

Schedule of Workshop (tentative)

The 8th International Workshop of Advanced Plasma Processing and Diagnostics

Joint Workshop with Plasma Application Monodzukuri (PLAM)

Jan. 20-21

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

Registration Fee: Free

Banquet: Hotel Park (Gifu) on Jan. 20
<http://www.hotelpark.jp/access/index.html>

Banquet Fee: JPY 6,000

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. 20

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 \(Director Ividen Co., LTD, Japan\)](#)

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 Ultralow pressure sputtering employing ultrahigh magnetic fields**
Prof. H. Ikuta (Nagoya University, Japan)
- 16:15 Air-oxidation of nano-multilayered CrAlSiN thin films between 800 and 1000°C**
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**
Korean and Japanese Professors and Students together

Jan. 21

- 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 molar ratio of KOH to H₂AuCl₄ 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 (10)

- [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 SF₆ 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 molar ratio of KOH to H₂AuCl₄ on the size and shape of the gold
nanoparticles 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] The effects of the molar ratio of KOH to H₂AuCl₄ on the size and shape of the gold
nanoparticles synthesized using Solution Plasma Process
Y.K. Heo (Korea Aerospace Univ., CAPST, Korea)
- [P-20] Measurement of atoms in sputtering system employing micro-plasma
T. Ohta (Wakayama University, Japan)
- [P-21] 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)

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

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