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All sessions will be held at Conference Hall, Hokkaido University.

Room A	(Main Conference Hall, 2nd Floor; 2階講堂)	Plenary and Memorial Lectures, Oral Presentations (A)
Room B	(Conference Hall, 1st Floor; 1階小講堂)	Oral Presentations (B)
Room P	(Conference Room 1, 1st Floor, Conference Hall; 1階第1会議室)	Poster Presentations (P)

## Monday, Jan. 16, 2017, 13:00 – 14:00: Plenary Lecture 1, Room A (Chair: Koichi Sasaki, Hokkaido University)

13:00-14:00 PL-1 Hydrogen Physicochemical Processes on Ice Surface at around 10 K: Diffusion, Recombination and Nuclear Spin Conversion  
°Institute of Low Temperature Science, Hokkaido University  
°Naoki Watanabe<sup>1</sup>

## Tuesday, Jan. 17, 2017, 9:20 – 10:20: Plenary Lecture 2, Room A (Chair: Masaharu Shiratani, Kyusyu University)

9:20-10:20 PL-2 Summarization of Plasma Medical Science and Future Prospective  
°Institute of Innovation for Future Society, Nagoya University  
°Masaru Hori<sup>1</sup>

## Wednesday, Jan. 18, 2017, 15:20 – 16:00: Memorial Lecture, Room A (Chair: Takayuki Watanabe, Kyushu University)

15:20-16:00 Exotic Plasmas for Materials Science: Plasmas in Cryogenic Conditions and Plasmas in Supercritical Fluids  
°Graduate School of Frontier Sciences, University of Tokyo  
°Kazuo Terashima<sup>1</sup>, Sven Stauss<sup>1</sup>, Keiichiro Urabe<sup>1</sup>, Hitoshi Muneoka<sup>1</sup>

## Monday, Jan. 16, 2017, 10:20 – 11:40: プラズマ医療 (16aA), Room A (Chair: Nobuya Hayashi, Kyushu University)

10:20-10:40 16aA1 Intracellular Response Analysis of HeLa Cells Treated with Plasma-Activated Medium  
°Graduate School of Engineering, Nagoya University, °Graduate School of Science & Technology, Meijo University  
°Ryo Furuta<sup>1</sup>, Kenji Ishikawa<sup>1</sup>, Hiroshi Hashizume<sup>1</sup>, Hiromasa Tanaka<sup>1</sup>, Keigo Takeda<sup>1</sup>, Takayuki Ohta<sup>2</sup>, Hiroki Kondo<sup>1</sup>, Masafumi Ito<sup>2</sup>, Makoto Sekine<sup>1</sup>, Masaru Hori<sup>1</sup>

10:40-11:00 16aA2 Investigation of Improving Transdermal Absorption of Drug by Microplasma Drug Delivery  
°Graduate School of Engineering, Shizuoka University, °Graduate School of Science and Technology, Shizuoka University, °Organization for Innovation and Social Collaboration, Shizuoka University  
°Hideto Miyamoto<sup>1</sup>, Jaroslav Kristof<sup>2</sup>, An Nhat Tran<sup>1</sup>, Marius Gabriel Blajan<sup>3</sup>, Kazuo Shimizu<sup>1,2,3</sup>

- 11:00-11:20  
16aA3 Analysis of Apoptosis Induction in Melanoma Cells by Treatment with Oxygen Radical Irradiated-medium  
<sup>1</sup>Faculty of Science & Technology, Meijo University, <sup>2</sup>Faculty of Pharmacy, Meijo University, <sup>3</sup>Institute of Innovation for Future Society, Nagoya University  
 °Takayoshi Koizumi<sup>1</sup>, Tomiyasu Murata<sup>2</sup>, Masaru Hori<sup>3</sup>, Masafumi Ito<sup>1</sup>
- 
- 11:20-11:40  
16aA4 The Effect of Immune Response of Mouse Melanoma Induced by a Nanosecond Pulsed Streamer Discharge  
<sup>1</sup>The University of Tokyo, <sup>2</sup>Stanford University  
 °Yuki Shikarawa<sup>1</sup>, Kenta Yonetamari<sup>1</sup>, Tatsuya Sakamoto<sup>1</sup>, Yuta Ishizaki<sup>1</sup>, Kazue Mizuno<sup>1,2</sup>, Ryo Ono<sup>1</sup>

**Monday, Jan. 16, 2017, 10:20 – 11:40: ナノ材料と素過程 (16aB), Room B  
(Chair: Masafumi Ito, Meijo University)**

- 10:20-10:40  
16aB1 Effect of Hydrophilic Treatment of Carbon Nanowalls on Surface Assisted Laser Desorption / Ionization Mass Spectrometry  
<sup>1</sup>Graduate School of Science and Technology, Meijo University, <sup>2</sup>Graduate School of Engineering, Nagoya University  
 °Hironori Ito<sup>1</sup>, Takayuki Ohta<sup>1</sup>, Kenji Ishikawa<sup>2</sup>, Mineo Hiramatsu<sup>1</sup>, Masaru Hori<sup>2</sup>
- 
- 10:40-11:00  
16aB2 Hydrogen Peroxide Sensor Based on Carbon Nanowalls Grown by Plasma Enhanced Chemical Vapor Deposition  
<sup>1</sup>Nagoya University, <sup>2</sup>Meijo University  
 °Masakazu Tomatsu<sup>1</sup>, Mineo Hiramatsu<sup>2</sup>, Hiroki Kondo<sup>1</sup>, Masaru Hori<sup>1</sup>
- 
- 11:00-11:20  
16aB3 Electron Collision Cross Sections of C<sub>2</sub>F<sub>4</sub> gas  
<sup>1</sup>Muroran Institute of Technology  
 °Satoru Kawaguchi<sup>1</sup>, Kazuhiro Takahashi<sup>1</sup>, Kohki Satoh<sup>1</sup>, Hidenori Itoh<sup>1</sup>
- 
- 11:20-11:40  
16aB4 Thermal Conductivity of SiNCs/polystyrene Nanohybrid Thin Films  
<sup>1</sup>Department of Mechanical Engineering, Tokyo Institute of Technology, <sup>2</sup>Department of Materials Science and Engineering, Tokyo Institute of Technology  
 °Yoshiki Muroya<sup>1</sup>, Firman B. Juangsa<sup>1</sup>, Yuma Tanabe<sup>1</sup>, Hidetoshi Matsumoto<sup>2</sup>, Minoru Ashizawa<sup>2</sup>, Junko Morikawa<sup>2</sup>, Tomohiro Nozaki<sup>1</sup>

**Monday, Jan. 16, 2017, 14:20 – 15:40: 液相・気液界面プラズマの生成および応用 (16pA), Room A  
(Chair: Tatsuo Ishijima, Kanazawa University)**

- 14:20-14:40  
16pA1 Generation of Microbubbles by Collapse of Plasma-Induced Bubbles  
<sup>1</sup>Tohoku University, <sup>2</sup>Nippon Steel & Sumikin Engineering Co. Ltd., <sup>3</sup>EPFL  
 °Takehiko Sato<sup>1</sup>, Marc Tinguely<sup>2</sup>, Masanobu Oizumi<sup>1,2</sup>, Mohamed Farhat<sup>3</sup>
- 
- 14:40-15:00  
16pA2 Hydrophilization of Graphite Using Above-Solution Multi-Parallel Plasma Streams  
<sup>1</sup>Electrical and Electronic Engineering, Tokyo Institute of Technology  
 °Shuhei Hoshino<sup>1</sup>, Nozomi Takeuchi<sup>1</sup>
- 
- 15:00-15:20  
16pA3 Generation of Liquid Phase Reactive Nitrogen Species by Atmospheric Pressure Air Plasma Effluent  
<sup>1</sup>Department of Electronic Engineering, Tohoku University  
 °Yutaka Kimura<sup>1</sup>, Keisuke Shimada<sup>1</sup>, Keisuke Takashima<sup>1</sup>, Toshiro Kaneko<sup>1</sup>
- 
- 15:20-15:40  
16pA4 Microplasmas Generated in Flowing Electrolyte Solutions for Aqueous Processes  
<sup>1</sup>Graduate School of Frontier Sciences, Tokyo University, <sup>2</sup>Institute of Multidisciplinary Research for Advanced Materials, Tohoku University  
 °Ken-ichi Inoue<sup>1</sup>, Sven Stauss<sup>2</sup>, Tsuyohito Ito<sup>1</sup>, Kazuo Terashima<sup>1</sup>

**Monday, Jan. 16, 2017, 14:20 – 15:40: DBD 応用 (16pB), Room B**  
**(Chair: Giichiro Uchida, Osaka University)**

- 14:20-14:40  
16pB1 Experimental Study on Flow Separation Control over an Airfoil Using Nanosecond-Pulse Driven Plasma Actuator  
<sup>1</sup>Graduate school of Engineering, Tohoku University  
°Atsushi Komuro<sup>1</sup>, Keisuke Takashima<sup>1</sup>, Konno Kaiki<sup>1</sup>, Naoki Tanaka<sup>1</sup>, Toshiro Kaneko<sup>1</sup>, Akira Ando<sup>1</sup>, Keisuke Asai<sup>1</sup>
- 14:40-15:00  
16pB2 Numerical Analysis of the Voltage Waveform Effects on Performance of DBD Plasma Actuator  
<sup>1</sup>Department of Mechanical Systems Engineering, Tokyo University of Agriculture and Technology, <sup>2</sup>Institute of Engineering, Tokyo University of Agriculture and Technology  
°Asa Nakano<sup>1</sup>, Hiroyuki Nishida<sup>2</sup>
- 15:00-15:20  
16pB3 Plasma-assisted Combustion Using Dielectric Barrier Discharge  
<sup>1</sup>Department of Advanced Energy, The University of Tokyo  
°Kazuaki Ogura<sup>1</sup>, Ryo Ono<sup>1</sup>
- 15:20-15:40  
16pB4 Effective Species for Enhancing Propagation Speed of Flame Kernel in Laser-Induced Ignition in Spatial Afterglow of Dielectric Barrier Discharge  
<sup>1</sup>Graduate School of Engineering, Hokkaido University, <sup>2</sup>Faculty of Engineering, Hokkaido University  
°Yusei Deguchi<sup>1</sup>, Koichi Sasaki<sup>2</sup>

**Tuesday, Jan. 17, 2017, 10:40 – 12:00: プラズマ処理溶液 (17aA), Room A**  
**(Chair: Satoshi Uchida, Tokyo Metropolitan University)**

- 10:40-11:00  
17aA1 Membrane Permeabilizing Effects of Saline Treated with Different Types of Gas-Liquid Interfacial Plasmas  
<sup>1</sup>Department of Electronic Engineering, Tohoku University, <sup>2</sup>Department of Biomedical Engineering, Tohoku University  
°Toshiro Kaneko<sup>1</sup>, Shota Sasaki<sup>1</sup>, Yutaro Hokari<sup>1</sup>, Zheng Yuexing<sup>1</sup>, Keisuke Takashima<sup>1</sup>, Makoto Kanzaki<sup>2</sup>
- 11:00-11:20  
17aA2 Analysis of Morphological Change of Supported Lipid Bilayers Induced by Reactive Oxygen and Nitrogen Species in Plasma-Activated Medium Employing High-Speed Atomic Force Microscopy  
<sup>1</sup>Nagoya University, <sup>2</sup>Meijo University, <sup>3</sup>Toyohashi University of Technology  
°Takuya Tonami<sup>1</sup>, Naoyuki Kurake<sup>1</sup>, Hiroshi Hashizume<sup>1</sup>, Hiroki Kondo<sup>1</sup>, Kenji Ishikawa<sup>1</sup>, Keigo Takeda<sup>1</sup>, Hiromasa Tanaka<sup>1</sup>, Makoto Sekine<sup>1</sup>, Masafumi Ito<sup>2</sup>, Ryugo Tero<sup>3</sup>, Masaru Hori<sup>1</sup>
- 11:20-11:40  
17aA3 Influence of pH on Inactivation of E-coli in Oxygen-Radical Treated Water  
<sup>1</sup>Faculty of Science and Technology, Meijo University, <sup>2</sup>Institute of Innovation for Future Society, Nagoya University  
°Tsuyoshi Kobayashi<sup>1</sup>, Jun-Seok Oh<sup>1</sup>, Hiroshi Hashizume<sup>2</sup>, Takayuki Ohta<sup>1</sup>, Kenji Ishikawa<sup>2</sup>, Masaru Hori<sup>2</sup>, Masafumi Ito<sup>1</sup>
- 11:40-12:00  
17aA4 Key Bactericidal Chemical Agent of Cryo-preserved Plasma-treated Water with the Reduced-pH Method  
<sup>1</sup>Graduate School of Engineering, Osaka University, <sup>2</sup>Technology Research Institute of Osaka Prefecture, <sup>3</sup>Graduate School of Human Development and Environment  
°K. Kitano<sup>1</sup>, S. Ikawa<sup>2</sup>, Y. Nakashima<sup>2</sup>, A. Tani<sup>3</sup>, T. Yokoyama<sup>1</sup>

**Tuesday, Jan. 17, 2017, 10:40 – 12:00: プラズマ生成および応用 (17aB), Room B**  
**(Chair: Takamasa Ishigaki, Hosei University)**

- 10:40-11:00  
17aB1 Efficient Production of Meter-scale Atmospheric-pressure Line Plasma Using Modified Waveguide and cw Microwave Power  
<sup>1</sup>School of Engineering, Nagoya University, <sup>2</sup>Tokyo Electron Ltd.  
°Haruka Suzuki<sup>1</sup>, Yuto Tamura<sup>1</sup>, Yaoki Inomata<sup>1</sup>, Hitoshi Itoh<sup>1,2</sup>, Makoto Sekine<sup>1</sup>, Masaru Hori<sup>1</sup>, Hiroataka Toyoda<sup>1</sup>
- 11:00-11:20  
17aB2 Photo-catalytic Titanium Oxide Thin Films Deposition by Atmospheric SPPS for DSSC  
<sup>1</sup>Graduate School of Engineering, Ashikaga Institute of Technology, <sup>2</sup>Faculty of Engineering, Ashikaga Institute of Technology  
°Dickson Kindole<sup>1</sup>, Anyadiiegwu Ifeanchi<sup>1</sup>, Geoffrey Kibiegon Ronoh<sup>1</sup>, Yasutaka Ando<sup>2</sup>, Yoshimada Noda<sup>2</sup>
- 11:20-11:40  
17aB3 Effects of Miniaturization Curling Probe for Electron Density Measurement  
<sup>1</sup>Faculty of Engineering, Chubu University  
°Masaya Hotta<sup>1</sup>, Daisuke Ogawa<sup>1</sup>, Hideo Sugai<sup>1</sup>, Keiji Nakamura<sup>1</sup>
- 11:40-12:00  
17aB4 Power Generation Characteristics of Polymer Electrolyte Fuel Cell Using Carbon Nanowalls  
<sup>1</sup>Graduate School of Science and Technology, <sup>2</sup>Graduate School of Engineering, Nagoya University  
°Hiroaki Iwata<sup>1</sup>, Takayuki Ohta<sup>1</sup>, Masafumi Ito<sup>1</sup>, Mineo Hiramatsu<sup>1</sup>, Hiroki Kondo<sup>2</sup>, Masaru Hori<sup>2</sup>

**Tuesday, Jan. 17, 2017, 13:20 – 15:40: 基礎過程と分光 (17pA), Room A**  
**(Chair: Toshihiro Shimada, Hokkaido University)**

- 13:20-14:00  
17pA1 Shack-Hartmann Sensor for Measurement of Two-Dimensional Electron Density Distribution over Discharge Plasma  
(INVITED) <sup>1</sup>Graduate School of Science and Engineering, Saitama University, <sup>2</sup>Department of Advanced Energy, The University of Tokyo, <sup>3</sup>Department of Electrical Engineering & Information Systems, The University of Tokyo  
°Yuki Inada<sup>1</sup>, Ryo Ono<sup>2</sup>, Akiko Kumada<sup>3</sup>, Kunihiko Hidaka<sup>3</sup>, Mitsuaki Maeyama<sup>1</sup>
- 14:00-14:20  
17pA2 Investigation of Chemical Reaction Process on Magnetite Nanoparticles Synthesis by Atmospheric-pressure DC Glow Discharge Electrolysis  
<sup>1</sup>Graduate School of Science and Engineering, Tokyo Metropolitan University  
°Yuya Yamazaki<sup>1</sup>, Satoshi Uchida<sup>1</sup>, Fumiyoshi Tochikubo<sup>1</sup>
- 14:20-14:40  
17pA3 Behavior of Dimple Induced on Liquid Surface in Atmospheric-pressure DC Helium Glow Discharge with Aqueous Electrolyte Solution as an Electrode  
<sup>1</sup>Graduate School of Engineering, Hokkaido University, <sup>2</sup>Faculty of Engineering, Hokkaido University  
°Takahisa Suzuki<sup>1</sup>, Naoki Shirai<sup>2</sup>, Shusuke Nishiyama<sup>2</sup>, Koichi Sasaki<sup>2</sup>
- 14:40-15:00  
17pA4 Characterization of Dielectric Barrier Discharge with Water Electrode for Synthesizing Performic Acid  
<sup>1</sup>Faculty of Engineering, Osaka Electro-Communication University, <sup>2</sup>Department of Molecular Engineering, Kyoto University, <sup>3</sup>PM Dimensions Corporation  
°Kunihide Tachibana<sup>1</sup>, Mitsuo Kawasaki<sup>2</sup>, Toshihiro Nakamura<sup>1</sup>, Tatsuo Morita<sup>3</sup>

15:00-15:20 17pA5	Investigation of Photoresist Removal Process Using Microwave Plasma in Water Vapor by Means of Optical Emission Spectroscopy <sup>1</sup> Kanazawa University, <sup>2</sup> Yonekura MFG Co., Ltd., <sup>3</sup> Minimal Fab Development Association, <sup>4</sup> National Institute of Advanced Science and Technology °Hiroaki Suzuki <sup>1</sup> , Takuya Kitano <sup>1</sup> , Arufua Shiota <sup>1</sup> , Tatsuo Ishijima <sup>1</sup> , Yasunori Tanaka <sup>1</sup> , Yoshihiko Uesugi <sup>1</sup> , Takeshi Aizawa <sup>2</sup> , Sommawan Khumpuang <sup>3,4</sup> , Shiro Hara <sup>3,4</sup>
15:20-15:40 17pA6	Measurement of Singlet Delta Oxygen Metastable in Atmospheric Pressure He/O <sub>2</sub> Plasma Jet <sup>1</sup> Faculty of Frontier Sciences, Tokyo University °Yuki Inoue <sup>1</sup> , Ryo Ono <sup>1</sup>

**Tuesday, Jan. 17, 2017, 13:20 – 15:40: 熱プラズマ (17pB), Room B  
(Chair: Takayuki Watanabe, Kyushu University)**

13:20-14:00 17pB1 (INVITED)	Visualization on Evaporation of Feedstock and Formation and Transport of Molecules during Nanopowder Synthesis using Induction Thermal Plasmas <sup>1</sup> Faculty of Electrical & Computer Eng., Kanazawa University, <sup>2</sup> Research Center for Sustainable Energy & Technology, <sup>3</sup> Research Center for Production & Technology °Yasunori Tanaka <sup>1</sup> , Naoto Kodama <sup>1</sup> , Yousuke Ishisaka <sup>1</sup> , Kotaro Shimizu <sup>1</sup> , Yoshihiko Uesugi <sup>1</sup> , Tatsuo Ishijima <sup>2</sup> , Shiori Sueyasu <sup>3</sup> , Shu Watanabe <sup>3</sup> , Keitaro Nakamura <sup>3</sup>
14:00-14:20 17pB2	High-Speed Camera Observation of Electrode Phenomena in Diode-Rectified Multiphase AC Arc <sup>1</sup> Faculty of Engineering, Kyushu University, <sup>2</sup> Taso Arc Co. °Manabu Tanaka <sup>1</sup> , Koki Saga <sup>1</sup> , Taro Hashizume <sup>1</sup> , Tsugio Matsuura <sup>2</sup> , Takayuki Watanabe <sup>1</sup>
14:20-14:40 17pB3	Thermal-plasma-synthesized Nb-doped TiO <sub>2</sub> Nano-size Powders Giving Visible Light Photocatalytic Activity through High-temperature Heat-treatment <sup>1</sup> Department of Chemical Science and Technology, Hosei University, <sup>2</sup> Graduate School of Science and Engineering, Hosei University, <sup>3</sup> Research Center for Micro-Nano Technology, Hosei University, <sup>4</sup> Research Center for Functional Materials, National Institute for Materials Science °T. Ishigaki <sup>1,2,3</sup> , Y. Nakada <sup>2</sup> , T. Yonezawa <sup>2,4</sup> , Y. Tsujimoto <sup>4</sup> , C. Zhang <sup>4</sup> , T. Uchikoshi <sup>3,4</sup>
14:40-15:00 17pB4	Synthesis of Li–Mn Composite Oxide Nanoparticles for Electrode Materials by Induction Thermal Plasmas <sup>1</sup> Department of Chemical Engineering, Kyushu University °Hiroataka Sone <sup>1</sup> , Shuhei Yoshida <sup>1</sup> , Takuya Kageyama <sup>1</sup> , Manabu Tanaka <sup>1</sup> , Takayuki Watanabe <sup>1</sup>
15:00-15:20 17pB5	Micro-thermal-plasma-jet Crystallization of Amorphous Silicon Films on Flexible Glass Substrate <sup>1</sup> Graduate School of Advanced Sciences of Matter, Hiroshima University °T. Hieda <sup>1</sup> , R. Shin <sup>1</sup> , H. Hanafusa <sup>1</sup> , S. Higashi <sup>1</sup>
15:20-15:40 17pB6	Numerical Analysis of Submicrometer Spherical Particle Formation during Pulsed Laser Melting in Liquid <sup>1</sup> Faculty of Engineering, Hokkaido University, <sup>2</sup> Department of Gigaphoton Next GLP, Kyushu University, <sup>3</sup> Interdisciplinary Graduate School of Science and Engineering, Shimane University, <sup>4</sup> Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology °Shota Sakaki <sup>1</sup> , Hiroshi Ikenoue <sup>2</sup> , Takeshi Tsuji <sup>3</sup> , Yoshie Ishikawa <sup>4</sup> , Naoto Koshizaki <sup>1</sup>

**Wednesday, Jan. 18, 2017, 9:20 – 11:40: プラズマエッチングと表面改質 (18aA), Room A  
(Chair: Masanaga Fukasawa, Sony Semiconductor Solutions)**

- 9:20-10:00  
18aA1  
(INVITED) Issues and Challenges in Plasma Etching for MRAM Fabrication  
<sup>1</sup>Hitachi High-Technologies Corporation, <sup>2</sup>Graduate School of Engineering, Osaka University  
°Makoto Satake<sup>1,2</sup>, Takahiro Abe<sup>1</sup>, Takamasa Ichino<sup>1</sup>, Makoto Suyama<sup>1</sup>, Tadayoshi Kawaguchi<sup>1</sup>, Masaki Yamada<sup>1</sup>, Eiji Matsumoto<sup>1</sup>, Kenetsu Yokogawa<sup>1</sup>
- 
- 10:00-10:20  
18aA2 Origin of Plasma-Induced Surface Roughening and Ripple Formation during Plasma Etching of Silicon: A Monte Carlo Study  
<sup>1</sup>Graduate School of Engineering, Kyoto University  
°Kouichi Ono<sup>1</sup>, Takumi Hatsuse<sup>1</sup>, Nobuya Nakazaki<sup>1</sup>, Hirotaka Tsuda<sup>1</sup>, Yoshinori Takao<sup>1</sup>, Koji Eriguchi<sup>1</sup>
- 
- 10:20-10:40  
18aA3 Effects of Additive Gases on Characteristics of High Temperature Plasma Etching of GaN In Cl<sub>2</sub> Based Plasma  
<sup>1</sup>Graduate School of Engineering, Nagoya University, <sup>2</sup>SCREEN Holdings Co., Ltd.  
°Masato Imamura<sup>1</sup>, Zecheng Liu<sup>1</sup>, Jialin Pan<sup>1</sup>, Atsushi Tanide<sup>2</sup>, Kenji Ishikawa<sup>1</sup>, Keigo Takeda<sup>1</sup>, Hiroki Kondo<sup>1</sup>, Osamu Oda<sup>1</sup>, Makoto Sekine<sup>1</sup>, Masaru Hori<sup>1</sup>
- 
- 10:40-11:00  
18aA4 Surface Reactions of Si, SiO<sub>2</sub>, and Si<sub>3</sub>N<sub>4</sub> by Si<sup>+</sup> and Silicon Halide Ions (SiF<sub>x</sub><sup>+</sup>, SiCl<sub>x</sub><sup>+</sup>, and SiBr<sub>x</sub><sup>+</sup>)  
<sup>1</sup>Center for Atomic and Molecular Technologies, Osaka University  
°Kazuhiro Karahashi<sup>1</sup>, Hu Li<sup>1</sup>, Tomoko Ito<sup>1</sup>, Satoshi Hamaguchi<sup>1</sup>
- 
- 11:00-11:20  
18aA5 Feasibility of DBD Nitriding with Nitrogen-based Gases  
<sup>1</sup>Faculty of Engineering, Oita University  
°Ryuta Ichiki<sup>1</sup>, Takuto Tsuru<sup>1</sup>, Keiichi Kitamura<sup>1</sup>, Shuichi Akamine<sup>1</sup>, Seiji Kanazawa<sup>1</sup>
- 
- 11:20-11:40  
18aA6 Improvement of Adhesive Strength of Polytetrafluoroethylene by Atmospheric Pressure Glow Plasma Treatment at High Temperature  
<sup>1</sup>Department of Materials and Life Sciences, Faculty of Science and Technology, Sophia University, <sup>2</sup>Air Water R&D Co., Ltd.  
°Kiichi Furuse<sup>1</sup>, Yasushi Sawada<sup>2</sup>, Kazuo Takahashi<sup>1</sup>, Masuhiro Kogoma<sup>1</sup>, Kunihito Tanaka<sup>1</sup>

**Wednesday, Jan. 18, 2017, 9:20 – 11:40: プラズマ応用 : 農業など (18aB), Room B  
(Chair: Koichi Takaki, Iwate University)**

- 9:20-10:00  
18aB1  
(INVITED) Applications to Plants and Marine Products Industry Using Pulsed High Voltages and Plasmas  
<sup>1</sup>Institute of Pulsed Power Science, Kumamoto University  
°Douyan Wang<sup>1</sup>, Takao Namihira<sup>1</sup>, Hidenori Akiyama<sup>1</sup>
- 
- 10:00-10:20  
18aB2 Low Temperature Air Plasma Irradiation to Rice Seeds  
<sup>1</sup>Department of Electronics, Kyushu University  
°Masaharu Shiratani<sup>1</sup>, Thapanut Sarinont<sup>1</sup>, Yosuke Wada<sup>1</sup>, Kazunori Koga<sup>1</sup>
- 
- 10:20-10:40  
18aB3 Proliferative Effects of Nitric Oxide Radical Irradiation on Budding Yeast Cells  
<sup>1</sup>Graduate School of Science, Meijo University, <sup>2</sup>Institute of innovation for Future Society, Nagoya University  
°Masashi Okachi<sup>1</sup>, Jun-Seok Oh<sup>1</sup>, Hiroshi Hashizume<sup>2</sup>, Masaru Hori<sup>2</sup>, Masafumi Ito<sup>1</sup>

10:40-11:00 18aB4	Fluorescence Microscopy of Penicillium Digitatum Spores Irradiated with Oxygen Radicals <sup>1</sup> Faculty of Science and Technology, Meijo University, <sup>2</sup> Institute of Innovation for Future Society, Nagoya University <sup>o</sup> Yuta Tanaka <sup>1</sup> , Jun-Seok Oh <sup>1</sup> , Hiroshi Hashizume <sup>2</sup> , Takayuki Ohta <sup>1</sup> , Masaru Hori <sup>2</sup> , Masafumi Ito <sup>1</sup>
11:00-11:20 18aB5	UV Absorption Spectroscopy for Ozonated Water <sup>1</sup> School of Systems Engineering, <sup>4</sup> Center for Nanotechnology, Kochi University of Technology, <sup>2</sup> ORC Manufacturing Co.,Ltd., <sup>3</sup> Department of Electrical and Electronic Engineering, Meijo University <sup>o</sup> Keiya Hashida <sup>1</sup> , Kotaro Ogawa <sup>1</sup> , Hideki Yajima <sup>2</sup> , Jun-Seok Oh <sup>3</sup> , Akimitsu Hatta <sup>1,4</sup>
11:20-11:40 18aB6	Evaluation of Hydroxyl Radicals generated by Discharges inside Bubble in Water <sup>1</sup> Iwate University <sup>o</sup> Katsuyuki Takahashi <sup>1</sup> , Ryosuke Konno <sup>1</sup> , Koichi Takaki <sup>1</sup> , Naoya Satta <sup>1</sup>

**Wednesday, Jan. 18, 2017, 13:00 – 15:00: プラズマの素過程と計測 (18pA), Room A  
(Chair: Atsushi Komuro, Tohoku University)**

13:00-13:40 18pA1 (INVITED)	Discussion on Physics and Chemistry of Plasma-liquid Interface Predicted from Numerical Simulation <sup>1</sup> Graduate School of Science and Engineering, Tokyo Metropolitan University <sup>o</sup> Fumiyoshi Tochikubo <sup>1</sup>
13:40-14:00 18pA2	Trivelpiece Gould Mode Waves in Electron Cyclotron Resonance Etching Reactor <sup>1</sup> Kasado Design & Production Division, Hitachi High-Technologies Corporation, <sup>2</sup> Research & Development Group, Hitachi Ltd., <sup>3</sup> Division of Advanced Mechanical Systems Engineering, Institute of Engineering, Tokyo University of Agriculture and Technology <sup>o</sup> H. Tamura <sup>1</sup> , T. Tetsuka <sup>2</sup> , N. Tamari <sup>1</sup> , D. Kuwahara <sup>3</sup> , S. Shinohara <sup>3</sup>
14:00-14:20 18pA3	Numerical Investigation of the Energy Distribution of Ions Bombarding the RF-biased Substrate in an Inductively Coupled Plasma Reactor <sup>1</sup> Keisoku Engineering System Co., Ltd. <sup>o</sup> Lizhu Tong <sup>1</sup>
14:20-14:40 18pA4	Energy Dependence of Intensity Ratio between Nitrogen Spectral Lines of N II and N I from Atmospheric Air Spark of Static Electricity <sup>1</sup> National Institute of Occupational Safety and Health <sup>o</sup> Takashi Miura <sup>1</sup>
14:40-15:00 18pA5	Threshold Ionization Mass Spectrometry for Measuring Short-living Reactive Neutral Species in Atmospheric-pressure He Plasma Jet <sup>1</sup> Faculty of Science and Technology, Meijo University <sup>o</sup> Jun-Seok Oh <sup>1</sup> , Kazunori Iga <sup>1</sup> , Takayuki Ohta <sup>1</sup> , Mineo Hiramatsu <sup>1</sup> , Masafumi Ito <sup>1</sup>

**Wednesday, Jan. 18, 2017, 13:00 – 15:00: プラズマ応用：薄膜形成，表面改質 (18pB), Room B  
(Chair: Kosuke Takenaka, Osaka University)**

13:00-13:40 18pB1 (INVITED)	Bosch Process Etching with a Minimal Fab Process Chamber: Advantages and Outlook <sup>1</sup> SPP Technologies Co., Ltd. <sup>o</sup> Yoshiyuki Nozawa <sup>1</sup> , Toshiya Miyazaki <sup>1</sup> , Toshihiro Hayami <sup>1</sup>
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13:40-14:00 18pB2	High Frequency Pulsed DC Plasma CVD for DLC Films <sup>1</sup> Graduate School of Engineering, <sup>2</sup> School of Systems Engineering, <sup>3</sup> Center for Nanotechnology, Kochi University of Technology <sup>o</sup> Md Abdullah Al Mamun <sup>1</sup> , Shun Nagano <sup>2</sup> , Hiroshi Furuta <sup>1,2,3</sup> , Akimitsu Hatta <sup>1,2,3</sup>
14:00-14:20 18pB3	Effects of P-layer of PIN a-Si:H solar cells on Si-H <sub>2</sub> /Si-H bond ratio at P/I interface <sup>1</sup> Faculty of Information Science and Electrical Engineering, Kyushu University Kimitaka Keya <sup>1</sup> , Kasuma Tanaka <sup>1</sup> , Takashi Kojima <sup>1</sup> , Susumu Toko <sup>1</sup> , Daisuke Yamashita <sup>1</sup> , Hyunwoong Seo <sup>1</sup> , Naho Itagaki <sup>1</sup> , <sup>o</sup> Kazunori Koga <sup>1</sup> , Masaharu Shiratani <sup>1</sup>
14:20-14:40 18pB4	H Atom Generation and Loss Kinetics in Low-Pressure Processing Plasmas <sup>1</sup> National institute of advanced industrial science and technology (AIST), <sup>2</sup> Panasonic corporation, <sup>3</sup> Photovoltaic Power Generation Technology Research Association <sup>o</sup> Shota Nunomura <sup>1</sup> , Hirotaka Katayama <sup>2</sup> , Isao Yoshida <sup>3</sup>
14:40-15:00 18pB5	Plasma Surface Process of Cubic Boron Nitride Studied by Using Microscopic Single Crystals <sup>1</sup> Hokkaido University <sup>o</sup> Takahiro Tamura <sup>1</sup> , Takuya Takami <sup>1</sup> , Takashi Yanase <sup>1</sup> , Taro Nagahama <sup>1</sup> , Toshihiro Shimada <sup>1</sup>

### Monday, Jan. 16, 2017, 16:00 – 17:20: Poster Session 1, Room P

P1-1	Effects of Ambient Gases on Atomic Oxygen Flux from an Atmospheric Pressure Plasma Jet on a Flowing Medium <sup>1</sup> Graduate School of Engineering, Osaka City University <sup>o</sup> Tatsuru Shirafuji <sup>1</sup>
P1-2	Feasibility Study of Monitoring of Inner Wall Condition of Mass-production Plasma Etching Equipment by Using Load Impedance Monitoring System <sup>1</sup> Advanced Manufacturing Research Institute, National Institute of Advanced Industrial Science and Technology (AIST) <sup>o</sup> Yuji Kasashima <sup>1</sup> , Fumihiko Uesugi <sup>1</sup>
P1-3	Surface Charge Measurement on Dielectric Barrier Discharge Using Bismuth Silicon Oxide and Dielectric Constant of Bismuth Silicon Oxide <sup>1</sup> Department of Electrical Engineering and Computer Science, Iwate University <sup>o</sup> Riki Yoha <sup>1</sup> , Keita Kikuchi <sup>1</sup> , Seiji Mukaigawa <sup>1</sup> , Koichi Takaki <sup>1</sup>
P1-4	Resonance Mode Analysis of Cavity-ringdown Spectroscopy Including Inhomogeneous Medium Using Modified Fundamental Solution <sup>1</sup> Graduate School of Engineering, Hokkaido University, <sup>2</sup> Faculty of Engineering, Hokkaido University <sup>o</sup> Kazutoshi Matsubara <sup>1</sup> , Satoshi Tomioka <sup>2</sup> , Koichi Sasaki <sup>2</sup>
P1-5	Bacteria Sterilization by Laser Ablated Plasma using Several Metal and Metal-Oxide Targets <sup>1</sup> National Institute of Technology, Sasebo College, <sup>2</sup> National Institute of Technology, Ishikawa College <sup>o</sup> Hiroharu Kawasaki <sup>1</sup> , Yoshihito Yagyu <sup>1</sup> , Tamiko Ohshima <sup>1</sup> , Takeshi Ihara <sup>1</sup> , Yoshiaki Suda <sup>2</sup>



P1-6	<p>Influence Pulsed Voltage Biasing upon Titanium Deposition by High-Power Pulsed Sputtering Penning Discharge</p> <p><sup>1</sup>Graduate School of Engineering, University of Hyogo, <sup>2</sup>Graduate School of Engineering, Nagoya Institute of Technology, <sup>3</sup>Chubu Center, Advanced Industrial Science and Technology</p> <p>°Kingo Azuma<sup>1</sup>, Yuma Kusuhashi<sup>1</sup>, Ryo Nagai<sup>1</sup>, Yoshihiro Oka<sup>1</sup>, Takashi Kimura<sup>2</sup>, Setsuo Nakao<sup>3</sup></p>
P1-7	<p>Electromagnetic Field Simulation of Modified Ridge Waveguide for Long Line Plasma Production</p> <p><sup>1</sup>School of Engineering, Nagoya University, <sup>2</sup>Tokyo Electron Ltd.</p> <p>°Yuto Tamura<sup>1</sup>, Haruka Suzuki<sup>1</sup>, Yaoki Inomata<sup>1</sup>, Hitoshi Itoh<sup>1,2</sup>, Makoto Sekine<sup>1</sup>, Masaru Hori<sup>1</sup>, Hirotaka Toyoda<sup>1</sup></p>
P1-8	<p>Size Control of Gold Nanoparticles Synthesized by Atmospheric H<sub>2</sub>/Ar Plasma Jet Operated in Open Air</p> <p><sup>1</sup>Nanomaterials Research Institute, Department of Materials and Chemistry, National Institute of Advanced Industrial Science and Technology</p> <p>°Yoshiki Shimizu<sup>1</sup></p>
P1-9	<p>Effect of Dispersing Agent on the Synthesis of Copper Nanoparticles Using Gas-liquid Interface Plasma</p> <p><sup>1</sup>Graduate School of Electrical and Electronic Engineering, Meijo University, <sup>2</sup>Institute of Innovation for Future Society, Nagoya University</p> <p>°Akira Ito<sup>1</sup>, Takayuki Ohta<sup>1</sup>, Masaru Hori<sup>2</sup></p>
P1-10	<p>Enhancement of Organic Decomposition Efficiency by High-flow-speed In-line Microwave Plasma Treatment</p> <p><sup>1</sup>Faculty of Engineering, Nagoya University, <sup>2</sup>Plasma Center for Industrial Applications, Nagoya Industrial Promotion Corp., <sup>3</sup>Plasma Nanotechnology Research Center, Nagoya University</p> <p>°Kazuki Tsutsumi<sup>1</sup>, Sho Takitou<sup>1</sup>, Shohei Fujimura<sup>1</sup>, Michiko Ito<sup>1,2</sup>, Seigou Takashima<sup>2</sup>, Haruka Suzuki<sup>1</sup>, Hirotaka Toyoda<sup>1,3</sup></p>
P1-11	<p>Reaction Process of Perfluorooctanesulfonic Acid (PFOS) Decomposed by Diaphragm Discharge</p> <p><sup>1</sup>Electrical and Electronic Engineering, Tokyo Institute of Technology</p> <p>°Hikaru Eto<sup>1</sup>, Nozomi Takeuchi<sup>1</sup></p>
P1-12	<p>Selective Production of H<sub>2</sub>O<sub>2</sub> and NO<sub>2</sub><sup>-</sup> in Cell Culture Medium Exposed to Nonthermal Plasma Jet</p> <p><sup>1</sup>Joining and Welding Research Institute, Osaka University, <sup>2</sup>Graduate School of Medicine, Osaka University</p> <p>°Giichiro Uchida<sup>1</sup>, Taiki Ito<sup>1</sup>, Kosuke Takenaka<sup>1</sup>, Junichiro Ikeda<sup>2</sup>, and Yuichi Setsuhara<sup>1</sup></p>
P1-14	<p>Measurement of Energy Flux to Substrate in High Power Impulse Magnetron Sputtering by Using Non-Contact Type Temperature Measurement Method</p> <p><sup>1</sup>Graduate School of Science and Technology, Meijo University, <sup>2</sup>Faculty of Engineering, Chiba Institute of Technology, <sup>3</sup>Faculty of Engineering, Gifu University</p> <p>°Katsuhiro Hattori<sup>1</sup>, Takayuki Ohta<sup>1</sup>, Akinori Oda<sup>2</sup>, Hiroyuki Kousaka<sup>3</sup></p>
P1-15	<p>Comparison of Glancing-angle Reactive Evaporation and Sputtering Processes by a Monte-Carlo Simulation</p> <p><sup>1</sup>Faculty of Engineering, Chiba Institute of Technology, <sup>2</sup>Graduate School of Engineering, Hokkaido University, <sup>3</sup>Materials and Surface Engineering Research Institute, Kanto Gakuin University</p> <p>°Yasushi Inoue<sup>1,2</sup>, Akihiro Nakao<sup>2</sup>, Hiroki Izumisawa<sup>1</sup>, Osamu Takai<sup>3</sup></p>

P1-16	<p>The Effect of Dopant Element in Amorphous Carbon Thin Film on Blood Compatible Properties</p> <p><sup>1</sup>Graduate School of Science and Technology, Keio University, <sup>2</sup>School of Medicine, Tokai University</p> <p>°Shunto Maegawa<sup>1</sup>, Terumitsu Hasebe<sup>1,2</sup>, Masamitsu Nakayama<sup>1</sup>, Tomohiro Matsumoto<sup>1,2</sup>, Tetsuya Suzuki<sup>1</sup></p>
P1-17	<p>Electrical Characteristics of High Power Pulsed Magnetron Sputtering System with a Configuration of Hollow-Type Target</p> <p><sup>1</sup>Graduate School of Engineering, Nagoya Institute of Technology</p> <p>°Takashi Kimura<sup>1</sup>, Toshihiko Mishima<sup>1</sup></p>
P1-18	<p>Surface Modification of Teflon<sup>®</sup> by Atmospheric Pressure Plasma Jet with Ion Bombardment Effect</p> <p><sup>1</sup>Graduate School of INtegrated Science and Technology, Department of Engineering, Shizuoka University, <sup>2</sup>Graduate School of Science and Technology, Shizuoka University, <sup>3</sup>Research Institute of Electronics, Shizuoka University</p> <p>°Masahiro Kimpara<sup>1</sup>, Tomy Abuzairi<sup>2</sup>, Masaaki Nagatsu<sup>1,2,3</sup></p>
P1-19	<p>Optimization of Plasma Parameters and Quantitative Analysis of Carboxyl Functionalization of Graphite-encapsulated Magnetic Nanoparticles by Ar/H<sub>2</sub>O RF Plasma</p> <p><sup>1</sup>Graduate School of Integrated Science and Technology, Department of Engineering, Shizuoka University, <sup>2</sup>Graduate School of Science and Technology, Shizuoka University, <sup>3</sup>Research Institute of Electronics, Shizuoka University</p> <p>°Takuya Omura<sup>1</sup>, Anchu Viswan<sup>2</sup>, Masaaki Nagatsu<sup>1,2,3</sup></p>
P1-20	<p>Development of Diamond-like Carbon Film Preparation Technique Using High-repetition Nanosecond Pulsed Discharge Plasmas at Sub-atmospheric Pressure</p> <p><sup>1</sup>Graduate School of Engineering, University of Hyogo, <sup>2</sup>Kurita Seisakusho Co. Ltd.</p> <p>°Masataka Ogura<sup>1</sup>, Yusuke Kikuchi<sup>1</sup>, Akira Otsubo<sup>2</sup>, Yoshimi Nishimura<sup>2</sup>, Masayoshi Nagata<sup>1</sup>, Mitsuyasu Yatsuzuka<sup>1</sup></p>
P1-21	<p>Surface Plasmon Resonance Property of Aminated Graphite-encapsulated Gold Nanoparticles Fabricated by DC Arc Discharge Method</p> <p><sup>1</sup>Graduate School of Integrated Science and Technology, Department of Engineering, Shizuoka University, <sup>2</sup>Graduate School of Science and Technology, S, <sup>3</sup>Research Institute of Electronics, Shizuoka University</p> <p>°Taiki Furukawa<sup>1</sup>, Rui Hu<sup>2</sup>, Masaaki Nagatsu<sup>1,3</sup></p>
P1-22	<p>Preliminary Experiments of Nanostructure Formation on Metal Surfaces by Using High-repetition Pulsed Helium Plasma Irradiation Under Sub-atmospheric Pressure</p> <p><sup>1</sup>Graduate School of Engineering, University of Hyogo</p> <p>°Yusuke Kikuchi<sup>1</sup>, Masataka Ogura<sup>1</sup>, Masayoshi Nagata<sup>1</sup></p>
P1-23	<p>Irradiation of Dielectric Barrier Discharge Plasma to Lipid Bilayers Containing Cholesterol</p> <p><sup>1</sup>Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, <sup>2</sup>Department of Environmental and Life Sciences, Toyohashi University of Technology, <sup>3</sup>Electronics-Inspired Interdisciplinary Research Institute, Toyohashi University of Technology</p> <p>°Yoshiyuki Suda<sup>1</sup>, Kota Yusa<sup>1</sup>, Hirofumi Kurita<sup>1</sup>, Akira Mizuno<sup>1</sup>, Toru Harigai<sup>1</sup>, Hirofumi Takikawa<sup>1</sup>, Ryugo Tero<sup>2,3</sup></p>

P1-24	Gene Expression of Plant Seeds Irradiated by Active Oxygen Species Generated in Oxygen RF Plasma <sup>1</sup> Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, <sup>2</sup> Department of Bioscience and Biotechnology, Faculty of Agriculture, Kyushu University, <sup>3</sup> Department of Oral and Maxillofacial Surgery, Faculty of Medicine, Saga University <sup>o</sup> Riku Nakano <sup>1</sup> , Kosuke Tashiro <sup>2</sup> , Reona Aijima <sup>3</sup> , Nobuya Hayashi <sup>1</sup>
P1-25	Selective Treatment of Oral Cancer Cell Using Active Oxygen Species in Torch DBD Plasma <sup>1</sup> Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, <sup>2</sup> Faculty of Medicine, Saga University <sup>o</sup> Yukie Miyamaru <sup>1</sup> , Keisuke Mine <sup>1</sup> , Nobuya Hayashi <sup>1</sup> , Reona Aijima <sup>2</sup> , Yoshio Yamashita <sup>2</sup>
P1-26	Surface Sterilization Using LF-Microwave Hybrid Plasma <sup>1</sup> Department of Electrical And Electronics Engineering, University of Ryukyu, <sup>2</sup> Interdisciplinary Graduate School of Engineering, Kyusyu University <sup>o</sup> Norihito Abe <sup>1</sup> , Tatuya Nishikawa <sup>1</sup> , Akira Yonesu <sup>1</sup> , Hanako Nobuya Hyashi <sup>2</sup>
P1-27	Influence of Plasma Irradiation on Silkworm <sup>1</sup> Faculty of Engineering, Ryukyu University, <sup>2</sup> Graduate School of Information Science and Electrical Engineering, Kyushu University, <sup>3</sup> Interdisciplinary Graduate School of Engineering Science, Kyushu University <sup>o</sup> Akira Yonesu <sup>1</sup> , Kazunori Koga <sup>2</sup> , Masaharu Shiratani <sup>2</sup> , Nobuya Hayashi <sup>3</sup>
P1-28	Si Nanoparticles Fabricated by Multi-hollow Discharge Plasma Chemical Vapor Deposition and their Photovoltaic Application <sup>1</sup> Graduate School of Information Science and Electrical Engineering <sup>o</sup> Daisuke Sakamoto <sup>1</sup> , Hakutatsu Chou <sup>1</sup> , Sota Tanami <sup>1</sup> , Hyunwoong Seo <sup>1</sup> , Naho Itagaki <sup>1</sup> , Kazunori Koga <sup>1</sup> , Masaharu Shiratani <sup>1</sup>
P1-29	Self-organization in Sub-atmospheric Pressure Dielectric Barrier Discharge and Control of Lattice Spacing <sup>1</sup> Iwate University, <sup>2</sup> Soft-Path Engineering Research Center (SPERC), Iwate University, <sup>3</sup> Hachinohe National Collage of Technology <sup>o</sup> Seiji Mukaigawa <sup>1,2</sup> , Takaharu Kamada <sup>3</sup> , Takuya Kameyama <sup>1</sup> , Atsuya Yokota <sup>1</sup> , Kyohei Oguni <sup>1</sup> , Koichi Takaki <sup>1,2</sup>
P1-30	Numerical Analysis of Quantum-mechanical Non-uniform E×B Drift <sup>1</sup> Graduate School of Engineering, Hokkaido University, <sup>2</sup> Faculty of Engineering, Hokkaido University <sup>o</sup> Wataru Kosaka <sup>1</sup> , Shun-ichi Oikawa <sup>2</sup> , Poh Kam Chan <sup>1</sup>
P1-31	Pulse-frequency Dependence on Nano and Submicrometer Spherical Particles Synthesized by Pulsed Laser Melting in Liquid <sup>1</sup> Faculty of Engineering, Hokkaido University, <sup>2</sup> Department of Gigaphoton Next GLP, Kyushu University, <sup>3</sup> Interdisciplinary Graduate School of Science and Engineering, Shimane University, <sup>4</sup> Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology <sup>o</sup> Shota Sakaki <sup>1</sup> , Hiroshi Ikenoue <sup>2</sup> , Takeshi Tsuji <sup>3</sup> , Yoshie Ishikawa <sup>4</sup> , Naoto Koshizaki <sup>1</sup>
P1-32	Influence of Pulsed Electric Field Application on Enzyme Activity in Unpasteurized Sake (Namazake) <sup>1</sup> Iwate University, <sup>2</sup> Washino Co., Ltd. <sup>o</sup> Taro Yaegashi <sup>1</sup> , Takamasa Okumura <sup>1</sup> , Katsuyuki Takahashi <sup>1</sup> , Koichi Takaki <sup>1</sup> , Bunei Syuto, Tomo Kudo <sup>2</sup>

- P1-33 Influence of Oxygen Concentration on Ethylene Removal Using Dielectric Barrier Discharge  
<sup>1</sup>Iwate University, <sup>2</sup>Iwate University  
 °Takuma Motodate<sup>1</sup>, Junki Nishimura<sup>1</sup>, Katsuyuki Takahashi<sup>1</sup>, Koichi Takaki<sup>1</sup>, Shoji Koide<sup>2</sup>
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- P1-34 Plasma-induced Synthesis of ZnO Spheroidized Particles in Microdroplets  
<sup>1</sup>Graduate School of Frontier Sciences, Tokyo University, <sup>2</sup>Graduate School of Engineering, Osaka University, <sup>3</sup>Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology  
 °Masanao Tsumaki<sup>1,2</sup>, Yoshiki Shimizu<sup>3</sup>, Tsuyohito Ito<sup>1,2</sup>
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**Tuesday, Jan. 17, 2017, 16:00 – 17:20: Poster 2, Room P**

- P2-1 Effect of Electrode Configuration on Heat Flux of the Atmospheric Pressure Plasma Jet  
<sup>1</sup>Radiation research Center, Osaka Prefecture University  
 °Hiroto Matsuura<sup>1</sup>, Yasuki Okuno<sup>1</sup>, Takatomo Fujiyama<sup>1</sup>, Masakazu Furuta<sup>1</sup>
- 
- P2-2 OES Measurements of Electron Temperature of Atmospheric-Pressure Microwave Discharge Argon Plasma — CR Model-Assisted Line-Intensity Measurement and Continuum Measurement  
<sup>1</sup>Inst. Innovative Research, Tokyo Technology, <sup>2</sup>Faculty of Education, Miyazaki University, <sup>3</sup>Department of Physics, Faculty of Science, Assiut University  
 °Hiroshi Akatsuka<sup>1</sup>, Toshifumi Yuji<sup>2</sup>, Reda A. El-Koramy<sup>1,3</sup>
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- P2-3 Sensitivity of Polarization Spectroscopy at the Balmer- $\alpha$  Line of Atomic Hydrogen  
<sup>1</sup>Faculty of Engineering, Hokkaido University  
 °Kotaro Kawakami<sup>1</sup>, Shusuke Nishiyama<sup>1</sup>, Koichi Sasaki<sup>1</sup>
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- P2-4 Electron Density Measurement of Argon-containing Plasma by Saturation Spectroscopy  
<sup>1</sup>Faculty of Engineering, Hokkaido University  
 °Shusuke Nishiyama<sup>1</sup>, Huimin Wang<sup>1</sup>, Koichi Sasaki<sup>1</sup>
- 
- P2-5 Generation of High-density Plasma by High Voltage Burst Pulse  
<sup>1</sup>Iwate University  
 °Shinnosuke Konno<sup>1</sup>, Katsuyuki Takahashi<sup>1</sup>, Seiji Mukaigawa<sup>1</sup>, Koichi Takaki<sup>1</sup>
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- P2-6 Advanced Deposition of Photo-catalytic TiO<sub>2</sub> Film for Photo Electronics by 1kW Class Atmospheric Plasma Spray Equipment  
<sup>1</sup>Graduate school of Engineering, Ashikaga Institute of Technology, <sup>2</sup>Faculty of Engineering, Ashikaga Institute of Technology  
 °Ifeanacho Anyadiegwu<sup>1</sup>, Dickson Kindole<sup>1</sup>, Yoshimasa Noda<sup>2</sup>, Yasutaka Ando<sup>2</sup>
- 
- P2-7 Dependence of Excitation Temperature on Applied Voltage Frequency in Atmospheric-Pressure Plasma Jet  
<sup>1</sup>Graduate School of Science and Technology, Niigata University  
 °Kiyoyuki Yambe<sup>1</sup>, Sumihiro Muraoka<sup>1</sup>, Seiya Abe<sup>1</sup>
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- P2-8 Comparison of Pulsed Positive Streamers under High Temperatures and Low Pressures with Equivalent E/n  
<sup>1</sup>Faculty of Engineering, The University of Tokyo, <sup>2</sup>Graduate School of Frontier Sciences, The University of Tokyo  
 Yuta Ishikawa<sup>1</sup>, °Kazuaki Ogura<sup>2</sup>, Ryo Ono<sup>2</sup>
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- P2-9 Diagnostics of Air-plasma-treated Water Using Fluorescent Reagents  
<sup>1</sup>Graduate School of Engineering, Osaka City University, <sup>2</sup>Panasonic  
 °Kentaro Nishimoto<sup>1</sup>, Shin-ichi Imai<sup>2</sup>, Tatsuru Shirafuji<sup>1</sup>
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P2-10	Measurement and Rate-equation Analysis of Reactive Oxygen/nitrogen Species in Water Under Pulsed Discharge Exposure <sup>1</sup> Muroran Institute of Technology, <sup>2</sup> University of Strathclyde <sup>○</sup> Kazuhiro Takahashi <sup>1</sup> , Satoru Kawaguchi <sup>1</sup> , Kohki Satoh <sup>1</sup> , Hidenori Itoh <sup>1</sup> , Hideki Kawaguchi <sup>1</sup> , Igor Timoshkin <sup>2</sup> , Martin Given <sup>2</sup> , Scott MacGregor <sup>2</sup>
P2-11	Atmospheric-pressure DC Glow Discharge Surrounded by Mist Flow <sup>1</sup> Graduate School of Science and Engineering, Tokyo Metropolitan University, <sup>2</sup> Graduate School of Engineering, Hokkaido University Tomoyuki Tanaka <sup>1</sup> , Naoki Shirai <sup>2</sup> , Satoshi Uchida <sup>1</sup> , <sup>○</sup> Fumiyoshi Tochikubo <sup>1</sup>
P2-12	Development of In-liquid Plasma Device with Cavitation Bubble generated by Swiftly Moving Rotor <sup>1</sup> Graduate School of Engineering, University of Hyogo, <sup>2</sup> Nihon Spindle Mfg. Co., Ltd., <sup>3</sup> KURITA Seisakusho Co., Ltd., <sup>4</sup> Dainichi Seisakusho Co., Ltd., <sup>5</sup> PLUS Co., Ltd. <sup>○</sup> Yoshihiro Oka <sup>1</sup> , Kohei Sawachika <sup>1</sup> , Keiichiro Ohnishi <sup>2</sup> , Keiichi Asami <sup>2</sup> , Mitsuhiro Suyama <sup>3</sup> , Yoshimi Nishimura <sup>3</sup> , Tomohiro Hashimoto <sup>4</sup> , Katsuhiko Yonezawa <sup>5</sup> , Mitsuyasu Yatsuzuka <sup>1</sup>
P2-13	Improvement of Sliding Properties of DLC-coated Plastics Prepared by PLD and P-CVD Combination Process <sup>1</sup> Technology Center, Mitsui Engineering & Shipbuilding Co., Ltd., <sup>2</sup> Industrial Technology Center of Okayama Prefecture <sup>○</sup> Kazuki Takizawa <sup>1</sup> , Shinsuke Kunitsugu <sup>2</sup>
P2-14	Influence of pulse width on DLC films deposited by HiPIMS <sup>1</sup> Iwate University <sup>○</sup> Hironori Dendo <sup>1</sup> , Katsuyuki Takahashi <sup>1</sup> , Seizi Mukaigawa <sup>1</sup> , Koichi Takaki <sup>1</sup>
P2-15	Effect of Target Voltage on Formation of Diamond-like Carbon Film Using High Power Impulse Magnetron Sputtering <sup>1</sup> Graduate school of Science and Technology, Meijo University, <sup>2</sup> Department of Electrical and Electronics Engineering, Chiba Institute of Technology, <sup>3</sup> Department of Mechanical Engineering, Gifu University <sup>○</sup> Atsushi Ishikawa <sup>1</sup> , Ohta Takayuki <sup>1</sup> , Akinori oda <sup>2</sup> , Hiroyuki Kousaka <sup>3</sup>
P2-16	Impact of Low-energy Ions on Plasma Deposition of Cubic Boron Nitride Films for Electrical Applications <sup>1</sup> Interdisciplinary Graduate School of Engineering Sciences, Kyushu University <sup>○</sup> Kazuma Murata <sup>1</sup> , Manabu Ishida <sup>1</sup> , Kungen Teii <sup>1</sup> , Seiichiro Matsumoto <sup>1</sup>
P2-17	Properties of DLC Films having posttreatment by Plasma Based Nitrogen Ion Implantation Method <sup>1</sup> Graduate School of Engineering, Nagoya Institute of Technology, <sup>2</sup> National Institute of Advanced Industrial Science and Technology, <sup>3</sup> Department of Electrical Materials and Engineering, University of Hyogo <sup>○</sup> Takashi Kimura <sup>1</sup> , Hidekazu Yanai <sup>1</sup> , Setsuo Nakao <sup>2</sup> , Kingo Azuma <sup>3</sup>
P2-18	Structure Control of Carbon Nanowalls Formed Using Inductively Coupled Plasma-enhanced Chemical Vapor Deposition <sup>1</sup> Meijo University, <sup>2</sup> Nagoya University Takuya Suzuki <sup>1</sup> , Hitoshi Nozaki <sup>1</sup> , Mineo Hiramatsu <sup>1</sup> , <sup>○</sup> Masakazu Tomatsu <sup>2</sup> , Hiroki Kondo <sup>2</sup> , Masaru Hori <sup>2</sup>

P2-19	Adhesion Property between Resin and Aluminum Surface-treated by Atmospheric Pressure Plasma Jet <sup>1</sup> Graduate School of Integrated Science and Technology, Shizuoka University, <sup>2</sup> Graduate School of Science and Technology, Shizuoka University <sup>o</sup> Hiroto Nito <sup>1</sup> , Masaaki Nagatsu <sup>1,2</sup>
P2-20	Spatial Variation of Heat Flux in a VHF-superposed DC Magnetron Plasma with Indium-Tin-Oxide Target <sup>1</sup> School of Engineering, Nagoya University, <sup>2</sup> Plasma Nanotechnology Research Center, Nagoya University <sup>o</sup> Hansin Bae <sup>1</sup> , Taku Suyama <sup>1</sup> , Haruka Suzuki <sup>1</sup> , Hirotaka Toyoda <sup>1,2</sup>
P2-21	Formation of High-mobility IGZO Thin Film Transistors Using ICP-enhanced Reactive Sputter Deposition <sup>1</sup> Joining and Welding Research Institute, Osaka University, <sup>2</sup> EMD Corporation <sup>o</sup> Yuichi Setsuhara <sup>1</sup> , Masashi Endo <sup>1</sup> , Kosuke Takenaka <sup>1</sup> , Akinori Ebe <sup>2</sup>
P2-22	Study of Thermionic Emission on Semiconductor Obtained by Adsorption of Cs on Plasma Treated Surface <sup>1</sup> Graduate School of Engineering, Shizuoka University <sup>o</sup> Akihisa Ogino <sup>1</sup> , Takatoshi Watanabe <sup>1</sup> , Yoshiki Nakano <sup>1</sup> , Jumpei Suzuki <sup>1</sup>
P2-23	Effect of Substrate Temperature in Nitriding of SiC Surface Using a Remote Nitrogen Plasma <sup>1</sup> Division of Quantum Science and Engineering, Hokkaido University, <sup>2</sup> Toshiba corp. resident at Imec <sup>o</sup> Masaharu shimabayashi <sup>1</sup> , Kazuaki Kurihara <sup>2</sup> , Koichi Sasaki <sup>1</sup>
P2-24	Large Size Synthesis of Single Crystal and Monolayer WS <sub>2</sub> with Rapid Cooling CVD <sup>1</sup> Department of Electronic Engineering, Tohoku University <sup>o</sup> Chao Li <sup>1</sup> , Toshiro Kaneko <sup>1</sup> , Toshiaki Kato <sup>1</sup>
P2-25	Inactivation Mechanism of Oral Cancer Cell Irradiated by Oxygen DBD Plasma <sup>1</sup> Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, <sup>2</sup> Faculty of Medicine, Saga University <sup>o</sup> Keisuke Mine <sup>1</sup> , Yukie Miyamaru <sup>1</sup> , Nobuya Hayashi <sup>1</sup> , Reona Aijima <sup>2</sup> , Yukio Yamashita <sup>2</sup> , Masaaki Goto <sup>2</sup>
P2-26	Surface Sterilization Using Electron Cyclotron Resonance Plasma <sup>1</sup> Department of Electrical and electronics Engineering, University of the Ryukyus, <sup>2</sup> Interdisciplinary Graduate School of Engineering Science, Kyushu University <sup>o</sup> Tatsuya Nishikawa <sup>1</sup> , Norihito Abe <sup>1</sup> , Akira Yonesu <sup>1</sup> , Nobuya Hayashi <sup>2</sup>
P2-27	Theoretical Consideration on Methane Production Using Plasma on Mars <sup>1</sup> Electronics and Engineering, Kyushu University <sup>o</sup> Susumu Toko <sup>1</sup> , Satoshi Tanida <sup>1</sup> , Kazunori Koga <sup>1</sup> , Masaharu Shiratani <sup>1</sup>
P2-28	Size-selective Nanoparticle Fabrication Utilizing Particle Vaporization Conditions for Pulsed Laser Melting in Liquid <sup>1</sup> Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology, <sup>2</sup> Graduate School of Engineering, Hokkaido University <sup>o</sup> Yoshie Ishikawa <sup>1</sup> , Naoto Koshizaki <sup>2</sup>

- P2-29 Study on Deuterium Retention Behavior in Helium-irradiated Tungsten Using Two-dimensional Observation of Retained Deuterium  
<sup>1</sup>Faculty of Engineering, Hokkaido University, <sup>2</sup>The Graduate University for Advanced Studies SOKENDAI, <sup>3</sup>Isotope imaging laboratory, Creative Research Institution, Hokkaido University  
°Yuji Nobuta<sup>1</sup>, Gaku Yamazaki<sup>2</sup>, Yuji Yamauchi<sup>1</sup>, Naoto Koshizaki<sup>1</sup>, Naoya Sakamoto<sup>3</sup>
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- P2-30 Internal Composite Structures of Au-Fe Submicrometer Spherical Particles Fabricated by Pulsed Laser Melting in Liquid  
<sup>1</sup>Graduate School of Engineering, Hokkaido University, <sup>2</sup>Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology  
Hokuto Fuse<sup>1</sup>, Yoshie Ishikawa<sup>2</sup>, °Naoto Koshizaki<sup>1</sup>
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- P2-31 Investigation of Liquid Droplet Charges in Capacitively-Coupled Plasma  
<sup>1</sup>Graduate School of Technology, Chubu University  
°Makoto Moriyama<sup>1</sup>, Keiji Nakamura<sup>1</sup>, Daisuke Ogawa<sup>1</sup>
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- P2-32 Inactivation of *Ralstonia solanacearum* Using Discharge under Culture Solution in Hydroponics  
<sup>1</sup>Faculty of Science and Engineering, Iwate University, <sup>2</sup>Faculty of Agriculture, Iwate University, <sup>3</sup>Iwate Agricultural Research Center  
°Yoshinori Saito<sup>1</sup>, Kohei Takano<sup>1</sup>, Takamasa Okumura<sup>1</sup>, Katsuyuki Takahashi<sup>1</sup>, Koichi Takaki<sup>1</sup>, Naoya Satta<sup>2</sup>, Takuya Fujio<sup>3</sup>
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- P2-33 Low-temperature Disinfection of Granulated and Powdered Foods Using Non-equilibrium Atmospheric Pressure Plasma  
<sup>1</sup>Graduate School of Engineering, Shizuoka University, <sup>2</sup>Kumeta Seisakusyo, <sup>3</sup>Research Institute of Electronics, Shizuoka University  
°Syuhei Hamajima<sup>1</sup>, Naohisa Kawamura<sup>2</sup>, Kohei Sato<sup>1</sup>, Nobuyuki Mase<sup>1</sup>, Masaaki Nagatsu<sup>1,3</sup>
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