Poster session 2 March 18 (MON) 16:45-18:30	
18P2-01	Mechanical Properties of Sputtered Cr-Si-N Coatings  ¹Yu-Heng Liu and ¹Yung-I Chen  National Taiwan Ocean University
18P2-02	Silicon Deposition on Tokamak Wall during Plasma Discharge of HL-2A Xiangmei Huang, Chengzhi Cao, Zeng Cao, Xiaoyan Gao, Yi Hu, Xiao Cai and Chenghe Cui Southwestern Institute of Physics
18P2-03	Effect of Modulation Structure on the Performance of Crn/Cralsin Thin Films Prepared by High Power Impulse Magnetron Sputtering Chun-Hong Huang and Chi-Lung Chang Ming Chi University of Technology
18P2-04	Optimization of Sputtering and Thermal Evaporation Parameters for Synthesis of a Nickel-Titanium Alloy Film Oliver Streeter, Ivan Culaba and Christian Mahinay Ateneo de Manila University
18P2-05	Magnetron Sputtering of Lanthanum Strontium Cobaltite Interlayer for Solid Oxide Fuel Cells <sup>1</sup> Egor Smolyanskiy, <sup>2</sup> Igor Ionov, <sup>2</sup> Anna Shipilova and <sup>2</sup> Andrey Solovyev <sup>1</sup> Tomsk Polytechnic University <sup>2</sup> Institute of High Current Electronics SB RAS, Russia
18P2-06	Coloration and Mechanical Property Evaluation of $TiN_xO_y$ Coatings Grown by a Superimposed High Power Impulse and Medium Frequency Magnetron Sputtering $^1$ Pei-Jen Tsai and $^{1,2}$ Jyh-Wei Lee $^1$ Ming Chi University of Technology $^2$ Chang Gung University
18P2-07	Deposition of Aluminum Carbide Thin Films Using a DC Magnetron Sputtering System Rafael Alexander Carreon, Christian Lorenz Mahinay, Paz Victoria Ramos, Jarl Tynan Collado, Juan Gabriel Troncales and Franulfo Dela Cruz Ateneo de Manila University
18P2-08	Electroplating Nickel using a Deep Eutectic Solution Peng Kun-Cheng and Wang Wei-chun Ming Chi University of Technology
18P2-09	Structural Analysis of Copper Electroplating Material Prepared by Deep-eutectic Solvent Peng Kun-Cheng and Yang Li-jue

# 18P2-11 A P2O5 Nanoparticles Humidity Sensor Prepared by Hot-Wire CVD

<sup>1</sup>Shih-Mao Lin, <sup>1</sup>Shoou-Jinn Chang and <sup>2</sup>Ting-Jen Hsueh

<sup>1</sup>National Cheng Kung University

Ming Chi University of Technology

<sup>2</sup>National Kaohsiung University of Science and Technology

# 18P2-12 Optical Emission Analysis of Low Pressure Octafluorocyclobutane Plasma

Polymerization Processing

Chao-Yi Chang, Chih-Wei Chien and Chun Huang

Yuan Ze University

#### 18P2-13 Glow Characterization of RF Capacitive Couple C<sub>2</sub>H<sub>2</sub>F<sub>4</sub> Plasma Processing

Chih-Wei Chien, Chao-Yi Chang and Chun Huang

Yuan Ze University

# 18P2-14 Fabrication of Hydrophobic Fluorocarbon Film by 13.56 MHz C<sub>3</sub>F<sub>8</sub> Plasma Chemical

Vapor Deposition

Yi-An Chen and Chun Huang

Yuan Ze University

# 18P2-15 Effect of Interfacial Properties of PEALD-TiN on the Corrosion Protection of

Metallic Bipolar Plates of PEMFCs

Se Hun Kwon and Woo Jae Lee

Pusan National University

#### 18P2-16 Silicon Wafer Etching by Burst-mode High-power ICP with 150 kHz Frequency Band

<sup>1</sup>Kodai Shibata, <sup>1</sup>Yuma Saito, <sup>1</sup>Katsuyuki Takahashi, <sup>1</sup>Seiji Mukaigawa, <sup>1</sup>Koichi Takaki,

<sup>1</sup>Ken Yukimura, <sup>2</sup>Hisato Ogiso and <sup>2</sup>Shizuka Nakano

<sup>1</sup>Iwate University

<sup>2</sup>National Institute of Advanced Industrial Science and Technology (AIST)

#### 18P2-17 Fluorine-Plasma Etching Behavior of Sputter-Deposition Yttrium Fluoride Film

<sup>1</sup>Wei-Kai Wang, <sup>2</sup>Tzu-Ken Lin and <sup>2</sup>Dong-Sing Wuu

<sup>1</sup>Da-Yeh University

<sup>2</sup>National Chung Hsing University

# 18P2-18 Reduce Graphene Oxide (rGO)-Polyaniline (PANI)-Chitosan (CS) Supercapacitor with

Carbon Cloth Substrate Treated by Scan-mode Atmospheric-Pressure-Plasma-Jet

<sup>1,2</sup>Yi-Chen Cheng, <sup>1</sup>I-Chun Cheng, <sup>1</sup>Cheng-Che Hsu and <sup>1,2</sup>Jian-Zhang Chen

<sup>1</sup>National Taiwan University

<sup>2</sup>Advanced Research Center for Green Materials Science and Technology

#### 18P2-19 Nitrogen DC-pulse Atmospheric-pressure Plasma Jet (APPJ)-Synthesized PtFeOx

#### Catalysts for Counter Electrodes of Dye-sensitized Solar Cells

<sup>1,3</sup>Chen You-Yu, <sup>2</sup>Yeh Min-Hsin, <sup>1,3</sup>Ho Kuo-Chuan, <sup>1</sup>Cheng I-Chun, <sup>1</sup>Hsu Cheng-Che and

1,3 Chen Jian-Zhang

<sup>1</sup>National Taiwan University

<sup>2</sup>National Taiwan University of Science and Technology

<sup>3</sup>Advanced Research Center for Green Materials Science and Technology

#### 18P2-20 Characterization of Atmospheric Pressure Plasma Generated by Ar/He/H<sub>2</sub>O Gas

Mixtures in a Jet System

J. H. Hsieh and Y. J. Wei

Ming Chi University of Technology

#### 18P2-21 Bactericidal Effect of Surface Dielectric Barrier Discharge with Various Voltage and

**Treatment Time** 

J. H. Hsieh and S. C. Chang

Ming Chi University of Technology

# 18P2-22 Plasma Polymerized Methyl Methacrylate Films Using an Atmospheric Pressure Plasma Jet Paolo Edward Tan, Christian Lorenz Mahinay, Ivan Culaba and Jose Gabriel Abalos Ateneo de Manila University 18P2-23 Tribological Behaviors of Surface Plasma Treated Thermoplastic Polymers using an Atmospheric Pressure Plasma Jet Jose Gabriel Abalos, Christian Lorenz Mahinay, Ivan Culaba and Paolo Edward Tan Ateneo de Manila University 18P2-24 The APPJ Treatment for Improving Water Permeability of a Bone-Regeneration Scaffold with Grounded Electrode Yuki Hamamoto, Masato Oshirp, Jun-Seok Oh, Kumi Orita, Hiromitsu Toyoda and Tatsuru Shirafuji Osaka City University 18P2-25 Equivalent Circuit Model of a Universal Atmospheric-Pressure Plasma Jet Shih-Sen Huang, Kuang-Yao Cheng, Mu-Chien Wu, Chih-Chia Lee, Jong-Shinn Wu and Chun-Ping Hsiao National Chiao Tung University 18P2-26 Inactivation of Airborne Bacteria using Dielectric Barrier Discharge at Atmospheric Pressure 1,2 Ju Young Park and 1 Jun Choi <sup>1</sup>KITECH <sup>2</sup>Pusan National University 18P2-27 Investigation of Rotating Gliding arc Discharge for Development of Ambient Air Atmospheric Pressure Plasma Jet Vladislav Gamaleev, Mineo Hiramatsu and Masafumi Ito Meijo University 18P2-28 Electrical Characterizations of Non-equilibrium Atmospheric Pressure Plasma <sup>1</sup>Kaede Katsuno, <sup>1</sup>Kenji Ishikawa, <sup>1</sup>Takayoshi Tsutsumi, <sup>2</sup>Keigo Takeda, <sup>1</sup>Hiroshi Hashizume, <sup>1</sup>Hiromasa Tanaka, <sup>1</sup>Hiroki Kondo, <sup>1</sup>Makoto Sekine and <sup>1</sup>Masaru Hori <sup>1</sup>Nagova University <sup>2</sup>Meijo University 18P2-29 Cyclonic Plasma Surface Hydrophilization of Microporous Polysulfone Membrane Ching-Yuan Tsai, Chao-Yi Chang, Chih-Wei Chien And Chun Huang Yuan Ze University 18P2-30 Microscopic Measurement of Long Microwave Plasma at Atmospheric Pressure Hirotsugu Koma, Yosuke Koike, Haruka Suzuki and Hirotaka Toyoda Nagoya University 18P2-31 Infuence of Driving Voltage on the Discharge of an Atmospheric-Pressure He Microplasma Jet <sup>1</sup>Kotaro Ogawa, <sup>2</sup>Jun-Seok Oh, <sup>1</sup>Hiroshi Furuta and <sup>1</sup>Akimitsu Hatta <sup>1</sup>Kochi University of Technology <sup>2</sup>Osaka City University

# 18P2-32 Friction Reduction of Si-DLC vs Metal Sliding by Plasma Irradiation using Microwave-Excited Atmospheric Pressure Plasma Jet

<sup>1</sup>Takatoshi Hibino, <sup>1</sup>Hiroyuki Kousaka, <sup>1</sup>Tatsuya Furuki, <sup>2</sup>Jaeho Kim and <sup>2</sup>Hajime Sakakita

<sup>1</sup>Gifu University

<sup>2</sup>National Institute of Advanced Industrial Science and Technology (AIST)

# 18P2-33 Effect of Gas Composition on Surface Sterilization by Using LF-Microwave Hybrid Plasma Source

<sup>1</sup>Norrawit Tonmitr, <sup>1</sup>Akira Yonesu and <sup>2</sup>Nobuya Hayashida

<sup>1</sup>University of the Ryukyus

<sup>2</sup>Kyushu University

#### 18P2-34 Cyclonic Plasma Surface Activation on Poly Vinylidene Fluoride

Li-Ko Huang and Chun Huang

Yuan Ze University

### 18P2-35 Cyclonic Atmospheric Pressure Plasma by Spectral Analysis and Grafting Poly

# (Ethylene Glycol) Methacrylate of Polystyrene

Ting-Hao Chen, Chou-Yuan Cheng and Chun Huang

Yuan Ze University

# 18P2-36 Plasma Graft Polymerization of Acrylic Acid on Polytetrafluoroethylene by Linear

#### Dielectric Barrier Discharge

Chou-Yuan Cheng, Chun Huang and Ting-Hao Chen

Yuan Ze University

# 18P2-37 Refining Effect of TiAl Intermetallic Compounds Prepared by Hydrogen Plasma Arc

Melting from Scraps of Ti-Al Mixture

Do Sung Lee, Jung-Min Oh, Jun-Ho Seo and Jae-Won Lim

Chonbuk National University

#### 18P2-38 Synergistic Effect of Photocatalysis and Atmospheric Pressure Plasma on

#### Acetaldehyde Decomposition

<sup>1</sup>Tomomi Takishita, <sup>1</sup>Tomoya Iihoshi, <sup>1</sup>Takeshi Ohwaki and <sup>2</sup>Shigeki Watanabe

<sup>1</sup>Meijo University

<sup>2</sup>Toyota Boshoku Corporation

#### 18P2-39 Electrochemical Activation of Graphene Nanowalls Synthesized by Microwave

#### Plasma Torch Chemical Vapor Deposition for High-voltage Supercapacitors

<sup>1</sup>Da-Je Hsu, <sup>1</sup>Chi-Chang Hu, <sup>2</sup>Kun-Ping Huang and <sup>2</sup>Yu-Wen Chi

<sup>1</sup>National Tsing Hua University

<sup>2</sup>Industrial Technology Research Institute

# 18P2-40 Numerical Modeling of Two-dimensional Rapid Oxidation of SiC Substrate Surface

#### using Ar/O<sub>2</sub> Loop-type of Induction Thermal Plasmas

<sup>1</sup>Yasunori Tanaka, <sup>1</sup>Genki Ozeki, <sup>1</sup>Atsushi Fujita, <sup>1</sup>Tatsuo Ishijima, <sup>1</sup>Yoshihiko Uesugi,

<sup>2</sup>Tetsuya Yukimoto and <sup>2</sup>Hiroshi Kawaura

<sup>1</sup>Kanazawa University

<sup>2</sup>CV Research Corporation

#### 18P2-41 Simulation of Atmospheric-Pressure Glow Discharge in Helium with Particles

Fumiyoshi Tochikubo, Fumiya Murayama, Yusuke Nakagawa and Satoshi Uchida

Tokyo Metropolitan University

# 18P2-42 Development of Interatomic Potential Model toward Z-Universal Model for Plasma-Material Interaction

Atsushi M. Ito

National Institute for Fusion Science

#### 18P2-43 Molecular Dynamics Simulation of Self-irradiated Tungsten

<sup>1</sup>Arimichi Takayama, <sup>1</sup>Atsushi Ito and <sup>1,2</sup>Hiroaki Nakamura

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# 18P2-44 Influence of Dust Particles on the Formation of Spatial Distributions of Particles and

Fluxes in Positive Column of DC Glow Discharge

Dmitrii Bogdanov, Evgeny Bogdanov and Anatoly Kudryavtsev

Saint Petersburg University

#### 18P2-45 Spherical Dust Structures in Neon Cryogenic Plasma

Valeria Shumova, Dmitry Polyakov and Leonid Vasilyak

Russian Academy of Sciences

### 18P2-46 Limitations of the Local Approximation for EDF in Modeling of Gas Discharge

Plasma

<sup>1</sup>Evgeny Bogdanov, <sup>1,2</sup>Anatoly Kudryavtsev, <sup>2</sup>Chengxun Yuan and <sup>1</sup>Kurban Rabadanov

<sup>1</sup>Saint Petersburg University <sup>2</sup>Harbin Institute of Technology

#### 18P2-47 Modeling Study on Plasma Enhance Chemical Vapor Deposition of SiN<sub>x</sub> Film

Zong-Ru Wu, Jia-Wei Lin and Ta-Chin Wei

Chung Yuan Christian University

#### 18P2-48 Fabrication and Characterization of Thermochromic VO<sub>2</sub> Thin Films Prepared by

#### High Power Impulse Magnetron Sputtering

<sup>1</sup>Pi-Chun Juan, <sup>2</sup>Hong-Jun Lin, <sup>3</sup>Guo-Ren Li, <sup>4</sup>Wei Fan Lin and <sup>5</sup>Cheng-Li Lin

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<sup>2</sup>Feng Chia University

### 18P2-49 Fabrication of Metal Matrix Composites in Non-Equilibrium State by Spark Plasma

Sintering

Yoshimi Watanabe, Yadav Manasi Shrikrishna, Motoko Yamada, Tadachika Chiba and

Hisashi Sato

Nagoya Institute of Technology

#### 18P2-50 Emission Spectra Observed from Atmospheric-Pressure Pulse-Arc-Plasma with

**Different Electrodes** 

<sup>1</sup>Tomoya Shimomura, <sup>1</sup>Tsuyoshi Tanimoto, <sup>1</sup>Toru Harigai, <sup>1</sup>Yoshiyuki Suda, <sup>1</sup>Hirofumi Takikawa,

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<sup>2</sup>Sinfonia Technology Co., Ltd.

#### 18P2-51 Radial Confinement of Dense Dust Structure in Neon DC Discharge at Cryogenic

#### Temperature

<sup>1,2</sup>Valeria Shumova, <sup>1</sup>DmitryPolyakov, <sup>3</sup>Elizaveta Mataybaeva and <sup>1</sup>Leonid Vasilyak

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<sup>2</sup>Moscow Institute of Physics and Technology

# 18P2-52 Floating-Wire-Assisted Atmospheric Pressure Plasma for High-Speed and Large-Area **Glass Treatment** Thi-Thuy-Nga Nguyen, Minoru Sasaki, Hidefumi Odaka, Takayoshi Tsutsumi, Kenji Ishikawa and Masaru Hori Nagoya University 18P2-53 Photocatalytic Application of Helium Plasma Induced Nanostructured WO<sub>3</sub> Shuangyuan Feng, Shin Kajita, Yudai Tomita, Yoshida Tomoko and Noriyasu Ohno Nagoya University 18P2-54 Effect of Titanium and Nitrogen Content on the Mechanical Properties of Ti<sub>x</sub>N<sub>100-x</sub> Films Deposited on Silicon (100): A Molecular Dynamics Simulation Study Catherine Joy Dela Cruz, Glenson Panghulan, Luis Maria Bo-ot and MagdalenoVasquez, Jr. University of the Philippines-Diliman 18P2-55 Investigation of the Emission Spectra on a Magnetized Helium Plasma on Metal **Target Surfaces** Jhoelle Roche Guhit, Kieth Nealson Penado, Kentai Doi and Motoi Wada Doshisha University 18P2-56 Synthesis and Characterization of Plasma-reduced Ag-TiO<sub>2</sub> Nanoparticles Arantxa Danielle Montallana, Anna Patricia Cristobal, Mark Jeffry De Leon, Bo-Zhang Lai, Jinn Chu and Magdaleno Vasquez University of the Philippines-Diliman 18P2-57 Density Functional Theory (DFT) Study on the Mechanism of Adsorption/Desorption of H<sub>2</sub> to the Graphene Surface Tetsuji Iyama, Hiroshi Kawabata and Hiroto Tachikawa Hokkaido University 18P2-58 Density Functional Theory (DFT) Study on the Interaction of H<sub>2</sub> with Lithium Doped **Graphene Surface** Hiroto Tachikawa and Tetsuji Iyama Hokkaido University 18P2-59 Fabrication and Plasma Treatment of Ag-TiO<sub>2</sub> Nanoparticles Immobilized on Electrospun Polycaprolactone Fibers Maria Alexis Jara, Gideon Martin Sosa, Arantxa Danielle Montallana, Anna Patricia Cristobal, Magdaleno Jr. Vasquez and Mark Jeffry De Leon University of the Philippines-Diliman 18P2-60 Distribution of Reactive Oxygen Species in Water Irradiated with Oxygen Radicals <sup>1</sup>Nozomi Iio, <sup>1</sup>Gamaleev Vladislav, <sup>2</sup>Toshiyuki Kawasaki, <sup>3</sup>Masaru Hori and <sup>1</sup>Masafumi Ito <sup>1</sup>Meijo University <sup>2</sup>Nishinihon Institute of Technology <sup>3</sup>Nagoya University

# 18P2-61 Solution Plasma Treatment for the Degradation of a Pharmaceutical Non-Biodegradable, Ibuprofen

Yuki Hirami, Vicente Gonzalez, Norihiro Suzuki, Ken-ichi Katsumata, Kazuya Nakata, Yoshiteru Mizukoshi, Hiroshi Horibe, Yoshimi Nishimura, Takeshi kondo and Makoto Yuasa Tokyo University of Sceience

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## 18P2-62 Washimi-Karpman Magnetization in a Quantum Fermi-Dirac Plasma System

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Hanyang University