

Morning, Saturday, Dec. 12

A: Bunkyo Sky Hall

9:00-9:10 **Opening Ceremony**

9:10-10:00 **Plenary Invited Lecture 1**

Chair: Prof. M. Nagatsu (Shizuoka University, Japan)

Plasma Etching Challenges for Semiconductor

Dr. Tetsuya Tatsumi (Sony, Japan)

10:00-10:20 **Coffee break**

Session 12AM-A: Bunkyo Sky Hall

<Plasmas in biomedical/agricultural applications-1>

Chair: Prof. K. Takaki (Iwate University, Japan)

10:20-10:50 **Keynote lecture 1**

**UV Absorption Spectroscopy for the Absolute Concentration of
Plasma-generated RONS in Plasma Activated Liquids**

Jun-Seok Oh, Satsuki Ito, Hiroshi Furuta, Akimitsu Hatta
(Kochi University of Technology, Japan)

10:50-11:10 **12AM-A-1**

**Syntheses of CMC/pNIPAAm Copolymers by Atmospheric Plasma Jet for
Biomedical Applications**

Liang-Yi Wang, Meng-Jiy Wang (National Taiwan
University of Science and Technology, Taiwan)

11:10-11:30 **12AM-A-2**

**Feasibility Study of Transdermal Drug Delivery by Atmospheric
Microplasma Irradiation**

Kazuo Shimizu, Nhat An Tran, Kentaro Hayashida,
Marius Gabriel Blajan (Shizuoka University, Japan)

11:30-11:50 **12AM-A-3**
Macromolecule Transfer through Cell Membrane Using Micro-Scale Plasma Generated in High-Conductivity Liquid
Yutaro Hokari, Shota Sasaki, Makoto Kanzaki, Takehiko Sato,
Toshiro Kaneko (Tohoku University, Japan)

11:50-12:10 **12AM-A-4**
Radical Enhancement at Plasma/Agar Interface and its Application in Streptococcus Mutans Sterilization by Helium-based Atmospheric Pressure Plasma Jet
Chih Tung Liu, Ching Jung Wu, Zhi Hua Liu, Jong Shinn Wu (National Chiao Tung University, Taiwan)

Session 12AM-B: Multi-purpose room

<Plasma coating and surface modifications-1>

Chair: Prof. K. L. Tung (National Taiwan University, Taiwan)

10:20-10:50 **Keynote lecture 2**
Plasma Electrolytic Oxidation of Titanium for Energy Materials Purposes
Ju-Liang He, Wen-Chi Lo, Ying-Hung Chen, Hou-Jen Chu
(Feng Chia University, Taiwan)

10:50-11:10 **12AM-B-1**
Preparation of Ion Release Barrier Layer by Atmospheric Pressure Plasma Jet Deposition of Hexamethyldisiloxane for Antibacterial Application
Yu-Chun Lin, Meng-Jiy Wang
(National Taiwan University of Science and Technology, Taiwan)

11:10-11:30 **12AM-B-2**
The Energy Consumption of Decoloration by using Pulsed Discharge in Water
Kevin Kuan-Shun Chiu, Talun Sung, Shinriki Teii
(Lunghwa University of Science and Technology, Taiwan)

11:30-11:50 **12AM-B-3**
Surface Treatment of PTFE Using NH₃/ H₂O Vapor in Low Pressure Glow

Discharge System and APG Discharge System

Masuhiko Kogoma, Kiichi Fruse, Kazuo Takahashi,
Kunihito Tanaka (Sophia University, Japan)

11:50-12:10

12AM-B-4

Gold Nanoparticles-Decorated Poly(N-Vinylpyrrolidone) Nanofibrous Meshes as Highly Active SERS Substrates for Sensing Methylene Blue: Effect of Surface Plasma Modifications

Alfin Kurniawan, Meng-Jiy Wang
(National Taiwan University of Science and Technology, Taiwan)

Session 12AM-C: Large lecture room

<Plasmas in semiconductor materials processing/Cold plasmas>

Chair: Dr. T. Tatsumi (Sony, Japan)

10:20-10:50

Keynote lecture 3

Applications of Low-temperature Plasma Simulation Tools for Material Processing

Chieh-Tsan Hung, Meng-Hua Hu, Yun-Min Lee (Plasma T. I. Corp., Taiwan)
Jong-Shinn Wu (National Chiao Tung University, Taiwan)

10:50-11:10

12AM-C-1

Analysis on the Compound Delamination Failures and the Plasma Distribution over Various Lead-frame Rails in Wire-Bond Packaging Processes

Hsiang-Ting Pai (National Sun Yat-sen University, Taiwan)
Chan-Ying Kuo, Lu-Hsiang Huang, Cheng-Chang Shen
(Advanced Semiconductor Engineering Group, Taiwan)
Che-Hsin Lin (National Sun Yat-sen University, Taiwan)

11:10-11:30

12AM-C-2

ICP-Enhanced Reactivity-Controlled Sputter Deposition of a-IGZO Films for Thin Film Transistor Applications

Yuichi Setsuhara, Keitaro Nakata, Kosuke Takenaka,
Giichiro Uchida (Osaka University, Japan)
Akinori Ebe (EMD Corporation, Japan)

11:30-11:50

12AM-C-3

Effect of A Small Amount of H₂O on Negative Ion Mobility and Ion-Molecule Reactions in Ultrahigh-Purity O₂

Yui Okuyama, Susumu Suzuki, Haruo Itoh
(Chiba Institute of Technology, Japan)

11:50-12:10

12AM-C-4

Symmetric After-Glow Plasma Integrated with Electrospray Ionization as Dual Ion Source for Simultaneously Mass Spectrometry Detecting Non-polar and Polar Species

Chun-Yi Chen, Che-Hsin Lin
(National Sun Yat-sen University, Taiwan)

Afternoon, Saturday, Dec. 12

- 12:10-13:20** **Lunch**
- 13:20-15:00** **Poster session I (Poster Hall)**
- 15:00-15:20** **Coffee break**

Session 12PM-A: Bunkyo Sky Hall

<Plasmas in biomedical/agricultural applications-2>

Chair: Prof. S. Katsuki (Kumamoto University, Japan)

- 15:20-15:50** **Keynote lecture 4**
Applications of Plasma Polymerization on Biomaterial Surface Modification
Meng-Jiy Wang (National Taiwan University of Science and Technology, Taiwan)
- 15:50-16:10** **12PM-A-1**
Sterilization Mechanism for Geobacillus Stearothermophilus Spores by Plasma-Excited Neutral Gas
Kei Matsui, Noriaki Ikenaga, Noriyuki Sakudo
(Kanazawa Institute of Technology, Japan)
- 16:10-16:30** **12PM-A-2**
Accelerated Rat Cutaneous Wound Healing via Atmospheric-pressure Argon Plasma Treatment
Kuang-Yao Cheng, Zhi-Hua Lin (National Chiao Tung University, Taiwan),
Yu-Pin Cheng (Cathay General Hospital, Taiwan),
Jong-Shinn Wu (National Chiao Tung University, Taiwan)
- 16:30-16:50** **12PM-A-3**
AC Electric Field-Induced Conformational Change in Bovine Serum Albumin
Takamasa Okumura, Kazuki Yadama, Taro Yaegashi,
Takanori Ito, Sumio Aisawa, Shigeyoshi Yamazaki,
Katsuyuki Takahashi, Syuto Bunei,

Koichi Takaki (Iwate University, Japan)

16:50-17:10 **12PM-A-4**

Effect of Plasma-Treated Water to Grow the Sprout

Kyoshiro Yamashita, Takayuki Ohta, Masahumi Ito (Meijo University, Japan),
Masaru Hori (Nagoya University, Japan)

Session 12PM-B: Multi-purpose room

<Plasma coating and surface modifications-2>

Chair: Prof. K. C. Leou (National Tsinghua University, Taiwan)

15:20-15:50

Keynote lecture 5

Nature-inspired Hydrophobic Geomimetic Membrane Fabrication by Thermal Plasma Spray Coating

Kuo-Lun Tung (National Taiwan University, Taiwan)

15:50-16:10

12PM-B-1

Rapid Surface Oxidation of the Si Substrate using Laterally-Long Ar/O₂ Loop Type of Inductively Coupled Thermal Plasmas

Yuji Maruyama, Hiromitsu Irie, Takumi Tsuchiya,
Mai Kai Suan Tial, Yasunori Tanaka, Yoshihiko Uesugi,
Tatsuo Ishijima (Kanazawa University, Japan),
Tetsuya Yukimoto, Hiroshi Kawaura (CV Research Corporation, Japan)

16:10-16:30

12PM-B-2

Atmospheric Pressure Plasma Processes of High-Aspect-Ratio, Micro-Sized Hole Inside

Takumi Itoh, Kenji Ishikawa, Daisuke Onoshima (Nagoya University, Japan)
Naoto Kihara, Kentaro Tatsukoshi, Hidefumi Odaka (Asahi Glass Co., Ltd, Japan),
Hiroshi Hashizume, Hiromasa Tanaka, Hiroshi Yukawa,
Yoshinobu Baba, Masaru Hori (Nagoya University, Japan)

16:30-16:50

12PM-B-3

Preparation of CuO-modified Electrode as Non-enzymatic H₂O₂ Sensor

Farrel Gunawan, Meng-Jiy Wang
(National Taiwan University of Science and Technology, Taiwan)

16:50-17:10 12PM-B-4

Fabrication of AlN/Al₂O₃ Coating on Aluminum Alloy Using Micro-arc Oxidation Method

Jeou-Long Lee, Kwan-nin Kuo, Kevin Kuan-Shun Chiu, Bo-Heng Lin
(Lunghwa University of Science & Technology, Taiwan)

Session 12PM-C: Large lecture room

<Plasma diagnostics and modeling >

Chair: Prof. S. Mukaigawa (Iwate University, Japan)

15:20-15:50 Keynote lecture 6

Measurement of Reactive Species in Atmospheric-Pressure Nonthermal Plasma Used for Plasma Medicine

Ryo Ono (The University of Tokyo, Japan)

15:50-16:10 12PM-C-1

Spectroscopic Observation of γ , β and δ Bands of NO Excited States and Relevant Excitation Kinetics in Low-Pressure N₂-O₂ Microwave Discharge

Hiroshi Akatsuka, Hao Tan, Atsushi Nezu (Tokyo Institute of Technology, Japan)

16:10-16:30 12PM-C-2

Collisional Effects in Saturated Absorption Spectroscopy of Argon Arcjet Plasma

Leo Matsuoka, Kenta Yuki, Yutaro Sonoyama,
Wataru Sasano, Shinichi Namba (Hiroshima University, Japan)

16:30-16:50 12PM-C-3

Development and Validation of Two-Dimensional Multidimensional Temporal Multiscale Algorithm

Bi-Ren Gu, Chuei-Ching Chiou, Jong-Shinn Wu (National Chiao Tung University, Taiwan)

16:50-17:10 12PM-C-4

Fluid Modeling of Ion Inertial Effect in Capacitively Coupled Plasma

Meng-Fan Tseng, Kuan-Lin Chen, Chuei-Ching,
Bi-Ren Gu, Jong-Shinn Wu (National Chiao Tung University, Taiwan)

18:30- Welcome party (Dejima Wharf)

Morning, Sunday, Dec. 13

A: Bunkyo Sky Hall

9:10-10:00 **Plenary Invited Lecture 2**

Chair: Prof. J. S. Wu (National Chiao Tung University, Taiwan)

**Latest Progress in Plasma Process and Chamber Innovation: From
Semiconductor Equipment Supplier's Point of View**

Dr. Samuel Chiu (Applied Materials Taiwan, Taiwan)

10:00-10:20 **Coffee break**

Session 13AM-A: Bunkyo Sky Hall

<Plasmas in energy and environmental applications-1>

Chair: Prof. J. G. Duh (National Tsinghua University, Taiwan)

10:20-10:50 **Keynote lecture 7**

Low Temperature CO₂ and CH₄ Conversion in Plasma-Catalyst Interfacial Reaction

Tomohiro Nozaki (Tokyo Institute of Technology, Japan)

10:50-11:10 **13AM-A-1**

Plasma-Enhanced Photocatalytic Activity of MWNT-SiO₂-TiO₂ Nanocomposite

Jason Hsiao Chun Yang (Nagasaki University, Japan),

Shi-Wei Wang, Chao-Chen Yang (National Yunlin University of Science and Technology, Taiwan)

11:10-11:30 **13AM-A-2**

Evaluation of Potential of PAH Removal in Soil by Pulsed Corona Discharge plasma

Na Lu (Dalian University of Technology, China)

11:30-11:50 **13AM-A-3**

Characteristics of Reactive Species Production in AC Plasma Generated within Bubbles

Tsuyoshi Sugiyama, Daichi Shiraki, Nozomi Takeuchi (Tokyo Institute of Technology, Japan)

11:50-12:10 13AM-A-4

Thermal Plasma Spray Technology for the Third Generation Solid Oxide Fuel Cell

Sheng-Fu Yang, Chang-Sing Hwang, Chun-Huang Tsai,
Chun-Liang Chang, Ming-Hsiu Wu, Te-Jung Huang, Ruey-Yi Lee
(Institute of Nuclear Energy Research, Atomic Energy Council, Taoyuan, Taiwan)

Session 13AM-B: Multi-purpose room

<Plasmas-in-liquid / Multiphase plasmas>

Chair: Prof. T. Shirafuji (Osaka Prefecture University, Japan)

10:20-10:50 **Keynote lecture 8**

Initiation and Propagation Processes of Underwater Streamers

Takehiko Sato, Hidemasa Fujita (Tohoku University, Japan),
Seiji Kanazawa (Oita University, Japan),
Kiyonobu Ohtani, Atsuki Komiya, Toshiro Kaneko (Tohoku University, Japan)

10:50-11:10 13AM-B-1

**Enhancement of the Conductivity in Nanosized Carbon Spheres by
Introducing Chlorobenzene Derivatives in Solution Plasma Process**

Oi Lun H. Li, Hiroki Hayashi, Nagahiro Saito (Nagoya University, Japan)

11:10-11:30 13AM-B-2

**Synthesis of Functional Nanoparticles by Plasma-Assisted Electrolysis using
Atmospheric DC Glow Discharge in Contact with Liquid**

Naoki Shirai, Aihito Nito, Yuya Yamazaki,
Satoshi Uchida, Fumiyoshi Tochikubo (Tokyo Metropolitan University, Japan)

11:30-11:50 13AM-B-3

**Electronic and Photonic Systems Engineering Characterization of
Microplasma Discharge in Sea Water**

Vladislav Gamaleev, Yo Okamura, Kensuke Kitamura,
Yusuke Hashimoto, Jun-Seok Oh, Hiroshi Furuta,
Akimitsu Hatta (Kochi University of Technology, Japan)

11:50-12:10 **13AM-B-4**

Micro-arc Oxidation Treatment on Aluminum under Pressurized Atmosphere

Hou-Jen Chu, Chia-Hung Chung, Yung-Cheng Liu, Ju-Liang He (Feng Chia University, Taiwan)

Session 13AM-C: Large lecture room

<Thermal plasmas >

Chair: Prof. J. L. He (Feng Chia University, Taiwan)

10:20-10:50 **Keynote lecture 9**

Multi-Phase AC Arc for Industrial Application

Takayuki Watanabe (Kyushu University, Japan)

10:50-11:10 **13AM-C-1**

Silicon Nanoparticle Synthesis using Pulse-Modulated Induction Thermal Plasmas with Intermittent Feedstock Feeding

Yasunori Tanaka, Yousuke Ishisaka, Kentaro Kita, Naoto Kodama,
Tatsuo Ishijima, Yoshihiko Uesugi (Kanazawa University, Japan),
Shiori Sueyasu, Keitaro Nakamura (Nisshin Seifun Group Inc., Japan)

11:10-11:30 **13AM-C-2**

Measurement of Electron Temperature and Density of an Arcjet Plasma by an Electric Probe under High Gas Pressure

Wataru Sasano, Kazuki Kozue, Leo Matsuoka,
Takuma Endo (Hiroshima University, Japan),
Naoki Tamura (National Institute for Fusion Science, Japan),
Naomichi Ezumi (University of Tsukuba),
Shinichi Namba (Hiroshima University, Japan)

11:30-11:50 **13AM-C-3**

Application of Nitrogen Dominant Nitrogen/ Ar Plasma Jets to APS and SPPS for Oxide Films Deposition

Yasutaka Ando, Kindole Dickson Zakaria,
Yoshimasa Noda (Ashikaga Institute of Technology, Japan)

11:50-12:10

13AM-C-4

Study on the Dependence of Thermal Plasma Characteristics on Working Pressure for a DC Torch using Air as Plasma gas

Shiu-Wu Chau (National Taiwan University, Taiwan),

Shao-Chu Hsu (National Taiwan University of Science and Technology, Taiwan),

Shiaw-Huei Chen (Institute of Nuclear Energy Research, Taiwan)

Afternoon, Sunday, Dec. 13

- 12:10-13:20** **Lunch**
- 13:20-15:00** **Poster session II (Poster Hall)**
- 15:00-15:20** **Coffee break**

Session 13PM-A: Bunkyo Sky Hall

<Plasmas in energy and environmental applications-2>

Chair: Prof. T. Nozaki (Tokyo Institute of Technology, Japan)

- 15:20-15:50** **Keynote lecture 10**
Review on the application of plasma and catalysis for dry reforming of methane
Wei-Chieh Chung, Moo-Been Chang (National Central University, Taiwan)
- 15:50-16:10** **13PM-A-1**
Plasma Behavior using by Pulse Power Circuit for MHD Accelerator
Shinji Takeshita, Ryota Inagaki, Syunsuke Tanaka,
Syun Yamazawa (National Institute of Technology, Wakayama College, Japan),
Naoya Ikoma, Kazumasa Takahashi, Toru Sasaki, Takashi Kikuchi, Nobuhiro Harada
(Nagaoka University of Technology, Japan)
- 16:10-16:30** **13PM-A-2**
Dependence of Sterilization Characteristics of Underwater E. coli by Pulsed Streamer Discharge in Air Spraying Water Droplets on Discharge Power
Yasushi Minamitani, Atsushi Ishikawa (Yamagata University, Japan),
Taichi Sugai (Nagaoka University of Technology, Japan)

- 16:30-16:50** **13PM-A-3**
Removal of Toluene from Gas Streams by Combining Plasma and Double Perovskite-type Catalyst
Kuan-Lun Pan, Moo-Been Chang (National Central University, Taiwan)
- 16:50-17:10** **13PM-A-4**
Decomposition of Dichloromethane by Discharge inside Bubble in Water
Katsuyuki Takahashi, Wataru Hareyama, Koichi Takaki, Naoya Satta (Iwate University, Japan)

Session 13PM-B: Multi-purpose room

<Advanced and novel plasma technologies and sources>

Chair: Prof. T. Watanabe (Kyushu University, Japan)

- 15:20-15:50** **Keynote lecture 11**
Plasma Surface Wave Based Devices - from Microwave to Photonics
Keh-Chyang Leou, Cheng-Hung Hsieh, Jin-Sheng Chiou,
Kun-Pei Lin (National Tsing Hua University, Taiwan)
- 15:50-16:10** **13PM-B-1**
1 Inch-Sized HiPIMS Glow Plasma for Minimal-Fab System
Ken Yukimura (AIST, Iwate University, Japan),
Hisato Ogiso, Shizuka Nakano (AIST, Japan)
- 16:10-16:30** **13PM-B-2**
Development of Non-thermal Plasma Reactor for Water Treatment Using a 3D Printer
Seiji Kanazawa, Shohei Matsunari, Shuichi Akamine,
Ryuta Ichiki (Oita University, Japan)
- 16:30-16:50** **13PM-B-3**
Development of Microwave Excited Plasma Jets using Microstrip Line
Jaeho Kim, Hajime Sakakita, Hiroto Itagaki (AIST, Japan)

16:50-17:10 **13PM-B-4**

Double Probe Method to Form a Simple Ozone Detector Using the Effect of Catalytic Ozone Dissociation on Metal Surface

Ruey Chang Hsiao, Ta Lun Sung, Chung Ming Liu,

Shinriki Teii, Huei-Ping Jhou

(Lunghwa University of Science and Technology, Taiwan),

Shigeru Ono (Tokyo City University, Japan),

Kenji Ebihara (Environment and Energy Laboratory Department, Japan),

Kungen Teii (Kyushu University, Japan)

Session 13PM-C: Large lecture room

<Plasmas in nanomaterials processing>

Chair: Prof. M. Ito (Meijo University, Japan)

15:20-15:50 **Keynote lecture 12**

Plasma Nanoscience toward Atomic Structure Control of Nanocarbon Materials

Toshiaki Kato, Toshiro Kaneko (Tohoku University, Japan)

15:50-16:10 **13PM-C-1**

Highly Dispersed Titanium Oxide Nanoparticles Prepared by using Laser-Induced Plasma in Aqueous Solutions

Takamasa Ishigaki, Asuka Watanabe (Hosei University, Japan),

Tetsuo Uchikoshi (National Institute for Materials Science, Japan)

16:10-16:30 **13PM-C-2**

Analysis of Spatiotemporal Development of Interaction Fluctuation between Nanoparticles and Radicals in Reactive Plasmas

Kazunori Koga, Teppei Ito (Kyushu University, Japan),

Tatsuya Kobayashi (National Institute for Fusion Science, Japan),

Masaharu Shiratani, Shigeru Inagaki (Kyushu University, Japan)

16:30-16:50

13PM-C-3

Two-Dimensional Spectroscopic Observation from Ar/H₂ Modulated Induction Thermal Plasma for Si Nanopowder Synthesis

Kentaro Kita, Yousuke Ishisaka, Naoto Kodama, Yasunori Tanaka,
Yoshihiko Uesugi, Tatsuo Ishijima (Kanazawa University, Japan),
Shiori Sueyasu, Keitaro Nakamura (Nisshin Seifun Group Inc., Japan)

16:50-17:10

13PM-C-4

Nanocarbon Platform based on Vertical Nanographene and its Electrochemical Application

Mineo Hiramatsu, Masakazu Tomatsu (Meijo University, Japan)
Hiroki Kondo, Masaru Hori (Nagoya University, Japan)

18:30-

Banquet (Inasa Mountain)

Morning, Monday, Dec. 14

A: Bunkyo Sky Hall

9:10-10:00 **Plenary Invited Lecture 3**

Chair: Prof. S. Kanazawa (Oita University, Japan)

Pulsed Power and Bioelectrics

Prof. Hidenori Akiyama (Kumamoto University, Japan)

10:00-10:20 **Coffee break**

10:20-11:10 **Plenary Invited Lecture 4**

Chair: Dr. S. Chiu (Applied Materials Taiwan, Taiwan)

Accurate 3-D Extractions of Lithography and Plasma Induced Capacitance Effects to Enable the Moore's Law Below 10nm

Dr. Keh-Jeng Chang (Taiwan Semiconductor Manufacturing Company, Taiwan)

11:10-11:20 **JSPS153 Committee Plasma Materials Science Awarding Ceremony**

11:20-12:10 **Special Lecture for JSPS153 Committee Plasma Materials Science Award
Future Directions of Plasma Technology**

Prof. Masaharu Shiratani (Kyushu University, Japan)

Afternoon, Monday, Dec. 14

12:10-13:30 **Lunch**

13:30-14:20 Plenary Invited Lecture 5

Chair: Prof. M. Shiratani (Kyushu University, Japan)

A Revival of Waste: Atmospheric Pressure Nitrogen Plasma Jet Enhanced Jumbo Silicon/Silicon Carbide Composite in Lithium Ion Batteries

Prof. Jenq-Gong Duh (National Tsing-Hua University, Taiwan)

14:20-14:40 Coffee break

14:40-15:30 Plenary Invited Lecture 6

Chair: Prof. Y. Tanaka (Kanazawa University, Japan)

Multiphase Plasmas : Toward Next Generation Plasma Science for Materials

Prof. Kazuo Terashima (The University of Tokyo, Japan)

15:30-15:45 Closing Ceremony

18:00- Farewel Party (Mizubenomori Park)

Morning to Evening, Tuesday, Dec. 15

09:00- Optional Tour

Poster session I (13:20-15:00, Saturday, Dec. 12, Poster Hall)

Topics: Plasmas in semiconductor materials processing/ Cold plasmas
Plasmas in biomedical applications/ plasmas in agricultural applications
Plasma diagnostics and modeling

Chair: Prof. Kuniko Urashima (National Institute of Science and Technology Policy, MEXT, Japan)

P1-1 Temperature Effect and Reliability Improvement of Thin-Film Transistor by Plasma Treatment

William Cheng-Yu Ma, Yao-Sheng Huang, Bo-Siang Huang,
Zheng-Da Wu (National Sun Yat-sen University, Taiwan)

P1-2 Thin Films Preparation Methods by Pulsed Laser Using Metal Powder Targets

Hiroharu Kawasaki, Tamiko Ohshima, Yoshihito Yagyu, Takeshi Ihara, Makiko Yamauchi,
Yoshiaki Suda (National Institute of Technology, Sasebo College, Japan)

P1-3 Spatial Profiles of Magnetized Microwave Plasma for Minimal Fabrication of Semiconductor Devices

Kensuke Yamada, K. Sakai, M. Shinohara, H. Fujiyama (Nagasaki University, Japan)

P1-4 Sputtering Method of Magnetized Microwave Plasmas for Minimal Fabrication of Semiconductor Devices

Kensuke Yamada, M. Shinohara, H. Fujiyama (Nagasaki University, Japan)

P1-5 Interface Trap Reduction Impacts on Tunnel Field-Effect Transistor by Oxygen Plasma

William Cheng-Yu Ma, Bo-Siang Huang, Yao-Sheng Huang,
Zheng-Da Wu (National Sun Yat-sen University, Taiwan)

P1-6 Simulation Study on Capacitively Coupled SiH₄/H₂ Discharge for Silicon Thin Film Deposition

Chin-Jung Chang, H.B. Lin, K.C. Leou (National Tsing Hua University, Taiwan),
C.C. Hsieh, C.F. Ai (Institute of Nuclear Energy Research, Taiwan)

P1-7 Effect of current rise-time on compression processes of laser-triggered discharge Z-pinch plasma for EUV radiation

Soowon Lim, Takashi Kamohara, Sunao Katsuki (Kumamoto University, Japan)

P1-8 Infrared Spectroscopic Study on Formation Process of Vacancies in Si Crystal and Hydrogenation Process of Si Crystal due to Hydrogen Plasma Exposure

Kazuki Ito, Naoki Maruno, Yamato Nakano, Masanori Shinohara,
Hiroshi Fujiyama (Nagasaki University, Japan)

P1-9 Characterization of Plasma Effects on Low-k Film

Bo-Wei Tseng (Chung Yuan Christian University, Taiwan),
Ping Hsu, Akira Kuroda (DuPont Electronics & Communications, Taiwan),
Ta-Chin Wei (Chung Yuan Christian University, Taiwan)

P1-10 Plasma Deposition of Cubic Boron Nitride Films for High-Power Electronic Devices

Shingo Fukui, Masataka Torigoe, Kungen Teji, Seiichiro Matsumoto (Kyushu University, Japan)

P1-11 Plasma-Assisted Mist CVD for Formation of Textured ZnO Films: Effect of Mists on Surface Structure of ZnO Films

Kosuke Takenaka, Gichiro Uchida, Yuichi Setsuhara (Osaka University, Japan)

P1-12 Particle-In-Cell Simulation of RF Driven Capacitively Couple Plasmas in the Presence of Collisions

Yasutaro Nishimura, Y.C.Chen, C.W.Huang, T.L.Lin (National Cheng Kung University, Taiwan)

P1-13 Preparation of TiO₂ Thin Films by Backside Powder PLD Method

Yoshiaki Suda, Hiroharu Kawasaki, Tamiko Ohshima, Yoshirou Hirose, Tatsuki Maeda,
Keisuke Masuda, Yoshihito Yagyū, Takeshi Ihara
(National Institute of Technology, Sasebo College, Japan)

P1-14 Observation of Ultra-Short Positive Pulsed Discharge in Supercritical Carbon Dioxide

Miyuki Ota, Tomohiro Furusato, Takahiro Imamichi, Takashi Sakugawa,
Sunao Katsuki, Hidenori Akiyama (Kumamoto University, Japan)

P1-15 Possibility of Sterilizing Stacked Pieces in Packaged Foods Sterilization Using Pulsed Plasma

Koki Saito, Yasushi Minamitani (Yamagata University, Japan)

P1-16 Hydrophobic or Hydrophilic Modification of Polymers by HMDSZ and Oxygen Cold Plasma Treatment on Microporous UHMWPE

Bo-kai Chen, Ko-shao Chen, Li-dung Hung (Tatung University, Taiwan)

P1-17 Temperature Evaluation of Nanosecond Pulsed Cleeping Discharge on Water

Takahiro Sadamatsu, Tomohiro Furusato, Daigo Ichikawa, Hiroyuki Koreeda,
Tomoyuki Fujishima, Takahiko Yamashita (Nagasaki University, Japan)

P1-18 Radical Production in Corona Discharge Reactor driven by SOS Pulsed Power Generator

Hiroaki Mori, Katsuyuki Takahashi, Koichi Takaki (Iwate University, Japan)

P1-19 A Semi-Analytical Model for Static Sheath Including Presheath

Tatsuru Shirafuji (Osaka City University, Japan),
Kazuki Denpoh (Tokyo Electron Yamanashi Ltd., Japan)

P1-20 Simulation of a Multi-Hollow Cathode VHF SiH₄/H₂ Plasma

Su Li-Wen, Weiting Chen, Kohei Ogiwara (Kyushu University, Japan),
Yoshiaki Takeuchi (Mitsubishi Heavy Industries, Ltd., Japan),
Kiichiro Uchino, Yoshinobu Kawai (Kyushu University, Japan)

P1-21 Experimental Study on Effect of Electric Field on Plasma Flow with Electrons Magnetized
and Ions Nonmagnetized

Jun Takeda, Atsushi Nezu, Hiroshi Akatsuka (Tokyo Institute of Technology, Japan)

P1-22 Numerical Study on Space Potential in Expanding Arc-jet Plasma Flowing Supersonically
through Open Field Line

Ampan Laosunthara, Hiroshi Akatsuka (Tokyo Institute of Technology, Japan)

P1-23 Discharge Mode Transition due to Gas Flow Rate in Microgap Atmospheric Barrier Discharge
using Bismuth Silicon Oxide Dielectrics

Naoki Fujita, Riki Yoha, Seiji Mukaigawa, Koichi Takaki (Iwate University, Japan)

P1-24 Large-area Dielectric Barrier Discharge at Atmospheric Pressure

Takashi Shibata, Takumi Araya, Keisuke Azuma, Hiroki Kikuchi,
Seiji Mukaigawa, Koichi Takaki (Iwate University, Japan)

P1-25 Infrared Spectroscopic Study on Reactions of Plasma with Amino-Group terminated
Self-Assembled Monolayer

Yamato Nakano, Kazuki Ito, Masanori Shinohara, Hiroshi Fujiyama (Nagasaki University, Japan)

- P1-26** Plasma Fluid Modeling Simulation for RF-magnetron Discharge System
Chuei-Ching Chiou, Kuan-Lin Chen, Jong-Shinn Wu (National Chiao Tung University, Taiwan)
- P1-27** Development of Fluid Model Considering Full Ion Momentum Equations
Kuan-Lin Chen, Chuei-Ching Chiou, Bi-Ren Gu,
Jong-Shinn Wu (National Chiao Tung University, Taiwan)
- P1-28** Numerical Investigation of the Stability of Stationary Solutions of DC Glow Discharges for Self-Organized Pattern Formation
Tomohiro Muraki, Naoki Shirai, Satoshi Uchida,
Fumiyoshi Tochikubo (Tokyo Metropolitan University, Japan)
- P1-29** A Lens-less Imaging System for Measurement of Plasma Thermal Emission
Kishore Mishra, Hiroshi Idei, Takumi Onchi, Kazuaki Hanada (Kyushu University, Japan)
- P1-30** Heat Flux to Silicon Substrate in High-Power Impulse Magnetron Sputtering
Katsuhiko Hattori (Meijo University, Japan), Takayuki Ohta (Meijo University, Japan),
Akinori Oda (Chiba Institute of Technology, Japan), Hiroyuki Kousaka (Nagoya University, Japan)
- P1-31** Laser Thomson Scattering Measurements on Streamer Discharges at Around Atmospheric Pressure
Nima Bolouki, Kentaro Tomita, Kiichiro Uchino (Kyushu University, Japan)
- P1-32** MCS-Based Analysis on Secondary Electron Emission Coefficients in Townsend Discharges
Tomokazu Yoshinaga, Haruaki Akashi (National Defense Academy of Japan)
- P1-33** Detection of Compression Wave Generated by Dielectric Barrier Discharge
Toshiyuki Nakamiya (Tokai University, Japan) Fumiaki Mitsugi (Kumamoto University, Japan),
Yoichiro Iwasaki (Tokai University, Japan), Tomoaki Ikegami (Kumamoto University, Japan),
Ryoichi Tsuda, Yoshito Sonoda (Tokai University, Japan)
- P1-34** Particle-In-Cell Simulation of Two Dimensional Secondary Electron Emission in Capacitively Coupled Plasma
Tai-Lu Lin, Yasutaro Nishimura (National Cheng Kong University, Taiwan)

P1-35 Enriched CoQ10 Production of Rhodobacter sp. Treated by Low Temperature Atmospheric Pressure Plasma Jet

Chun Huang (Yuan Ze University, Taiwan),
Chiu-Mei Kuo, Jinn-Tsyy Lai (Food Industry Research and Development Institute, Taiwan),
Tzu-Tung Chang, Chun Huang (Yuan Ze University, Taiwan)

P1-36 Surface Sterilization Using UV/Ozone Method

Yoshifumi Akata, Ryo Ishida, Akira Yonesu (University of the Ryukyus, Japan),
Nobuya Hayashi (Kyushu University, Japan)

P1-37 Comparison of Atmospheric-Pressure Plasma-Induced Grafting and Ultraviolet Induced Grafting in Modification of PP Membranes

Pei-Chien Liu, Che-Kuei Chang, Ta-Chin Wei (Chung Yuan Christian University, Taiwan)

P1-38 Preparation of Poly- ϵ -caprolactone (PCL)/Collagen Bilayer Film by Electrospinning and Plasma Surface Modification for Articular Cartilage Tissue Engineering

Lin-Hua Tan, Chung-Yih Wang, Ko-Shao Chen (Tatung University, Taiwan)

P1-39 Biological Test of Escherichia coli Sterilization by Remote Plasma Treatment

Takatomo Fujiyama, H. Matsuura (Osaka Prefecture University, Japan),
J. Sakamoto, T. Tsuchido (Radiation Research Center, Japan),
M. Furuta (Osaka Prefecture University, Japan)

P1-40 Study on the Surface Modification of e-PTFE Film by Using Cold Plasma Graft Polymerization

Chia-Yi Lin, Ko-Shao Chen, Hsin-Ming Wu, Chung-Yih Wang (Tatung University, Taiwan)

P1-41 Cell Membrane Perforation of E. coli by High-Voltage Nanosecond Electric Pulses

Yu Kamiya, Koichi Yasuoka (Tokyo Institute of Technology, Japan)

P1-42 Tooth Bleaching Using Helium-based Atmospheric Pressure Plasma Jet with Saline Solution

Chia-Hua Wu (National Chiao Tung University, Taiwan),
Chia-Yung Lin (National Taiwan University, Taiwan),

Chih-Tung Liu, Jong-Shin Wu, Yun-Chien Cheng (National Chiao Tung University, Taiwan)

P1-43 Infrared Spectroscopic Study on Reactions of Plasma with L-alanine

Yamato Nakano, Kazuki Ito, Masanori Shinohara, Hiroshi Fujiyama (Nagasaki University, Japan)

P1-44 Bacteria Sterilization by Helium-Based Atmospheric Pressure Plasma Jet

Zhi-Hua Lin, Chih-Tung Liu, Chin-Yuan Wu,
Jong-Shinn Wu (National Chiao Tung University, Taiwan)

P1-45 Aerosol-Assisted Helium Mixed Argon Dielectric Barrier Discharge Atmospheric Pressure Plasma Polymerization in Bio-Composite Thin Films

Chun-Ping Hsiao, Cheng-Chen Wu, Yi-Wei Yang, Yun-Chien Cheng,
Jong-Shinn Wu (National Chiao Tung University, Taiwan)

P1-46 Argon-Based Round Atmospheric Pressure Plasma Jet on Inactivation of Pseudomonas Aeruginosa

Mu-Chien Wu, Zhi-Hua Lin, Chih-Tung Liu, Chun-Ping Hsiao,
Kuang-Yao Cheng, Chen-Yon Tobias Tschang (National Chiao Tung University, Taiwan),
Yu-Pin Cheng (Cathay General Hospital, Taiwan),
Jung-Shinn Wu (National Chiao Tung University, Taiwan)

P1-47 Plasma Polymerization Induced Chlorhexidine Immobilization on the SS Mini-Screw Implants to Form an Antibacterial Effect

Shu-Chuan Liao (Ming Chi University of Technology, Taiwan)

P1-48 Modification of 316L Mini-Screw Implants Coating by Plasma-polymerized Para-xylene Film and Immobilized BMP-2 Growth Factor for Biomedical Application

Shu-Chuan Liao (Ming Chi University of Technology, Japan)

P1-49 Supply of Reactive Oxygen Species into Water Bottom by O₂/He Plasma Jet

Toshiyuki Kawasaki, Tomohiro Sakanoshita, Shota Kusumegi, Akihiro Kudo,
Takuya Tsurumaru, Akihiro Sato, Yasutaka Wakabayashi (Nippon Bunri University, Japan)

P1-50 Cold Plasma Therapy for Enhancing Odontogenesis of Dental Pulp Stem Cells

Tsung-Wen Chen (National Chiao Tung University, Taiwan),
Chia-Yung Lin (Taichung Hospital, Ministry of Health and Welfare, Taiwan),

Bo-Yao Chen, Chih-Tung Liu (National Chiao Tung University, Taiwan),
Chao-Yu Chen (Taichung Hospital, Ministry of Health and Welfare, Taiwan),
Jong-Shinn Wu, Yun-Chien Cheng (National Chiao Tung University, Taiwan)

P1-51 A Rapid Way for Protein Immobilization on Microfluidics by Using Dielectric Barrier Discharge Atmospheric Pressure Plasma Deposition

Cheng-Chen Wu, Chun-Ping Hsiao, Rei-Lin Hsia, Jong-Shinn Wu,
Yun-Chien Cheng (National Chiao Tung University, Taiwan)

P1-52 Shield Effect of Giant Unilamellar Vesicle Against Active Species Generated by Atmospheric Pressure Non-thermal Plasma

Kyohei Fukuda, Hachiro Yasuda, Ryugo Tero, Hirofumi Kurita,
Kazunori Takashima, Akira Mizuno (Toyohashi University of Technology, Japan)

P1-53 Cold Plasma Surface Modified Titanium Alloys Effect of Roughness Improves Osteoblast Growth on Titanium Implants

Shih-Wen Fang, Tse-Ying Liu (National Yang-Ming University, Taiwan),
Ko-Shao Chen (Tatung University, Taiwan)

P1-54 Reduction Effects in Solutions Irradiated by H₂/He Atmospheric-Pressure Plasma

Yosuke Mori, Tomiyasu Murata (Meijo University, Japan),
Masaru Hori (Nagoya University, Japan), Masafumi Ito (Meijo University, Japan)

P1-55 O Atom Density at Downstream of a High Density Atmospheric Pressure Plasma Source

Masaru Hori, Takumi Kumakura, Keigo Taked, Kenji Ishikawa, Hiromasa Tanaka, Hiroshi Hashizume, Hiroki Kondo, Makoto Sekine (Nagoya University, Japan)

P1-56 Argon-Based Round Atmospheric Pressure Plasma Jet on Inactivation of Methicillin-Resistant Staphylococcus Aureus

Jia-Wei Lin, Zhi-Hua Lin, Jung-Shinn Wu, Wen-Yea Jang,
Chih-Tung Liu, Yi-Ning Shen (National Chiao Tung University, Taiwan),
T. Wu (National Taiwan University Hospital, Taiwan)

P1-57 Enhancement of Proliferation and Alcoholic Fermentation of Yeasts Exposed to Intense Nanosecond Electrical Pulses

Shogo Kanda, Erika Taguchi, Kyohei Matsubayashi,

Sunao Katsuki, Hidenori Akiyama (Kumamoto University, Japan)

P1-58 Absorption Spectrum of Proteins under Non-thermal Intense Electric Field

Daisuke Akiyama, Yulan Li, Sunao Katsuki (Kumamoto University, Japan)

P1-59 Ozone Sterilization for Greenhouse Agriculture

Kenji Ebihara (Environment and Energy Laboratory, Japan),
Fumiaki Mitsugi, Tomoaki Ikegami (Kumamoto University, Japan),
Yoshitaka Yamashita, Toshifumi Yamashita (Sanwa hi-tech Co.Ltd, Japan),
Sin-ichi Aoqui (Sojo University, Japan),
H.D.Stryczewska, J.Pawlat (Lublin University of Technology),
Shinriki Teii, Ta-Lun Sung Lunghwa (University of Science and Technology, Taiwan)

P1-60 Inactivation Effects of Liquids Treated with Oxygen Radicals on *Saccharomyces Cerevisiae*

Jun Kobayashi (Meijo University, Japan), Hiroshi Hashizume (Nagoya University, Japan),
Takayuki Ohta (Meijo University, Japan), Masaru Hori (Nagoya University, Japan),
Masafumi Ito (Meijo University, Japan)

P1-61 Advanced Refrigerator Combined with High Electric Field Plasma

K. Iwasaki (Daikoh Shoji Co. Ltd, Japan),
J.Y. Kao Lunghwa, P.L. Tu, Lunghwa, J.J. Gao
(Lunghwa University of Science and Technology, Taiwan),
Yasushi Nishida (National Cheng Kung University, Taiwan)

P1-62 Application of Optical Wave Microphone to Plasma Jets

Fumiaki Mitsugi (Kumamoto University, Japan),
Shota Kusumegi, Toshiyuki Kawasaki (Nippon Bunri University, Japan),
Toshiyuki Nakamiya, Yoshito Sonoda (Tokai University, Japan)

P1-63 Difference of Ozone Generation Characteristics by Single or Divided Outer Electrode of
Screw-Electrode Ozonizer

Koji Ogawa, Tomoyuki Fujishima, Takumi Onitsuka, Yuki Tomino, Tatsuyoshi Nakano,
Takanobu Amano, Tomohiro Furusato, Takahiko Yamashita (Nagasaki University, Japan)

P1-64 Investigation of Ozone with Water Vapor Fog Disinfection of Hatching Eggs

Chih-Hsiang Cheng, Hsiu-Chou Liu (Livestock Research Institute, Council of Agriculture, Taiwan),
Ta-Lun Sung, Shinriki Teii, Yi-Sin Chen (Lunghwa University of Science and Technology, Taiwan),

Kenji Ebihara (Environment and Energy Laboratory, Japan),

Fumiaki Mitsugi (Kumamoto University, Japan)

P1-65 Influence of Ozone Generated by Surface Dielectric Barrier Discharge on Characteristics of Soil and Pests

Tomoya Abiru, Fumiaki Mitsugi, Tomoaki Ikegami, Akifumi Maeda, Kosuke Sasaki (Kumamoto University, Japan), Kenji Ebihara (Environment and Energy Laboratory, Japan), Shin-ichi Aoqui, Kazuhiro Nagahama (Sojo University, Japan)

P1-66 Conversion of Carbon Dioxide to Methane by Using Coaxial Square-Pulse Discharge with Hydrogen

Fumiaki Sato, Satoru Iizuka (Tohoku University, Japan)

P1-67 Low Electron-Temperature and High Density Plasma Production Using a Grid-Cage Electrode for Radio Frequency Discharge

Kohgi Kato, Takuma Gohda, Satoru Iizuka (Tohoku University, Japan)

Poster session II (13:20-15:00, Sunday, Dec. 13, Poster Hall)

Topics: Plasmas in nanomaterials processing
Plasma coating and surface modifications
Plasmas in energy and environmental applications
Plasmas-in-liquid/ Multiphase plasmas
Thermal Plasmas
Advanced and novel plasma technologies and sources

Chair: Dr. Jaeho Kim (National Institute of Advanced Industrial Science and Technology, Japan)

P2-1 Estimation of Dominant Ions in a VHF H₂ Plasma at High Pressures

Kuan-Chen Chen, Kuo-Feng Chiu, Chia-Fu Chen,
Cheng-Yang Lien, Jen-Bin Shi (Feng Chia University, Taiwan),
Yu-Jer Tsai (ULVAC Taiwan Inc., Taiwan),
Ting-Kuei Lien (Helius Power Corp. Ltd., Taiwan),
Kohei Ogiwara, Kiichiro Uchino (Kyushu University, Japan),
Yoshinobu Kawai (Feng Chia University, Taiwan & Kyushu University, Japan)

P2-2 Nonlinear Characteristics of Plasma Induced by an Electron Beam Irradiating the Target Material

B. C. Chen (Buddhist Dalin Tzu Chi General Hospital, Taiwan),
C. Y. Ho (Hwa Hsia University of Technology, Taiwan)

P2-3 Simulation Study of Dielectric Barrier Discharge He/O₂ Atmospheric Pressure Plasma Jets

Kun-Pei Lin (National Tsing Hua University, Taiwan),
Chia-Hao Chang (Industrial Technology Research Institute, Taiwan),
Keh-Chyang Leou (National Tsing Hua University, Taiwan)

P2-4 Paper Chromatography Integrated with Corona Discharge Generated with Piezoelectric Generator for Ambient Mass Spectrometry Detection

Yu-Shiang Wang, Chung-Hsiang Chen, Che-Hsin Lin
(National Sun Yat-sen University, Taiwan)

P2-5 Growth of Graphene Using MPCVD on Nano-thickness Ni/Cu Layers as Catalyst

Yuji Kusumoto, Jun-seok Oh, Hiroshi Furuta, Akimitsu Hatta
(Kochi University of Technology, Japan)

P2-6 Impedance Variation of Nano Silver-Containing Conductive Films Prepared by Plasma Deposition, Graft Polymerization and Immobilization

Chung-Chieh Chen, Ko-Shao Chen, Hsin-Ming Wu (Tatung University, Taiwan)

P2-7 Use UV Light Graft Polymerization Reduction Nanosilver Particles on the Bamboo Charcoal

Ju-Hui Yeh, Ko-Shao. Chen (Tatung University, Taiwan)

P2-8 Time Evolution Study of Single-Walled Carbon Nanotubes Growth During Pulse Plasma CVD Toward Narrow Chirality Distribution

Bin Xu, Toshiaki Kato, Toshiro Kaneko (Tohoku University, Japan)

P2-9 Plasma Deposition of Nanocrystalline Diamond/Carbon Nanowall Composite Films for High-Efficiency Field Emitters

Yuta Kaneko, Kosuke Terada, Kungen Teii (Kyushu University, Japan)

P2-10 The Microstructural Evolution of Hybrid Granular Structured Diamond Films for Microplasma Applications

Sheng-Chang Lin, Chien-Jui Yeh, Srinivasu Kunuku, Loganathan Murugan, Keh-Chyang Leou (National Tsing Hua University, Taiwan), I-Nan Lin (Tamkang University, Taiwan)

P2-11 Power Generation Property of Polymer Electrolyte Fuel Cell Using Carbon Nanowalls

Ryosuke Okei, Takayuki Ohta, Masafumi Ito, Mineo Hiramatsu (Meijo University, Japan), Hiroki Kondo, Masaru Hori (Nagoya University, Japan)

P2-12 Experimental Study of Ozone Dissociation on a Metal Electrode

Shigeru Ono(Tokyo City University, Japan), Shinriki Teii (Lunghwa University of Science and Technology, Taiwan)

P2-13 Fabrication of Superhydrophobic Polystyrene Surface Using Nanosphere Lithography and Plasma Modification

Ping-Chi Chen, Bo-Wei Tseng, Ta-Chin Wei (Chung Yuan Christian University, Japan)

P2-14 Preparation of Titanium Containing DLC Films by High Power Impulse Magnetron Sputtering with Bipolar Pulse Voltage Source for Substrate

Takashi Kimura, Hikaru Kamata (Nagoya Institute of Technology, Japan),
Setsuo Nakao, Tsutomu Sonoda, Takeshi Kusumori, Kimihiro Ozaki
(National Institute of Advanced Industrial Science and Technology, Japan)
Kingo Azuma (University of Hyogo, Japan)

P2-15 Enhanced Lithium Intercalation of Flexible-Transparent-Lithiated Iron Oxide Films Using an Atmospheric Pressure Plasma Jet

Yung-Sen Lin, Sheng-Wei Lin (Feng Chia University, Taiwan)

P2-16 Plasma Polymerization of Tungsten/Iron Oxide Films for Electrochromic Mirror

Yung-Sen Lin, Ming-Ho Hsieh, Tzung-Han Tsai (Feng Chia University, Taiwan)

P2-17 Enhanced Lithium Intercalation of Atmospheric Pressure Plasma Jet-Synthesized Iron/Tantalum Oxide Films

Yung-Sen Lin, Bing-Shiun Shie, Chia-Mao Hsu (Feng Chia University, Taiwan)

P2-18 Enhanced Solder Wettability of Oxidized-Aluminum with Lead-Free Solder by Ar-H₂ Plasmas

Yung-Sen Lin, Shiau-Min Lin, Tzung-Ting Wu (Feng Chia University, Taiwan)

P2-19 The Deposition of Titanium Nitride Thin Film Using a High-Power Pulse Penning Sputtering under the Argon/Nitrogen Mixture Gas Atmosphere

Yuma Kusuhashi, Kingo Azuma (University of Hyogo, Japan),
Takashi Kimura (Nagoya Institute of Technology, Japan)

P2-20 Well Adherent Nano-Diamond Film Grown in Pure Titanium Using MPCVD

Jian-Jhan Gao, Chung-Ming Liu, Ta-Lun Sung
(Lunghwa Univ. of Science and Technology, Taiwan)

P2-21 The Relationship between Characteristics of DLC Film and Electron Temperature Measured by Optical Emission Spectroscopy

Kazuki Takizawa (Mitsui Engineering & Shipbuilding Co., Ltd, Japan),

Shinsuke Kunitsugu (Industrial Technology Center of Okayama Prefecture, Japan).

P2-22 Consideration on Peeling-off of Amorphous Carbon Films from a Substrate during Plasma Enhanced Chemical Vapor Deposition with Benzene as a Source, from Infrared Spectroscopic Study

Kazuki Ito, Yujiro Taniguchi, Yamato Nakano, Masanori Shinohara, Hiroshi Fujiyama
(Nagasaki University, Japan)

P2-23 Coating of Inner Tubes by Coaxial Magnetron Pulsed Plasmas

M. Timan, M. Uchiyama, J. H. C. Yang, M. Shinohara, H. Fujiyama (Nagasaki University, Japan)

P2-24 Study on Tube Inner Coating of DLC Thin Films Using Coaxial High Power Impulse Magnetron Plasmas

Masahiro Uchiyama, Musab Timan, Hiroshi Fujiyama, Masanori Shinohara, Jason H. C. Yang
(Nagasaki University, Japan)

P2-25 Unbalanced Magnetron Sputtering Pulsed Discharge Properties for Stainless Steel Coating

Kingo Azuma, Kenta Uoi, Takuma Tokunaga, Yoshihiro Oka (University of Hyogo, Japan),
Masahiro Onoi (Metal Technology Co. Ltd, Japan)

P2-26 Escherichia coli Detection Using Antibody-Integrated CNT Dot-Array Biochip Functionalized by a Capillary Atmospheric Pressure Plasma Jet

Mitsuru Okada, Tomy Abuzairi, Anchu Viswan, Masaaki Nagatsu (Shizuoka University, Japan)

P2-27 Preparation of Hydrogen-free DLC Film on Various Sacrificial Layers by T-FAD

Masafumi Yamano, Yu Miyamoto, Yuma Fujii, Takahiro Imai, Toru Harigai, Yoshiyuki Suda,
Hirofumi Takikawa (Toyohashi University of Technology, Japan),
Masao Kamiya (Itoh Opt. Ind. Co., Ltd., Japan),
Makoto Taki, Yushi Hasegawa (Onward Ceramic Coating Co., Ltd., Japan)

P2-28 Preparation and Characterization of Protective Spinel Coatings Produced by Atmospheric Plasma Spraying

Chun-Liang Chang (Institute of Nuclear Energy Research, Atomic Energy Council, Taiwan)

P2-29 Application of DLC as ePTFE for Artificial Blood Vessel Material

Masataka Fujii (Okayama University of Science, Japan),
Shinsuke Kunitsugu (Industrial Technology Center of Okayama Prefecture, Japan),
Tatsuyuki Nakatani (Okayama University of Science, Japan)

P2-30 Study on Mechanical Properties of DLC-Coated NiTi Medical Fuidewire

Takahiro Shimaoka (Okayama University of Science, Japan),
Teruo Hashimoto (Institute of Production Technology, TRS CO., LTD, Japan),
Toshiaki Kaneeda, Tatsuyuki Nakatani (Okayama University of Science, Japan)

P2-31 Relationship between Current-Voltage Characteristics and Film Quality

Michio Wakae (Okayama University of Science, Japan),
Shinsuke Kunitsugu (Industrial Technology Center of Okayama Prefecture, Japan),
Tatsuyuki Nakatani (Okayama University of Science, Japan)

P2-32 Preparation of Antibacterial Ceramic Coatings Containing Ag on Titanium Alloy by use of
Micro-Arc Oxidation

Jeou-Long Lee, Ta-Lun Sung, Kwan-Nin Kuo, Yen-Tze Lai
(Lunghwa University of Science and Technology, Taiwan)

P2-33 Formation of Si-Doped DLC Film using a Magnetron Sputtering

Suguru Ohkochi, Takayuki Ohta (Meijo University, Japan),
Akinori Oda (Chiba Institute of Technology, Japan),
Hiroyuki Kousaka (Nagoya University, Japan)

P2-34 Effects of Substrate Temperature on Film Growth Mode of ZnO-InN Pseudo Binary Alloys

Koichi Matsushima, Tomoaki Ide, Daisuke Yamashita, Kazunori Koga, Masaharu Shiratani,
Naho Itagaki (Kyushu University, Japan)

P2-35 Effects of Oxygen Ratio and Discharge Current on the Properties of Cu₂O Thin Films
Prepared by Ion-Beam-Assisted Deposition

J. H. Hsieh, C. K. Chang (Ming Chi University of Technology, Taiwan),
H. H. Hsieh (ITRI, Taiwan)

P2-36 Pulsed AC Diaphragm Discharge for Mineralization of Highly Conductive and Polluted
Wastewater Based on Ozone/Hydrogen Peroxide Process

Ryo Saeki, Yu Kamiya, Hideaki Mizoguchi, Kosuke Tachibana, Nozomi Takeuchi, Koichi Yasuoka,

(Tokyo Institute of Technology, Japan)

P2-37 The Decoloration of Azo Dyes Using Ozone/UV/TiO₂ Hybrid Process System

Ruey-Chang Hsiao, Ta-Lun Sung, Shinriki Teii, Zih-Jie Li, Jia-Wen Ke
(Lunghwa Univ. of Science and Technology, Taiwan)

P2-38 Simulation Model for Acetic Acid Decomposition by Ozone/Hydrogen Peroxide Process

Hideaki Mizoguchi, Kosuke Tachibana, Nozomi Takeuchi, Koichi Yasuoka
(Tokyo Institute of Technology, Japan)

P2-39 Recent Development and Application of Low Cost and Portable Atmospheric Pressure Microplasma Generation Devices

Cheng-che Hsu (National Taiwan University, Taiwan)

P2-40 Combining Atmospheric-Pressure Plasma Jet with Catalysis for Dry Reforming of Methane

Wei-Chieh Chung, Moo-Been chang (National Central University, Taiwan)

P2-41 Calculation of the ECE/EBE Spectra using Ray-Tracing in the LHD

Yuki Goto (Nagoya University, Japan),
Shin Kubo (Nagoya Univ., National Institute for Fusion Science, Japan),
Hiroe Igami, Takashi Shimozuma, Yasuo Yoshimura, Hiromi Takahashi, Tohru Tujimura,
Ryohei Makino (National Institute for Fusion Science, Japan)

P2-42 Ammonia Generation Using Discharge Plasma and Diesel Exhaust Gas

Ryo Yoshida, Hirofumi Kurita, Kazunori Takashima, Akira Mizuno
(Toyohashi University of Technology, Japan)

P2-43 Plasma Assisted Catalytic Oxidation of Low Concentration Carbon Monoxide in Air

Yuki Kawano, Takuma Nakamura, Hirofumi Kurita, Kazunori Takashima, Akira Mizuno
(Toyohashi University of Technology, Japan)

P2-44 Basic Studies about the Peeling Off of Painting using the Atmospheric Pressure Plasma

Kenta Morito (National Institute of Technology, Japan),
Tateki Hamasaki (Kyushu Institute of Technology, Japan),
Tsubasa Nakamura, Toyohisa Asaji, Muneo Furuse (National Institute of Technology, Japan)

P2-45 Influence of Sodium Carbonate on Phenol Decomposition by Discharge inside Bubble in Water

Masashi Iwabuchi, Katsuyuki Takahashi, Koichi Takaki, Naoya Satta
(Iwate University, Japan)

P2-46 Effect of Discharge Pulse Width on Decomposition of Hydrocarbons

Y. Nishida, H.C. Chaing, T. C. Chen, H.K. Fang (National Cheng Kung University, Taiwan),
C.M. Liu (Lunghwa University of Science and Technology, Taiwan),
C. Z. Cheng (National Cheng Kung University, Taiwan)

P2-47 Air Cleaner using DC High Electric Field Plasma System

C.M. Liu (Lunghwa University of Science and Technology, Taiwan)
Y. Nishida (National Cheng Kung University, Taiwan),
C.Y. Peng (Lunghwa University of Science and Technology, Taiwan),
K. Iwasaki (Daikoh Shoji Co. Ltd, Taiwan),
W. Sung, F.F. Wu, A.S. Lin (Clean Station Technology Co. Ltd, Taiwan)

P2-48 Dependence of CO₂ Conversion on Molar Ratio of H₂/CO₂ in Helicon Discharge Plasma

Susumu Toko, Ryu Katayama, Kazunori Koga, Masaharu Shiratani (Kyushu University, Japan)

P2-49 Investigation of the Generation of Mechanism of Hydroxyl Radicals in Plasma in Contact with Liquid by Using Radical Scavengers

Daichi Shiraki, Nozomi Takeuchi (Tokyo Institute of Technology, Japan)

P2-50 Conversion of Sugars to HMF by a Physical Technique: Solution Plasma Process

Yukihiro Muta, Anyarat Watthanaphanit, Nagahiro Saito (Nagoya University, Japan)

P2-51 Synthesis of Catechin-Modified Chitosan for Catalytic Reduction of 4-Nitrophenol to 4-Aminophenol

Yusuke Kondo, Anyarat Watthanaphanit, Nagahiro Saito (Nagoya University, Japan)

P2-52 Preparation and Catalytic Evaluation of Natural Leaf Supported Gold Nanoparticles

Shuhei Yoshida (Nagoya University, Japan)

- P2-53** One-step Preparation of Ultrathin MnO₂ Nanosheets by Plasma Discharge in Liquid Phase
Hyemin Kim, Anyarat Watthanaphanit, Nagahiro Saito (Nagoya University, Japan)
- P2-54** Effect of Plasma Electrode Parallel-Serial Configurations on the Preparation of Submicron Nickel Oxide
Hong-Jie Chen (National Yunlin University of Science and Technology, Taiwan)
- P2-55** Impact of Multipoint Patterned Electrodes on Copper Oxide Synthesis by Pulsed Discharge
Shih-Cheng Lin (National Yunlin University of Science and Technology, Taiwan)
- P2-56** Synthesis of Tin Oxide with Different Reactant Sizes by Liquid Phase Plasma Processing
Yu-Min Syu (National Yunlin University of Science and Technology, Taiwan)
- P2-57** Investigation into Steady-State Distribution of Plasma Injected from the Cathode Using a Two-Fluid Euler-Poisson Model
C. Y. Ho (Hwa Hsia University of Technology, Taiwan)
- P2-58** Carbon Synthesis From Natural Palm Oil by Solution Plasma Process
Md. Zahidul Islam, Anyarat Watthanaphanit, Nagahiro Saito (Nagoya University, Japan)
- P2-59** Inactivation Effects of Neutral-pH Solutions Treated with Oxygen Radicals
Tsuyoshi Kobayashi, Takayuki Ohta, Masafumi Ito (Meijo University, Japan),
Hiroshi Hashizume, Kenji Ishikawa, Masaru Hori (Nagoya University, Japan)
- P2-60** Shadowgraph Imaging under the Electrolyte Surface Irradiated by Atmospheric-Pressure Helium DC Glow Discharge
Shusuke Nishiyama, Takahisa Suzuki, Koichi Sasaki (Hokkaido University, Japan)
- P2-61** Spectroscopic Measurement of a Pulsed Arc Discharge in Supercritical Carbon Dioxide
Takeshi Kamagahara, Tomohiro Furusato, Hiroyuki Koreeda,, Tomoyuki Fujishima,
Takahiko Yamashita (Nagasaki University, Japan)
- P2-62** Self-Organized Micro-Gap Dielectric Barrier Discharges Using Sapphire Dielectrics
Md. Anwarul Islam, Kosuke Jumonji, hizuka Tada, Seiji Mukaigawa, Koichi Takaki
(Iwate University, Japan)

P2-63 Influence of Voltage Pulse Width on Hardness of Carbon Film Deposited by HiPIM

Hironori Dendo, Katsuyuki Takahashi, Koichi Takaki (Iwate University, Japan)

P2-64 Generation of High-Density ICP Plasma Using Repetitive 170 kHz Burst Pulse

Shinnosuke Konn, Katsuyuki Takahashi, Koichi Takaki (Iwate University, Japan)

P2-65 Enhancement of Cell Growth on Honeycomb-Structured Polyactide Surface with Atmospheric-Pressure Plasma Jet Modification

Chia-Hsing Chang, Kuang-Yao Cheng, Yi -Wei Yang,
Guo-Chun Liao (National Chiao Tung University, Taiwan)

P2-66 Assessment of antifungal activity of turmeric essential oil-loaded chitosan nanoparticle

Nguyen Thi Kim Cuc, Tran Thi Kim Dzung, Pham Viet Cuong,
Le Thu Ha (Vietnam Academy of Science and Technology, Vietnam)

P2-67 The influence of particle's size of nanochitosan on antimicrobial activity

Nguyen Thi Kim Cuc, Tran Thi Kim Dung, Pham Viet Cuong,
Le Thu Ha (Vietnam Academy of Science and Technology, Vietnam)