buffer Layers Deposited via Nitrogen Mediated Crystallization"

S06 Jung Pyo Hong, Sungkyunkwan University
"Introduction for Fabrication of Boron Nitride Nanosheets and Their Application"

S07 Takahiro Kondo, Osaka University
"Control of electron energy distribution function in inductively coupled plasma by rotating magnetic field"

S08 Sang-Hun Nam, Sungkyunkwan University
"Physical properties of SZO (silver doped ZnO) films by magnetron sputtering methods"

S09 Takuya Takeuchi, Nagoya University
"Modification of ArF photoresist caused by irradiation of fluorocarbon plasma-beams"

S10 Joon Suck Lee, Sungkyunkwan University
"Surface energy modification of $SiO_xC_yH_z$ film using low temperature PECVD by controlling the plasma process and hydrogen gas"

S11 Yusuke Kondo, Nagoya University
"Mechanism of generating ions and radicals in C_3F_6O plasma"

S12 Yuji Hashimoto, Kyushu University
"Deposition of P-doped a-Si:H films with a cluster eliminating filter"

18:20 Closing
Masaru Hori, Nagoya University, Japan
Jeon-Geon Han, Sungkyunkwan University, Korea

19:30 Farewell Party

Poster Session

P01 Mau Chien Dang, Vietnam National University
"Applications of Plasma Technology for Fabricating Micro-Nano Devices at Laboratory for Nano Technology (LNT)"

P02 Masaru Hori, Nagoya University
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"Mechanism of generating ions and radicals in C_3F_6O plasma"

P36 Yuji Hashimoto, Kyushu University
"Deposition of P-doped a-Si:H films with a cluster eliminating filter"

P37 Kazunari Kuwahara, Kyushu University
"Effects of deposition temperature on the properties of ZnO films fabricated via nitrogen mediation"

P38 Kenta Nakahara, Kyushu University
"Deposition of p-type a-Si:H using SiH_4+ $B_{10}H_{14}$ multi-hollow discharge plasma CVD as a window layer for pin cell"

P39 Takeaki Matsunaga, Kyushu University
"Effects on nano-patricls on crystalline orientation of microcrystalline silicon films for solar cells"

P40 Katsushi Nishiyama, Kyushu University
"Dust Removal by Applying Bias Voltage to Reactor Wall in Large Helical Device"

P41 Muneharu Sato, Kyushu University
"Quantum Efficiency of Quantum Dot-Sensitized Solar Cells Using Nitridated Si Nano-Particles Produced by Double Multi-Hollow Discharges PECVD"

P42 Koichi Matsushima, Kyushu University
"Fabrication of Novel Oxynitride Semiconductors by Magnetron Sputtering for Photovoltaic application"

P43 Yasuhiko Morita, Kyushu University
"Discharge power dependence of dust flux in helicon discharge reactor"

P44 Yuting Wang, Kyushu University
"Optimization of Redox Electrolyte for Higher Performance of Si Quantum Dot-sensitized Solar Cells"

P45 Ryuhei Torigoe, Kyushu University
"Bias voltage dependence of mass density of plasma CVD carbon films"

P46 Koichiro Oshikawa, Kyushu University
"Fabrication of ZnO-Based Transparent Conducting Films on Buffer Layers Crystallized via Nitrogen Mediation"

P47 Kosuke Hatozaki, Kyushu University
"High stabilization of a-Si:H films by discharge plasma control"

P48 Yeonwon Kim, Kyushu University
"Effects of Nano-particles on Properties of Microcrystalline Silicon Thin Films Fabricated using Multi-hollow Discharge CVD Plasmas"

P49 Satoshi Kitazaki, Kyushu University
"Growth characteristics of bread yeast using atmospheric pressure dielectric barrier discharge irradiation"