

3/19 (TUE)	
<p>Nanomaterials 4</p> <p>Chair: Junpei Sakurai (Nagoya University) Room C</p> <p>9:30-10:00 <19aC01I> Invited Lecture Tsuyoshi Moriya Tokyo Electron Technology Solutions Limited "Data Analytics Approach for Optimizing Plasma Process and Equipment Condition"</p>	<p>Plasma Science & Technologies 1 Multiphase Plasma</p> <p>Chair: Yasunori Tanaka (Kanazawa University) Room E</p> <p>9:30-10:00 <19aE01I> Invited Lecture Young-Hoon Song Korea Institute of Machinery and Materials "Plasma Technologies for Reducing Emissions from Diesel Engine"</p>
<p>10:00-10:15 1041 <19aC02O> Akihiro Tanaka "Continuous Si rod Growth from Powder Feedstocks Via Plasma Flash Evaporation" ¹Akihiro Tanaka, ¹Ryoshi Ohta, ²Masashi Dougakiuchi and ¹Makoto Kambara ¹The University of Tokyo ²Shimane Institute for Industrial Technology</p>	<p>10:00-10:15 1170 <19aE02O> Yang Liu "Aqueous Reactions in Non-equilibrium Atmospheric Pressure Plasma-activated Ringer's Lactate Solutions" ¹Yang Liu, ¹Kenji Ishikawa, ¹Hiromasa Tanaka, ¹Hiroshi Hashizume, ¹Takyoshi Tsutsumi, ¹Fumitaka Kikkawa, ¹Kae Nakamura, ²Masaaki Mizuno, ¹Shinya Toyokuni and ¹Hiroki Kondo ¹Nagoya University ²Nagoya University Hospital</p>
<p>10:15-10:30 1186 <19aC03O> Ranjit R. Borude "Synthesis, Characterization, and Study of Electrical Properties of Tin oxide-Graphene Composite Synthesized by Liquid Phase Plasma" Ranjit Borude, Hirotsugu Sugiura, Kenji Ishikawa, Takayoshi Tsutsumi, Hiroki Kondo and Masaru Hori Nagoya University</p>	<p>10:15-10:30 1122 <19aE03O> Yoshinobu Inagaki "Reaction Frequencies of CTTS Transition-induced Solvated Electrons in Ionic Liquids Interacting with Low-Pressure Argon Plasmas" Yoshinobu Inagaki and Koichi Sasaki Hokkaido University</p>
<p>10:30-10:45 1266 <19aC04O> Liwen Su "Two-dimensional Simulations of Multi-hollow Geometry VHF SiH₄/H₂ Plasma using Plasma Hybrid Code" Li-Wen Su, Weiting Chen, Kiichiro Uchino and Yoshinobu Kawai Kyushu University</p>	<p>10:30-10:45 1163 <19aE04O> Jun-Seok Oh "International Study of Plasma Activated Water: Chemical Composition of RONS" ¹Jun-Seok Oh, ²Endre Szili, ³Robert Short, ⁴Akimitsu Hatta, ⁵Mineo Hiramatsu and ⁵Masafumi Ito ¹Osaka City University ²University of South Australia ³Lancaster University ⁴Kochi University of Technology ⁵Meijo University</p>

<p>10:45-11:00 1322 <19aC05O> Hiroki Kondo "Effects of Hydroxy Group on Synthesis Rate and Crystallinity of Nanographene by In-liquid Plasma" ¹Hiroki Kondo, ²Keigo Takeda, ¹Kenji Ishikawa, ¹Takayoshi Tsutsumi, ¹Makoto Sekine and ¹Masaru Hori ¹Nagoya University ²Meijo University</p>	<p>10:45-11:00 1279 <19aE05O> Hyun-Ha Kim "Plasma Calndle: A New Type of Atmospheric Pressure Plasma Jet" Hyun-Ha Kim Kim, Yoshiyuki Teramoto, Nozomi Takeuchi and Atsushi Ogata National Institute of Advanced Industrial Science and Technology (AIST)</p>
<p>Nanomaterials 5 Chair: Osamu Nakatsuka (Nagoya University) Room C</p>	<p>Plasma Science & Technologies 2 Plasma Sources Chair: Young-Hoon Song (Korea Institute of Machinery and Materials) Room E</p>
<p>11:15-11:45 <19aC06I> Invited Lecture Masao Sakuraba Tohoku University "Epitaxy and In-Situ Doping in Low-Energy Plasma CVD Processing for Group-IV Semiconductor Nanoelectronics"</p>	<p>11:15-11:45 <19aE06I> Invited Lecture Keigo Takeda Meijo University "Systematic Diagnostics of AC Excited Atmospheric Pressure Plasma Jet for Bio-medical Applications"</p>
<p>11:45-12:00 1012 <19aC07O> Weijian Ma "Preparation of CeO₂ Nanoparticles by Pulsed Plasma in Liquid Method" Weijian Ma, Tsutomu Mashimo, Shota Tamura, Makoto Tokuda, Shinichi Yoda, Masayuki Tsushida, Michio Koinuma, Akihisa Kubota, Hiroshi Isobe and Akira Yoshiasa Kumamoto University</p>	<p>11:45-12:00 1162 <19aE07O> Manh Hung Chu "Optimized Waveguide Structure for Atmospheric Pressure Microwave Plasma" Manh Hung Chu, Haruka Suzuki and Hirotaka Toyoda Nagoya University</p>
<p>12:00-12:15 1013 <19aC08O> Shota Tamura "Synthesis of Pd-Fe Series Alloy Nanoparticles by Pulsed Plasma in Liquid" Shota Tamura, Tsutomu Mashimo, Kenta Yamamoto, Zhazgul Kelgenbaeva, Weijan Ma, Xuesong Kang, Masayuki Tsushida, Michio Koinuma, Hiroshi Isobe and Akira Yoshiasa Kumamoto University</p>	<p>12:00-12:15 1147 <19aE08O> John Raymund Brusas "Plasma-induced Desorption of VOCs from Surfactant-modified Natural Zeolites" John Raymund Brusas, Mark Jeffry De Leon, Eleanor Olegario and Magdalena Vasquez Jr. University of the Philippines-Diliman</p>
<p>12:15-12:30 1251 <19aC09O> Worawan Bhanthumnavin "Surface Modification of Cellulose Membranes from Water Hyacinth with Sulfur Hexafluoride plasma for Biomedical Applications" Boonchoat Paosawatyanong, Yannawit Chanpirom and Worawan Bhanthumnavin Chulalongkorn University</p>	<p>12:15-12:30 1290 <19aE09O> Takayoshi Tsutsumi "Light Source Wavelength Characteristics for Silicon-Wafer Temperature Measurement by Frequency-Domain Low-coherence Interferometry" ¹Takayoshi Tsutsumi, ¹Kenji Ishikawa, ²Takayuki Ohta, ²Masafumi Ito, ¹Hiroki Kondo, ¹Makoto Sekine and ¹Masaru Hori ¹Nagoya University ²Meijo University</p>
<p>Lunch Break 12:30-14:00</p>	

Topical session 1**Current Status and Future Perspective of GaN / Si Technology**

Chair: Tetsuya Suemitsu (Tohoku University), Makoto Miyoshi (Nagoya Institute of Technology)
Room B

14:00-14:30 Invited Lecture

<19pB10I>

Yang Liu

San Yat-sen University

"High-mobility E-mode Recessed Gate GaN MISFETs with High-quality MIS Interface Fabricated by Selective Area Growth"

14:30-15:00 Invited Lecture

<19pB11I>

Qian Sun

Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), Chinese Academy of Sciences (CAS)

"GaN-on-Si Optoelectronics and Power Electronics"

15:00-15:30 Invited Lecture

<19pB12I>

Debaleen Biswas

Nagoya Institute of Technology

"Improvement in Breakdown Voltage of Fully-vertical GaN *p-n* Diode on Si"**15:30-16:00 Invited Lecture**

<19pB13I>

Atsushi Nishikawa

ALLOS Semiconductors GmbH

"High Crystal Quality GaN-on-Si to Achieve Excellent Isolation and Dynamic Performance without Carbon Doping"

Bio Applications 4

Chair: Endre Szili (University of South
Australia)
Room D

**Plasma Science & Technologies 3
Etching**

Chair: Keigo Takeda (Meijo University)
Room E

**Nitride Semiconductors 4
Vertical GaN Electronic Devices**

Chair: Atsushi Nishikawa (ALLOS
Semiconductors GmbH)
Room F

16:15-16:45

<19pD14I>

Invited Lecture

Hyunjoo J Lee

KAIST

"Biomedical Microsystems for Neural Interface"

16:15-16:45

<19pE14I>

Invited Lecture

Atsushi Komuro

Tohoku University

"Numerical Simulation for Chemical Reactions in Atmospheric-Pressure Streamer Discharge in Air"

16:15-16:45

<19pF14I>

Invited Lecture

Tetsuo Narita

Toyota Central R&D Labs., Inc.

"Overview of Carrier Compensation in n-type and p-type GaN Layers Grown by Metalorganic Vapor Phase Epitaxy"

16:45-17:15

<19pD15I>

Invited Lecture

Yoko Yamanishi

Kyushu University

"Emerging Functions of Plasma-induced Bubbles"

16:45-17:00 1320

<19pE15O>

Yusuke Fukunaga

"Organic High Aspect Ratio Pattern Formation with Self-Limitation Manner by Plasma-Controlled Process based on Substrate Temperature Measurement"

Yusuke Fukunaga, Takayoshi
Tsutsumi, Kenji Ishikawa, Hiroki
Kondo, Makoto Sekine and Masaru Hori
Nagoya University

16:45-17:00

<19pF15O>

"MCTS Studies of Hole Traps in n-GaN Induced by He Ion Implantation"

¹Yutaka Tokuda, ¹Ken Iyoda,
²Joji Ito, ²Takahide Yagi and
³Kenji Shiojima

¹ Aichi Institute of Technology, Japan² SHI-ATEX Co., Ltd., Japan³ University of Fukui, Japan**17:00-17:15 1174**

<19pE16O>

Minoru Sasaki

"Over 100 μ m Length Single Spiral Silicon Micro-Trench with 3-Step Smooth Sidewalls to Deposit Superconducting Material for Magnetic Energy Storage"

¹Minoru Sasaki, ²Yasuhiro Suzuki,
²Kazuhiro Adachi, ²Tatsumi Hioki and
²Tomoyoshi Motohiro

¹Toyota Technological Institute²Nagoya University

<p>17:15-17:30 1029 <19pD16O> Mohamed Mathar Sahib Ibrahim Khaleelullah "Bioimaging and Photothermal Study of NaGdF₄:Yb:TM@Cu Core-Shell Nanostructures" ¹Mohamed Mathar Sahib Ibrahim Khaleelullah, ¹Kyohei Sugimoto, ¹Asahi Tanaka, ²Thangaraju Dheivasigamani, ¹Wataru Inami, ¹Yoshimasa Kawata, ¹Yosuke Shimura and ¹Yasuhiro Hayakawa ¹Shizuoka University ²PSG Institute of Technology and Applied Research</p>	<p>17:15-17:30 1313 <19pE17O> Takahiro Omichi "GaN film Etching at H-added Chlorine Plasma at High Temperature at 400°C" Takahiro Omichi, Atsushi Tanide, Kenji Ishikawa, Takayoshi Tsutsumi, Hiroki Kondo, Makoto Sekine and Masaru Hori Nagoya University</p>	<p>17:15-17:30 1058 <19pF16O> Takashi Ishida "Study of Trench Gate Structure on GaN Vertical Trench MOSFET" ^{1,2}Takashi Ishida, ^{1,3}Shinji Yamada, ⁴Tetsuo Narita and ¹Tetsu Kachi ¹Nagoya University ²Toyota Motor Corporation ³ULVAC, Inc. ⁴Toyota Central R&D Labs., Inc.</p>
<p>17:30-17:45 1248 <19pD17O> TaiChun Tsai "Preparation of Thin Films Containing Carboxylic and Amine Functionalities on Rigid Gas Permeable Contact Lens by PECVD" TaiChun Tsai and MengJiy Wang National Taiwan University of Science and Technology</p>	<p>17:30-17:45 1250 <19pE18O> Xu Li "A study of In-situ X-ray Photoelectron Spectroscopy Surface Analysis in Development of Atomic Layer Etch for GaN/AlGaIn based Power Device Fabrication" Xu Li, Dilini Hemakumara, Yen-Chun Fu, David Moran and Iain Thayne University of Glasgow</p>	<p>17:30-17:45 1133 <19pF17O> Shinji Yamada "Slope-down-bias Etching Techniques for Suppression of Plasma-induced Damage of GaN in ICP-RIE" ^{1,2}Shinji Yamada, ^{1,2}Hideki Sakurai, ¹Masato Omori, ²Toshiyuki Nakamura, ²Ryuichiro Kamimura, ¹Jun Suda and ¹Tetsu Kachi ¹Nagoya University ²ULVAC, Inc.</p>
<p>17:45-18:00 1256 <19pD18O> Pietro Favia "Plasma Deposition of Antibacterial Nanocapsules on De-cellularized Biologic Scaffolds for Tissue Engineering" ¹Annalisa Treglia, ²Fabio Palumbo, ²Roberto Gristina, ²Eloisa Sardella, ³Martina Ramella, ⁴Luca Fusaro, ³Francesca Boccafoschi and ^{5,2}Pietro Favia ¹University of Bari Aldo Moro ²Institute of Nanotechnology, CNR ³University of Piemonte Orientale A. Avogadro ⁴TissueGraft s.r.l, Novara Biotechnologies and ⁵Biopharmaceutics, University of Bari</p>	<p>11:15-11:30 1246 <19aE19O> Hossain Md Amzad Bangladesh "Characteristics of Aluminum Doped Zinc Oxide (AZO) Film Prepared using RF Magnetized Plasma Sputtering Source with Square-shaped Magnet Setup" ¹Md Amzad Hossain, M. A. M. Patwary, Y. Nakamura and K. Sugawara ¹Jessore University of Science and Technology ²Saga University ³Comilla University</p>	

Banquet 18:15-20:15