



9th International Symposium on Advanced Plasma Science
and its Applications for Nitrides and Nanomaterials /
10th International Conference on Plasma-Nano Technology & Science

ISPlasma2017/IC-PLANTS2017

March 1-5, 2017

CHUBU UNIVERSITY, Aichi, JAPAN

Organizing Committee

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※The photograph is an image.



ISPlasma/IC-PLANTS is a specialized international symposium that brings together about 1,000 world-leading scientists and engineers in Nagoya, Japan to discuss latest researches in the fields of advanced plasma science, its applications for processing and manufacturing of nitrides and nanomaterials, as well as new systems for technology transfers. This symposium will address issues such as global warming, resources and energy problems to which advanced plasma science and its application technologies can greatly contribute. In this symposium biosensing technologies will be also highlighted, because of their increasing importance in healthcare, agri-food and environmental areas. We hope that this symposium will provide an ideal venue for the exchange of new ideas and information, and also support the initiation or further development of international collaborations among those who work in these multidisciplinary fields.

Related Fields

Plasma

- Plasma Source
- Modeling & Simulation
- Thin Film Deposition Process
- Flexible Electronics
- Plasma Agriculture
- Advanced Plasma Diagnostics
- Plasma in Liquid
- Etching Process
- Plasma Biology & Medicine
- Plasma for Nano & Green Technologies

Nitride Semiconductors

- Crystal Growth of GaN & Related Materials
- MBE Growth & Nitrogen Source
- Characterization
- Optical & Optoelectronic Devices
- Electron & Power Devices
- Device Processing

Nanomaterials

- Nanodots & Nanoparticles
- 2D Nanomaterials
- Composites & Functionally Grade Materials
- Surface Modification & Functionalization
- Applications for Energy, Nanomedicine & Sensing
- Nanotubes, Nanowires & Nanorods
- Porous Materials & Membranes

Biosensing

- Detection Technologies
- Electrochemical Devices
- Biomarkers & Biosensor Surfaces
- Biomaterials
- Optical Devices, Bioimaging
- Biosensors
- Fabrication Technologies
- Biodevices, uTAS, Lab on a Chip

Special Issue

Selected papers will be published in a special issue of a scientific journal.

Registration Please register on our website.

Advanced Online Registration is required.

Registration Fee :

	General	Student
Early Registration (Until Jan 31, 2017)	JPY 45,000	JPY 15,000
On-site Registration	JPY 50,000	JPY 20,000

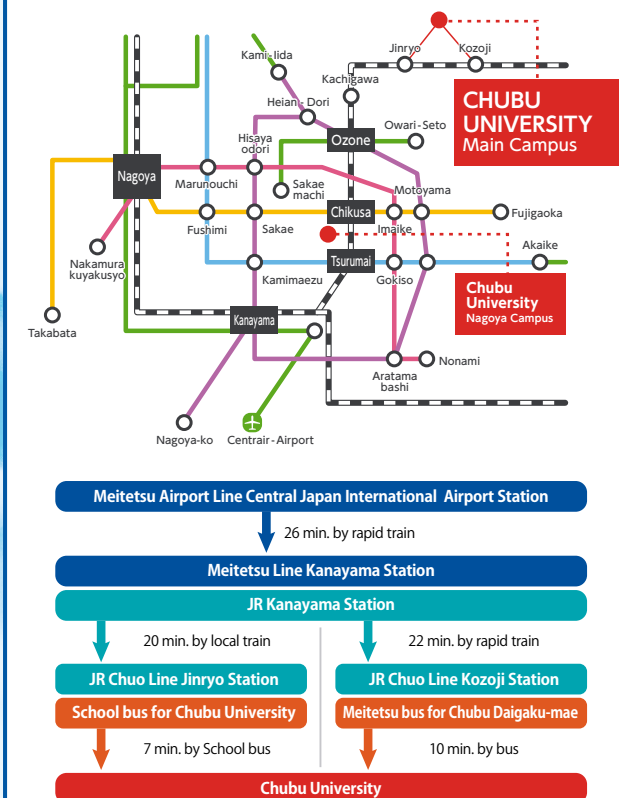
Tutorial Fee :

Participant in Main Symposium	JPY 1,000	JPY 1,000
Tutorial Registration Only	JPY 10,000	JPY 5,000
Banquet Fee (on March 3, 2017)	JPY 6,000	JPY 3,000

* Refunds cannot be made at any reason.

Venue

Chubu University | 1200 Matsumoto-cho, Kasugai, Aichi, JAPAN
Phone : +81-568-51-1111



● Schedule at a glance

Time	3/1 (Wed)	3/2 (Thu)	3/3 (Fri)				3/4 (Sat)				3/5 (Sun)				Time	
9:00		Registration 09 : 00-	Registration 09 : 10-				Registration 09 : 10				Registration 09 : 10-				9:00	
9:10															9:10	
9:30		Opening Address Keiji Nakamura , Chubu University	<i>Plasma Science 4</i> <Multiphase Plasma>	<i>Nitride Semiconductors 2</i> <Optical Devices 2>	<i>Nanomaterials 3</i> <Solar Cell and Related Materials>	<i>Biosensing 3</i> <Plasma Agriculture>	<i>Plasma Science 6</i> <Deposition 1>	<i>Nitride Semiconductors 4</i> <Electron Devices 2>	<i>Nanomaterials 5</i> <Plasma Synthesis and Plasma Treatment>	<i>Biosensing 5</i> <Biointerfaces>	<i>Plasma Science 8</i> <Plasma Fundamentals>	<i>Nanomaterials 7</i> <Carbon/2D Materials>	<i>Nanomaterials 8</i> <Optical Properties>	<i>Plasma Science 9</i> <Deposition 2>	9:30	
10:00			Introduction of the Plenary Lecture	Invited Lecture Peter J. Bruggeman University of Minnesota	Invited Lecture Koichi Naniwae EL-Seed Corp.	Invited Lecture Yukimi Ichikawa JST FUTURE-PV Innovation	Invited Lecture Suk Jae Yoo National Fusion Research Institut	Invited Lecture Eugen Stamate Technical University of Denmark	Invited Lecture Hiroji Kawai POWDEC K.K. Atsushi Yamada Fujitsu Limited	Invited Lecture Xingguo Li Peking University	Invited Lecture Makoto Matsui Shizuoka University				10:00	
10:05		Plenary Lecture Osamu Ishihara Chubu University													10:05	
10:10															10:10	
10:30															10:30	
10:45															10:45	
11:00		Break 11:00-11:10	Break 11:00-11:15				Break 11:00-11:15			Break 11:00-11:15	Break 10:30-10:45				11:00	
11:10		Keynote Lecture Hayao Nakanishi Aichi Cancer Center Aichi Hospital								Break 11:15-11:30		<i>Topical Session 3</i> <Energy Innovation based on Plasma-nano Technology> Invited Lecture Hiroki Ago Kyushu University Yoshihiko Kanemitsu Kyoto University Tomohiro Nozaki Tokyo Institute of Technology				11:10
11:15																11:15
11:30		Keynote Lecture Tom Gregorkiewicz University of Amsterdam	<i>Plasma Science 5</i> <Etching>	<i>Nitride Semiconductors 3</i> <Electron Devices 1>	<i>Nanomaterials 4</i> <Nanocomposite Alloy>	<i>Biosensing 4</i> <Biomicrofluidics and Material Processing>	<i>Plasma Science 7</i> <Diagnostics>	<i>Nitride Semiconductors 5</i> <Electron Devices 3>	<i>Nanomaterials 6</i> <Surface Modifications>	<i>Biosensing 6</i> <Bio Applications>					11:30	
11:50			Invited Lecture Hisataka Hayashi TOSHIBA	Invited Lecture Enrico Zanoni Universita' di Padova Fumimasa Horikiri SCIOCS	Invited Lecture Naoki Fukata National Institute for Materials Science	Invited Lecture Yoshikazu Hirai Kyoto University	Invited Lecture Hennie van der Meiden DIFFER	Invited Lecture Asamira Suzuki Panasonic	Invited Lecture Chi-Chang Hu National Tsing Hua University					11:50		
12:00														12:00		
12:15											Award Ceremony				12:15	
12:20															12:20	
12:30	Registration 12:30-	Lunch 12:30-14:00	Lunch 12:30-14:00				Lunch 12:30-14:00				Closing				12:30	
12:40	Tutorial														12:40	
13:00	<i>Plasma Science & Technologies</i>														13:00	
13:20															13:20	
13:40															13:40	
14:00	Break 14:00-14:10	<i>Plasma Science 1</i> <Atmospheric-pressure Plasma> InvitedLecture Laxminarayan L.Raja The University of Texas	<i>Nitride Semiconductors 1</i> <Optical Devices 1> Invited Lecture Qian Sun Chinese Academy of Science Natsumi Hayashi Meijo University	<i>Nanomaterials 1</i> <Carbon/2D Materials> Invited Lecture Junichiro Shiomi The University of Tokyo Hongwei Zhu Tsinghua University	<i>Biosensing 1</i> <Plasma Medicine> Invited Lecture Klaus-Dieter Weltmann , INP Greifswald e.V.	<i>Topical Session 1</i> <Bio-Applications based on Plasma Technology> Invited Lecture Yuji Miyahara Tokyo Medical and Dental University Robert D. Short University of South Australia			<i>Topical Session 2</i> <Advanced Electronic Nitride Materials and Devices> Invited Lecture Izabella Grzegory Institute of High Pressure Physics of the Polish Academy of Sciences Tetsu Kachi Nagoya University							14:00
14:10							14:10									
14:20							14:20									
14:30							14:30									
14:45							14:45									
15:00	Break 15:10-15:20					Break 15:00-15:15			Break 15:00-15:15							15:00
15:10																15:10
15:15																15:15
15:20		Break 15:30-15:45				<i>Topical Session 1</i> <Bio-Applications based on Plasma Technology> Invited Lecture Masashi Ueda Okayama University Ki-Hun Jeong KAIST			<i>Topical Session 2</i> <Advanced Electronic Nitride Materials and Devices> Invited Lecture Sir Colin Humphreys University of Cambridge James S. Speck University of California							15:20
15:30	Tutorial															15:30
15:40	<i>Nanomaterials</i>															15:40
15:45	Yongfeng Li China University of Petroleum	<i>Plasma Science 2</i> <Plasma Source>	<i>Plasma Science 3</i>	<i>Nanomaterials 2</i> <Nanowire> Invited Lecture Takeshi Yanagida Kyushu University	<i>Biosensing 2</i> <Biosensing>											15:45
16:00		Invited Lecture Wonho Choe KAIST				Break 16:15-16:30			Break 16:15-16:30							16:00
16:15						</										

INVITED SPEAKERS

PLENARY SPEAKER



Osamu. Ishihara
(Chubu University, JAPAN)

Role of Complex Plasma in Emerging Sciences

KEYNOTE SPEAKERS



NANOMATERIALS

T. Gregorkiewicz (University of Amsterdam, NETHERLANDS)
PECVD-grown and Chemically Synthesized Semiconductor
Nanocrystals for Photon Management in Future Photovoltaics



BIOSENSING

H. Nakanishi (Aichi Cancer Center Research Institute, JAPAN)
A New Therapeutic Modality with Plasma-Activated Medium
Targeting Peritoneal Micrometastasis in Human Gastric Cancer
Cell Lines in Nude Mice

TUTORIAL SPEAKERS



NITRIDE SEMICONDUCTORS

D. Ueda (Kyoto Institute of Technology, JAPAN)
Recent GaN-Based Power Devices and Applications



NANOMATERIALS

Y. F. Li (China University of Petroleum, CHINA)
Plasma Synthesis of Functionalized Nanocarbon Materials and
their Applications



BIOSENSING

A. Fridman (Drexel University, U.S.A)
Plasma Agriculture: Fundamentals and Applications

PLASMA SCIENCE & TECHNOLOGIES

P. Bruggeman (University of Minnesota, U.S.A)
Plasma-liquid Interactions: Fundamentals and Applications
W. H. Choe (KAIST, KOREA)
Considerations for High Efficiency Non-thermal Atmospheric
Pressure Plasma Sources for Food Applications
H. Hayashi (TOSHIBA, JAPAN)
TBA
M. Matsui (Shizuoka University, JAPAN)
Characteristics of Laser Sustained Plasma by High Power Diode Laser
H. van der Meiden (DIFFER, NETHERLANDS)
Incoherent and Collective Thomson Scattering for the Determination
of Electron and Ion Properties in High Density, Low-temperature Plasma
L. L. Raja (The University of Texas, U.S.A)
Modeling and High-fidelity Simulations of Atmospheric-pressure
Non-equilibrium Discharges for the Processing of Liquids
E. Stamate (Technical University of Denmark, DENMARK)
Conductive, Transparent and Low Emissivity Coatings of Aluminum
Doped Zinc Oxide Produced by Magnetron Sputtering

NITRIDE SEMICONDUCTORS

I. Grzegory
(Institute of High Pressure Physics of the Polish Academy of Sciences, POLAND)
High Pressure Thermodynamics and Crystal Growth of GaN (tentative)
F. Horikiri (SCIOCS, JAPAN)
Development of Free-standing GaN Substrates and High Breakdown
Voltage GaN p-n Diodes
C. Humphreys (University of Cambridge, UK)
GaN-on-Si LEDs and Electronic Devices (Tentative)
T. Kachi (Nagoya University, JAPAN)
TBA
H. Kawai (POWDEC K.K., JAPAN)
A New Platform for Low Cost High Voltage GaN Power Devices
K. Naniwae (EL-Seed Corp., JAPAN)
Moth-eye Patterned Sapphire Substrate Technology for Low Cost and
High Efficiency LEDs
J. S. Speck (University of California, USA)
Pure and Disordered Group III Nitride Heterostructures: Growth and
Physical Properties
Q. Sun (Chinese Academy of Science, CHINA)
GaN-on-Si LED, Laser Diode and HEMT
A. Suzuki (Panasonic, JAPAN)
Low on-state Resistance Enhancement-mode AlGaIn/GaN HFET with
p-type NiO Gate Formed by Atomic Layer Deposition
E. Zanoni (Universita' di Padova, ITALY)
Role of Deep Levels and Time-dependent Breakdown Effects in
Determining Performances and Reliability of Power GaN Devices

NANOMATERIALS

H. Ago (Kyushu University, JAPAN)
Synthesis and Application of Graphene and 2D Heterostructures
N. Fukata (National Institute for Materials Science, JAPAN)
Control of Growth and Impurity Doping in Ge/Si Core-shell Nanowires
Y. Ichikawa (JST FUTURE-PV Innovation, JAPAN)
Silicon Nano-wall Arrays and Their Application to Wide Bandgap Solar
Cells
Y. Kanemitsu (Kyoto University, JAPAN)
Photophysics of Organometal Halide Perovskites: A High-quality
Solution-processed Optoelectronic Material
X. Li (Peking University, CHINA)
Synthesis and Properties of Nanostructured Materials for Hydrogen
Storage and Lithium Battery by Hot and Cold Plasma
T. Nozaki (Tokyo Institute of Technology, JAPAN)
Plasma Synthesis of Free-standing Silicon Nanocrystals for Energy
Applications
J. Shiomi (The University of Tokyo, JAPAN)
TBA
T. Yanagida (Kyushu University, JAPAN)
Single Crystalline Metal Oxide Nanowires and their Promises
H. W. Zhu (Tsinghua University, CHINA)
Solid State Solar Cells and Photodetectors Based on Graphene

BIOSENSING

Y. Hirai (Kyoto University, JAPAN)
Body-on-a-Chip: An Application of 3-D Microstructuring Techniques
C. C. Hu (National Tsing Hua University, CHINA)
Plasma-Enhanced Chemical Vapor Deposition of Heteroatom-doped
Graphenes for Biosensing
K. H. Jeong (KAIST, KOREA)
Nanoplasmonic Surfaces for Surface Enhanced Raman Scattering
Y. Miyahara (Tokyo Medical and Dental University, JAPAN)
Detection of Biomolecular Recognition and Cell Functions using
Bio-Transistors
R. D. Short (University of South Australia, AUSTRALIA)
On the Effect of Plasma (Media) Treatment on Cell Division
M. Ueda (Okayama University, JAPAN)
Analysis of Inflammation After Hemostasis with Non-thermal Plasma by
using Molecular Imaging Technique
K. D. Weltmann (Leibniz Institute for Plasma Science and Technology
(INP Greifswald), GERMANY)
Plasma Medicine Status of Basic Research and Transfer into the Hospital
S. J. Yoo (National Fusion Research Institute, KOREA)
Comprehensive Plasma Application to Agriculture: Plasma Farming