

Thursday, January 22

9:00 Registration

9:50 Opening remarks Yasuo Suzuki (Nagoya University)

10:00 I-1 Challenges in Si Nanoelectronics: Materials and Processes
Shigeaki Zaima (Nagoya University)

10:40 I-2 Cold Atmospheric Plasmas as an Infection Control Strategy
Michael Kong (Loughborough University, UK)

11:20 O-1 Effect of Rare Gas Flow and Electrode Polarity on the DC Atmospheric Discharge
H. Matsuura, T. Kiriishi, K. Nakano (Osaka Prefecture University)

11:40 O-2 Decomposition of organic substances in liquid using gas-liquid-interface plasmas,
and its analysis with FTIR spectroscopy
T. Morita, O. Sakai, T. Shirafuji, K. Tachibana (Kyoto University)

12:00 Lunch

13:20 I-3 Ultra low friction of Carbon Nitride coatings
Noritsugu Umehara (Nagoya University)

14:00 I-4 Physics of dual-frequency capacitive discharges
Pascal Chabert (CNRS-Ecole Polytechnique, France)

14:40 O-3 Measurements of electron energy distribution function in dual frequency
capacitively coupled plasma using laser Thomson scattering
K. Ando¹, T. Kimura¹, T. Yamaguchi¹, K. Takeda¹, K. Kubota², C. Koshimizu²,
A. Kono¹, M. Sekine¹, M. Hori¹ (¹Nagoya University., ²TEL AT Ltd)

15:00 Break

15:20 I-5 Electronegative plasmas: The pluses and minuses
William Graham (Queens University Belfast, UK)

16:00 O-4 Control of EEPF and plasma potential by varying the plasma system length
R. Boswell (Australian National University)

16:20 O-5 Evidence of Landau damping in low pressure helicon discharges
B. B. Sahu (Indian Institute of Technology)

16:40 ~ 18:15 Poster presentation

P-01

A Study on the application for Interlayer Dielectrics of Toluene-TEOS Hybrid Plasma-Polymer Thin Films

S.-J. Cho, I.-S. Bae, and J.-H. Boo (Sungkyunkwan University, Korea)

P-02

Monitoring of Electron Density with Frequency Shift Probes in Reactive Processing Plasmas

K. Nakamura, Q. Zhang and H. Sugai (Chubu University)

P-03

Plasma Non-uniformity in Large Area / Very High Frequency Capacitive Discharges

S. K. Ahn, B. K. Na, J.B. Lee and H. Y. Chang (Korea Advanced Institute of Science and Technology, Korea)

P-04

Deposition profile control of plasma enhanced CVD carbon films in submicron wide trenches

M. Shiratani^{1, 4}, J. Umetsu¹, T. Nomura¹, K. Inoue¹, K. Koga¹, Y. Setsuhara^{2, 4}, M. Sekine^{3, 4}, and M. Hori^{3, 4} (¹Kyushu University, ²Osaka University, ³Nagoya University, ⁴JST, CREST)

P-05

Preparation of water-repellent thin film with C₂H₂F₂/Ar plasma and investigation of its adhesion

N. Wada, T. Misawa, Y. Ohtsu and H. Fujita (Saga University)

P-06

Wetting Behaviors of DLC Film Coated Nano-scale Double Roughening Pattern Surface

Y-J. Jang, H. Kousaka and N. Umehara (Nagoya University)

P-07

Basic study of bacteria inactivation at low discharge voltage by using microplasma

M. Yamada, M. A. Blajan and K. Shimizu (Shizuoka University)

P-08

Low temperature inner sterilization efficiency of wrapped materials in surface-wave plasmas

M. K. Singh¹, L. Xu², A. Ogino¹ and M. Nagatsu¹ (¹Shizuoka University, ²Japan Science and Technology Agency)

P-09

Impact of Remote Plasma Treatment on Formation of Metal Nanodots on Ultrathin SiO₂

A. Kawanami, K. Shimanoe, K. Makihara, M. Ikeda, S. Higashi and S. Miyazaki (Hiroshima University)

P-10

Arc Production of Nano-Tubes under High Gravity by Use of the Rotating-Acceleration Generator

G. Tan, T. Mieno (Shizuoka University)

P-11

Generation of metalocarbon nanocompounds as perspective structures for hydrogen storage

Iu.P. Veremii¹, V.Ya. Chernyak¹, S.A. Filatov², S.V. Olszewski¹, Eu.K. Safonov¹ (¹Taras Shevchenko Kyiv National University, Ukraine ²Heat and Mass Transfer Institute of National Academy of Sciences of Belarus, Belarus)

P-12

Adhesion Measurement of Ti (O, N) Coatings on Glass by Scratch Test

S. Parajulee¹, M. Hayakawa, S. Ikezawa (Chubu University)

P-13

Preparation of aluminum nitride thin film with dual frequency plasma sputtering

K.Hino¹, T.Misawa¹, Y.Ohtsu¹, M.Akiyama², and H.Fujita¹ (¹Saga University, ²Measurement Solution Research Center, AIST Kyushu)

P-14

Effect of substrate temperature on CN_x films deposited by RF plasma assisted pulsed laser deposition

S. Kimura, T. Yasui and M. Fukumoto (Toyohashi University of Technology)

P-15

Basic study of water treatment by low voltage discharge in bubbled water

S. Muramatsu, T. Sonoda, M. Blajan and K. Shimizu (Shizuoka University)

P-16

NO_x Removal Processes by Microplasma Generation in Multiple Electrode Configuration

M. Blajan, M. Kanamori, H. Mimura and K. Shimizu (Shizuoka University)

P-17

Treatment of Organic Solution with Microwave Excited Plasmas

R. Saito, H. Sugiura, T. Ishijima and H. Toyoda (Nagoya University)

P-18

Laser measurement for control of hydrolysis TTIP solution used in atmospheric plasma jet

M. Hayakawa, P. Shankar and S. Ikezawa (Chubu University)

P-19

Observation of dielectric barrier discharge at various Xe/Ne mixture gas ratios

T. Yamamura, T. Misawa, Y. Ohtsu, H. Fujita (Saga University)

P-20

Rotational and vibrational temperatures of spark-plug assisted atmospheric pressure microwave discharges operated with He and N₂

M. A. M. ElSabbagh¹, K. Sasaki¹, M. Kaneko², and Y. Ikeda² (¹Nagoya University, ²Imagineering Inc.)

P-21

Fabrication of amorphous carbon films using nonequilibrium atmospheric pressure plasma with ultrahigh electron density

Y. Matsudaira¹, H. Inui¹, T. Kino¹, H. Kano², M. Sekine^{1,3}, and M. Hori^{1,3} (¹Nagoya University, ²NU Eco-Engineering Co., Ltd., ³JST-CREST)

P-22

Low Power Atmospheric Pressure Microwave Plasma Spraying for low-melting-point substrates

K. Tsujimoto, T. Yasui and M. Fukumoto (Toyohashi University of Technology)

P-23

Structural Analysis of Zinc Oxide Nano-phosphors by Means of Electron Energy-controlled Cathodoluminescence Technique

K. Shinji, Q. Ou, T. Matsuda, A. Ogino, and M. Nagatsu (Shizuoka University)

P-24

Plasma Synthesis and Property Elucidation of Nitrogen Atom Encapsulated Fullerene

J. U. Ahamed, S. Miyanaga, T. Kaneko, and R. Hatakeyama (Tohoku University)

P-25

Successive growth of CNTs by ion energy controlled surface wave plasma CVD at low temperature

J. Sato, T. Matsuda, A. Ogino, and M. Nagatsu (Shizuoka University)

P-26

Helium bubble formation on tungsten in dependence of fabrication method

M. Yamagiwa, W. Sakaguchi, S. Kajita, M. Takagi and N. Ohno (Nagoya University)

P-27

The effects of the molar ratio of KOH to HAuCl_4 on the size and shape of the gold nanoparticles synthesized using Solution Plasma Process

Y. K. Heo, S.M. Kim, S.Y. Lee (Korea Aerospace University, Korea)

P-28

Influence of the N_2 Partial Pressure on the Characteristic of the Cr-Zr-N Coatings Synthesized using a Cr-Zr Segment Target

Y.S. Kim, G.S. Kim, S.Y. Lee (NMPL, Korea Aerospace University, Korea)

P-29

Characteristics of ZnO thin film using RF magnetron sputtering for active layer of TFT

Young Ryeol Kim, Yong Seob Park, and Byungyou Hong (Sungkyunkwan University, Korea)

P-30

Characteristics of transparent vanadium oxide thin films for the electrodes to thin film solar cell

Yong Seob Park, Young Ryeol Kim, Sung Uk Lee, and Byungyou Hong (Sungkyunkwan University, Korea)

P-31

Synthesis of platinum nanoparticles on carbon nanowalls by using supercritical fluid

K. Mase¹, T. Machino¹, H. Kano², M. Hiramatsu³, M. Sekine¹ and M. Hori¹ (¹Nagoya University, ²NU Eco Engineering, Co., LTD., ³Meijo University)

P-32

Evaluation of the efficiencies of multi photon ionization processes and their effect on laser Thomson scattering diagnostics

K. Fukuyama, M. Aramaki and A. Kono (Nagoya University)

P-33

Thomson scattering measurements of 10-GHz-excited micro ECR plasma

Y. Kawamura, M. Aramaki and A. Kono (Nagoya University)

P-34

Spectral emission characteristics of a micro-ECR-plasma light source for VUV emission intensity calibration

T. Hoshino, M. Aramaki, and A. Kono (Nagoya University)

P-35

Thomson scattering measurements of 10-GHz-excited cavity-type microgap plasma

Y. Harada, M. Aramaki and A. Kono (Nagoya University)

P-36

Study of Photo detachment Cross Section Measurement

S. Kinbara, M. Aramaki and A. Kono (Nagoya University)

P-37

Negative ion measurement generated on sputter target in rf discharge

T. Muranaka¹, H. Obuchi¹, T. Hayashi¹, A. Kono¹, M. Aramaki¹, N. Mizutani² and K. Suu² (¹Nagoya University, ²ULVAC)

P-38

Optimization of Probe-Laser LIF System for Observation of Laser-Cooled Ions in a Linear RF Trap

S. Kameyama¹, M. Aramaki¹, Y. Sakawa², T. Shoji¹, and A. Kono¹ (¹Nagoya University, ²Osaka University)

P-39

Detection of Energetic Negative Ions in an RF Magnetron Plasma

K. Goto¹, T. Ishijima¹, N. Ohshima², K. Kinoshita² and H. Toyoda¹ (¹Nagoya University, ²NEC)

P-40

Measurements of ion energy and active-species fluxes in ICP N₂ Plasmas

Y. Horikawa¹, K. Kurihara² and K. Sasaki¹ (¹Nagoya University, ²Toshiba Corporation)

P-41

Dependence of IED on magnetic field in reactive plasma

H. Obuchi¹, T. Muranaka¹, T. Hayashi¹, A. Kono¹, M. Aramaki¹, N. Mizutani² and K. Suu² (¹Nagoya University, ²ULVAC)

P-42

SiH₄ Dissociation Process in Microwave-Excited H₂/SiH₄ Plasma

H. Endo, H. Asano, T. Ishijima and H. Toyoda (Nagoya University)

P-43

Mechanism of sputter deposition process employing a Si target and H₂/Ar Gas mixture

K. Fukaya, A. Tabata, and K. Sasaki (Nagoya University)

P-44

Measurements of absolute density and translational temperature of hydrogen atoms in the high pressure VHF capacitively coupled plasma

Y. Abe¹, K. Takeda¹, M. Sekine^{1,2} and M. Hori^{1,2} (¹Nagoya University, ²JST-CREST)

P-45

Formation of carbon nanowall by using radical injection plasma enhanced Chemical Vapor Deposition and its electrochemical evaluation

H. Watanabe¹, M. Hiramatsu¹ and M. Hori² (¹Meijo University, ²Nagoya University)

P-46

Fabrication of Single Carbon Nanowall Using Electron Beam Excited Plasma Enhanced CVD

H. Mikuni¹, W. Takeuchi¹, M. Hiramatsu², H. Kano³, Y. Tokuda⁴, M. Hori¹

¹Nagoya University, ²Meijo University, ³NU Eco-Engineering Co., Ltd., ⁴Aichi Institute of Technology)

P-47

Effects of H radical irradiation on synthesis of carbon nanowalls

S. Kondo¹, Y. Itani¹, K. Yamakawa², S. Den², M. Hiramatsu³, M. Sekine¹ and M. Hori¹ (¹Nagoya University, ²Katagiri Engineering Co., Ltd., ³Meijo University)

P-48

Irradiation of microwave to premixed gas burner flame

K. Shinohara, N. Takada, and K. Sasaki (Nagoya University)

P-49

Combinatorial Plasma Etching Process based on Plasma Nano-Science

C. S. Moon¹, K. Takeda¹, M. Sekine^{1,4}, Y. Setsuhara^{2,4}, M. Shiratani^{3,4}, and M. Hori^{1,4} (¹Nagoya University, ²Osaka University, ³Kyushu University, ⁴JST, CREST)

P-50

Effects of Oxygen on Etching Damage of Low-k Film Etching Process Employing Novel Fluorocarbon Gas of C₅F₁₀O

E. Shibata¹, H. Okamoto², M. Sekine¹, and M. Hori¹ (¹Nagoya University, ²Asahi Glass Company)

P-51

Precise Etching of Organic Low-k Film by Real-time Controlling Radical Density Ratio and Substrate Temperature

H. Kuroda¹, H. Yamamoto¹, M. Ito², T. Ohta², M. Sekine^{1,3} and M. Hori^{1,3} (¹Nagoya University, ²Wakayama University, ³JST-CREST)

P-52

Damages on low-k films due to VUV, UV radiation, radical and ion in low-k films etching employing H₂ / N₂ plasma

Y. Miyawaki¹, K. Takeda¹, M. Fukasawa², K. Oshima², K. Nagahata², T. Tatsumi², S. Takashima³, M. Sekine¹ and M. Hori¹ (¹Nagoya University, ²Sony Corporation, ³Nagoya Urban Industries Promotion Corporation)

P-53

Analysis of Microstructure and Electrical Properties of Intrinsic ZnO Thin Films

Y. J. Kim, Y. S. Choi, I. S. Choi, J. G. Han (SungKyunKwan University, Korea)

18:30 ~ 20:00 Banquet

Friday, January 23

9:00 Registration

9:40 I-6 Quantum chemical approach to reaction in process plasma
Toshio Hayashi (Nagoya University, Japan)

10:20 I-7 HID lamps: A high pressure micro discharge
Peter Awakowicz (Ruhr-University Bochum, Germany)

11:00 O-6 Synthesis dynamics of nanoparticles produced by laser ablation of a solid target
immersed in water
W. Soliman, T. Nakano, N. Takada, K. Sasaki (Nagoya U.)

11:20 O-7 Surface enhanced Raman scattering of Au nanoneedles
Y. Yang¹, Y. Li¹, M. Tanemura², M. Nogami² (¹East China University of Science and
Technology, ²Nagoya Institute of Technology)

11:40 O-8 Control over Wall Number of Carbon Nanotube Array
D. H. Lee, S. W. Kim, W. J. Lee* (KAIST, Korea)

12:00 Lunch

13:20 I-8 Plasma control for high conductivity TCO film
Jeon G. Han (SungKyunKwan University, Korea)

14:00 I-9 Combinatorial Plasma-Process Analyzer for Development of Plasma
Nano-Fabrication Processes
Yuichi Setsuhara (Osaka University, Japan)

14:40 O-9 High Deposition Rate of Highly Stable a-Si:H Films by Magnetically Enhanced
Multi-hollow Discharges
W. M. Nakamura, Y. Kawashima, M. Tanaka, H. Sato, H. Matsuzaki, K. Koga, M.
Shiratani (Kyushu U.)

15:00 Break

15:20 I-10 Plasma nanoarchitectronics: a novel platform for future nanotechnologies
Kostya Ken Ostrikov (Plasma Nanoscience Centre Australia, Australia)

- 16:00 O-10 Formation condition of fiberform nanostructured tungsten by helium plasma irradiation
W. Sakaguchi, S. Kajita, N. Ohno, M. Takagi (Nagoya U.)
- 16:20 O-11 Enhancement of Precision and Throughput of Nanopore Processing in Dielectric Template-Assisted Nanoarray Synthesis by Using Pulsed Bias
X. Zhong, X. Wu and K. Ostrikov (Shanghai Jiao Tong U., China, CSIRO, Australia)
- 16:40 Closing