The 8th International Workshop of Advanced Plasma Processing and Diagnostics

Joint Workshop with Plasma Application Monodzukuri（PLAM)

Jan. 20-21, 2009

Workshop Venue: Techno Plaza, Gifu, Japan
http://www.gifu-techno.jp/koutsuu/koutsuu.html

Welcome Dinner & Banquet: Hotel Park (Gifu)
http://www.hotelpark.jp/access/index.html

Sayonara Dinner: Restaurant (Nagoya)

Registration Fee: General/Professors 10,000 yen, Students 5,000 yen
(*Fees do not include Welcome Dinner, Banquet, and Sayonara Dinner)

Scope: Science and Technology toward Room Temperature Plasma Processing

Organized by:
- **Plasma-Nano Technology Center (PLANT), Nagoya University, Japan**
- **Plasma Center for Industrial application (PLACIA), Japan**
- **Aichi Science and Technology Foundation (Tokai Region Knowledge Cluster Headquarters), Japan**
- **Center for Advanced Plasma Surface Technology (CAPST), SKKU, Korea**

Supported by:
- **Brain Korea 21 Human Resource Center for Next Generation IT materials and Components, SKKU, Korea**
- **International Training Program, Japan Society for Promotion of Science "Program for Incubating Young Researchers on Plasma Nanotechnology Materials and Device Processing"**
- **The Japan Society of Applied Physics, Tokai Chapter, Japan**

Chairperson:
M. Hori (Nagoya University, Japan)
M. Kume (PLACIA, Japan)
Jeon G. Han (SKKU, Korea)

Jan. 19

Arrival in Gifu City
(It takes about 20mins. from Nagoya Station to Gifu Station by train and another 20mins. to Gifu Park Hotel by taxi.)

20:00 Welcome Dinner (Gifu Park Hotel)
Korean and Japanese professors and students together

Jan. 20

8:30 Departure from hotel by rental bus

9:30 Arrival at Techno Plaza

10:00-10:15 Opening Prof. Jeon G. Han, Dr. M. Kume, Mr. O. Takenaka, and Prof. M. Hori

Plenary Lectures (2) (30min+15min Q&A) Chair: Prof. H. Toyoda

10:15 High Density Print Wiring Board Technology Trend and Plasma Application
Y. Iwata (Director Ibiden Co., LTD, Japan)

11:00 Vision of Applied Plasma Science and Technology for the 21st Century in East Asia
Prof. Jeon G. Han (SKKU, Korea)

11:45-13:15 Lunch

Invited Talks (6) (15min +15min Q&A) Chair: Prof. M. Sekine

13:15 Plasma nanomaterials processing
Prof. M. Bratescu, N. Saito and O. Takai (Nagoya University, Japan)

13:45 Infinitely high selectivity plasma etch processes for nano-scale Si devices
Prof. Nae E. Lee (SKKU, Korea)

14:15 Design and controlling of plasma nano-processing for the third generation solar cell devices
Prof. M. Shiratani (Kyushu University, Japan)

14:45-15:15 Break

Chair: Prof. Y.J. Kim
15:15 Research activities of Plasma sciences in National PDP Research Center at Korea
Prof. Eun H. Choi (KWU, Korea)

15:45 Low energetic ion bombardment on polymer surfaces for flexible electronics
Prof. Y. Setsuhara (Osaka University, Japan)

16:15 Air-oxidation of nano-multilayered CrAlSiN thin films between 800 and 1000℃
Prof. Dong B. Lee (SKKU, Korea)

17:00 Departure from Gifu Techno-Plaza to Park Hotel by rental bus

19:00 Dinner (Banquet) at Park Hotel

<u>Jan. 21</u>

8:30 Departure from hotel by rental bus

9:30 Arrival at Gifu Techno Plaza

Plenary Lectures (2) Chair: Prof. Jin H. Boo

10:00 Advanced plasma processing and diagnostics

Prof. H. Fujiyama (Nagasaki University, Japan)

10:45 On the characteristics of plasma sources for the next-generation processing
Prof. Hong Y. Chang (KAIST, Korea)

11:30 Plaza Tour

12:15 Lunch

13:20 Student Workshop (10) (5min Talk +5min Q&A)
Chair Students from Korea and Japan
Korea (5) and Japan (5), organized and preceded by students

13:20– 13:30 Low temperature deposition of ZnO thin films by facing target sputtering
Youn J. Kim (SKKU, CAPST, Korea)

13:30-13:40 Carbon nano-material for bio applications
H. Watanabe (Meijo University, Japan)

13:40-13:50 Influence of the N2 Partial Pressure on the Characteristic of the Cr-Zr-N Coatings Synthesized using a Cr-Zr Segment Target
Young S. Kim (Korea Aerospace Univ., CAPST, Korea)

13: 50-14:00 Liquid plasma processing
R. Saito (Nagoya University, Japan)

14:00-14:10 Characteristics of ZnO thin film prepared by using RF magnetron sputtering for TFTs applications
Young R. Kim(SKKU, CAPST, Korea)

14:10-14:20 Behaviors of H atoms in VHF plasma for flexible electronics
Y. Abe (Nagoya University, Japan)

14:20-14:30 The effects of the moral ratio of KOH to HAuCl4 on the size and shape of the gold nanoparticles synthesized using Solution Plasma Process
Yong K. Heo (Korea Aerospace Univ., CAPST, Korea)

14:30-14:40 SiOCH etching and its damage in ULSI
H. Yamamoto (Nagoya University, Japan)

14:40-14:50 The crystalline property of silicon thin film deposited by facing target sputtering
Kyung S. Shin (SKKU, CAPST, Korea)

14:50-15:00 Surface cleaning for flexible electronics employing atmospheric pressure plasma
Y. Matsudaira (Nagoya University, Japan)

15:00 Poster Session (20)

[P-01] Changes of optical and mechanical properties of toluene-TEOS hybrid plasma-polymer thin films by post-annealing
Jin H. Boo (SKKU, CAPST, Korea)

[P-02] A real time controlling of surface temperature and radicals in ULSIs
H. Kuroda (Nagoya University, Japan)

[P-03] A Study on the Diffusion Mechanism of SF_6 By-Products inside a Gas-insulated Switchgear by a Partial Discharge

Youn J. Kim (SKKU, CAPST, Korea)

[P-04] Synthesis of Carbon nano walls and their applications to electrical devices
M. Kashihara (Nagoya University, Japan)

[P-05] A study on process parameters for high quality TCO films
Yoon S. Choi (SKKU, CAPST, Korea)

[P-06] Sticking coefficients of atomic radicals for flexible electronics
S. Takashima (PLACIA, Japan)

[P-07] Low temperature deposition of ZnO thin films by facing target sputtering
Youn J. Kim (SKKU, CAPST, Korea)

[P-08] Laser Thomson scattering approach for electron density and temperature in dual frequency plasma processing
K. Ando (Nagoya University, Japan)

[P-09] Characteristics of ZnO thin film prepared by using RF magnetron sputtering for TFTs applications
Young R. Kim(SKKU, CAPST, Korea

[P-10] Fluorocarbon species measured by LIF in dual frequency plasma processing
T. Kimura (Nagoya University, Japan)

[P-11] The crystalline property of silicon thin film deposited by facing target sputtering
Kyung S. Shin (SKKU, CAPST, Korea)

[P-12] Low-k etching processing in dual frequency plasma
E. Shibata (Nagoya University, Japan)

[P-13] Characterization of SiO2 barrier films on PET substrate by PECVD
Su B. Jin (SKKU, CAPST, Korea)

[P-14] Fundamental etching studies employing selective ion beam
T. Takeuchi (Nagoya University, Japan)

[P-15] Influence of the N2 Partial Pressure on the Characteristic of the Cr-Zr-N Coatings Synthesized using a Cr-Zr Segment Target
Young S. Kim (Korea Aerospace Univ., CAPST, Korea)

[P-16] Fabrication of single wall carbon nanowall employing electron beam excited plasma
H. Mikuni (Nagoya University, Japan)

[P-17] The effects of the moral ratio of KOH to HAuCl4 on the size and shape of the gold nanopaticles synthesized using Solution Plasma Process
Yong K. Heo (Korea Aerospace Univ., CAPST, Korea)

[P-18] Supercritical fluid process of Pt nanoparticles formation on nano-carbons grown by PECVD
K. Mase (Nagoya University, Japan)

[P-19] Measurement of atoms in sputtering system employing micro-plasma
T. Ohta (Wakayama University, Japan)

[P-20] Combination of LOCOS process and plasma Si etching using delayed mask for integrating sensor inside micromirror
S. Kumagai, T. Aonuma, M. Sasaki (Toyota Technological Institute), M. Tabata, K. Hane (Tohoku University)

[P-21] Application of Frequency Shift Probes for Monitoring of Electron Temperature
Q. Zhang, K. Nakamura, H. Sugai (Chubu University, Japan)

[P-22] Rotational friction test of inner surface of narrow metal tube coated by DLC with new-type microwave plasma CVD apparatus
K. Mori, H. Kousaka, N. Umeahara (Nagoya University, Japan), N. Tamura, T. Shindo (CCS Inc., Japan), A. Kondo (Gifu University, Japan)

[P-23] Evaluating damages on organic low-k films due to VUV, UV radiation, radical and ion in dual frequency capacitively coupled plasma
Y. Miyawaki (Nagoya University, Japan)

15:45-16:00 Break

Invited Talks (2)

Chair: Prof. M. Shiratani
16:00 2D Abel transformations of plasma balls using simple systems
Prof. R. Boswell（ANU，Australia）

16:30 Ultralow pressure sputtering employing ultrahigh magnetic fields
Prof. H. Ikuta (Nagoya University, Japan)

17:00 Closing:
Strategy of Cluster Knowledge Program for flexible electronics
Prof. M. Hori (Nagoya University, Japan)

17:10 Departure to Nagoya by rental bus

18:00 Arrival in Nagoya (Business Hotel)

19:00 Sayonara (Farewell) Dinner (Restaurant in Nagoya City)

Jan. 22 - 23

Attend at International Conference on Plasma Nanotechnology and Science (PLANTS) @ Nagoya University