

Final Announcement

**A Step toward Creating Novelty Fields in the Future
Plasma Science & Technology Age**

ISGLP2008

**International Interdisciplinary-Symposium
on Gaseous and Liquid Plasmas**



September 5-6, 2008

**Hotel Crescent
Tohoku University
Akiu/Sendai, Japan**

<http://www.plasma.ecei.tohoku.ac.jp/ISGLP/>

Final Announcement for ISGLP2008

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Organize by
Sendai Plasma Forum

Sponsored by
Research Institute of Electrical Communication,
Tohoku University



Co-sponsored by
Tohoku University Electro-Related Departments
Global COE Program



Committees

Chair	Rikizo Hatakeyama (Tohoku University, Japan)
Co-Chair	Mark E. Koepke (West Virginia University, USA)
Co-Chair	Bruce R. Locke (Florida State University, USA)
Program Chair	Satoru Iizuka (Tohoku University, Japan)
Publications Chair	Akira Ando (Tohoku University, Japan)
Arrangements Chair	Toshiro Kaneko (Tohoku University, Japan)
Secretary	Toshiaki Kato (Tohoku University, Japan)

General Information

The International Interdisciplinary-Symposium on Gaseous and Liquid Plasmas will be held in September 5-6, 2008, at the Hotel Crescent in Akiu/Sendai, Japan (September 5) and Aoba-Kinen Kaikan in Tohoku University (September 6), as a satellite meeting of the 14th International Congress on Plasma Physics (ICPP2008).

The scope of this Symposium (ISGLP2008) covers a wide range of the aspects on gaseous plasma fundamental physics and applications, and liquid plasmas which have recently attracted much attention as promising tools for materials and environmental sciences.

The symposium particularly encourages to exchange information and stimulate discussion on subjects concerned with production, fundamental processes, control, basic properties, gas-liquid-solid phases interactions, and applications in both the gaseous and liquids plasmas. The goal is to promote interdisciplinary interchange between scientists and engineers of the gaseous and liquid plasmas toward the ideas creation of unprecedented or novelty fields in the early 21st century plasma science & technology age.

Topics

The ISGLP2008 will consist of a series of oral sessions (composed of both invited and contributed papers) and poster sessions. Sessions will be organized in subjects related to

gaseous and liquid plasmas.

Gaseous Plasma Sessions

1. Plasma Production and Control
2. Plasma Diagnostics and Monitoring
3. Waves, Instabilities, and Transport
4. Strongly Coupled / Complex Plasmas
5. Negative-Ion / Ionic / Pair Plasmas
6. Micro / Atmospheric-Pressure Plasmas
7. Space and Astrophysical Plasmas
8. Plasma Applications

Liquid Plasma Sessions

1. Arc / Streamer / Glow Discharge Plasmas in Liquid
2. Bubble Discharge Plasmas in Liquid
3. Pulsed-Power Discharge in Liquid
4. Soft Matter Plasmas
5. Liquid-Gas Interfacial Plasmas
6. Plasmas in Supercritical Medium
7. Materials / Environmental Application of Liquid Plasmas
8. Nano/Bio Application of Liquid Plasmas

Contributed Papers

Contributed papers will be presented separately in oral and poster sessions. The authors are requested to submit a short abstract (about 300 words) via the web site of ISGLP not later than June 20, 2008. The short abstract will be refereed by the Organizing Committee, and the decision will be notified to the first author. Authors of the accepted papers should submit a four-page manuscript for a proceedings volume (in a one-column, camera-ready form) by the end of July, 2008. Further details will be given in the web site.

Proceedings

The conference proceedings containing invited and contributed papers are planned and will be distributed to regular participants upon registration at the conference.

Language

The official language of the conference is English and will be used for all presentations and

printed materials.

Registration Fee

The registration fee for regular participants will be 20,000 Japanese Yen per person, while that for full-time students will be 13,000 Japanese Yen. The registration fee includes a welcome reception, banquet, and a proceedings volume.

Social Events

Registration and Opening

The on-site registration will be conducted in the registration desk at Hotel Crescent from 16:00 on Thursday, September 4. The opening of the conference will be at 9:00 on Friday, September 5, immediately followed by a plenary lecture. Registrations will also be open daily from 8:00 during the conference. All participants are required to register and wear their name tags to all scientific sessions and social events. In the evening of Thursday, September 4, a welcome reception is offered to you at Cosmos room (2nd floor), and a light buffet meal will be served.

Conference Banquet

The conference banquet will be held at Cosmos room (2nd floor) in the evening of Friday, September 5. All participants are strongly recommended to join this exciting event for getting acquainted with each other. All of the cost is included in the registration fee.

Laboratory Tour and Mini-sightseeing Tour

After the symposium on 6th Sept., we are planning to have a short Laboratory tour in Tohoku University and mini-sightseeing tour near Aobayama Campus.

All participants are welcome to attend this post-symposium tour.

The tentative schedule of the tour is as follows,

On 6th September (Saturday)

17:00 Symposium closed

17:00-18:00 Lab tour in Aobayama Campus in Tohoku University

18:00-21:00 Mini sightseeing tour

18:00 - 19:00 See the ruins of Aobayama Castle (Statue of Load Date)

19:00 - 20:30 Japanese style dinner at Shokeikaku

21:00 Arrive at Hotel Crescent

The restaurant "Shoukeikaku" was built at the latter term of the Meiji era (100 years ago) as a residence of the Date family, whose ancestor governed the Sendai region in Edo era (400 years ago). The restaurant serves a traditional Japanese food in a relaxed manner. <http://shoukeikaku.jp/> (This HP is written by Japanese)

The Lab tour takes about one hour to look around on foot.

(You can leave before or after the Lab tour.)

In the mini sightseeing tour, we will ride on a bus to look around. This mini-tour is free of charge including dinner.

Contributed Papers

Notice for Oral presenters

Oral presentation times (including discussion) are allocated as below. PC projectors (LCD beamers) will be the only projection equipment available in general. OHP et al. can not be available. A laptop PC (Windows XP, power point version 2003/2007) can be available for the oral presentation. Presenters who want to use the other OS or software are required to use their own laptop. During Breaks and Lunch times, it will require testing well in advance.

<Presentation + Discussion>

- ✓ Plenary lecture: 45 min
- ✓ Invited papers: 30 min
- ✓ Oral papers: 20 min
- ✓ Oral papers (Japanese): 15 min

Notice for Poster presenters

Poster will be shown in Aoba-Kinen Kaikan (1st floor) from 12:20 to 14:20 on Saturday, September 6. The authors for posters should appear in front of their posters, so that the relative discussion may be performed. The dimensions of the panel are 90 cm (width) and 120 cm (height).

Conference Site

The conference will be held at the Hotel Crescent in Akiu/Sendai (September, 5) and Aoba-Kinen Kaikan in Tohoku University (September, 6). Akiu is one of the famous hot springs near Sendai City. Visiting hot springs to enjoy their waters is the great pleasures of traveling in Japan.

In the morning on 6th September, all participants move to Aoba-Kinen Kaikan by shuttle bases

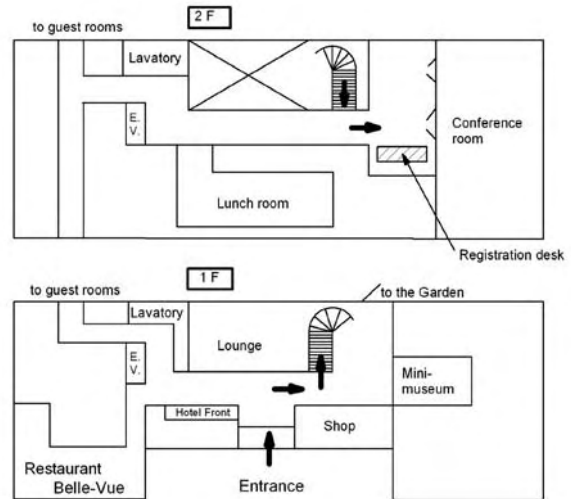
from Hotel Crescent. Departure time is shown in the shuttle bus time schedule.

<September 5>

Akiu Resort Hotel Crescent



Address : 1-2, Namesawa, Aza,
Yumoto, Akiu-cyo, Taihaku-ku,
Sendai, Miyagi, 982-0241
Tel: +81-22-397-3111
Fax : +81-22-397-2215

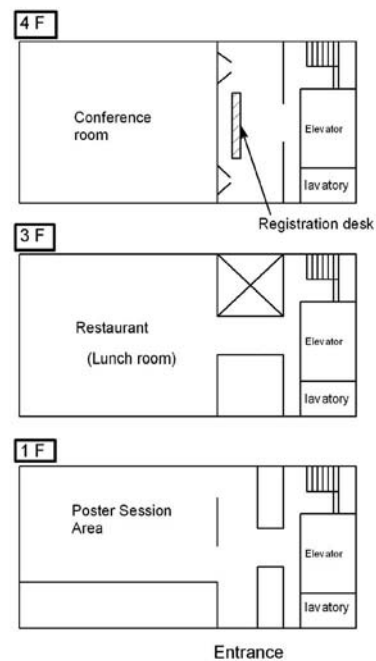


<September 6>

Aoba-Kinen Kaikan



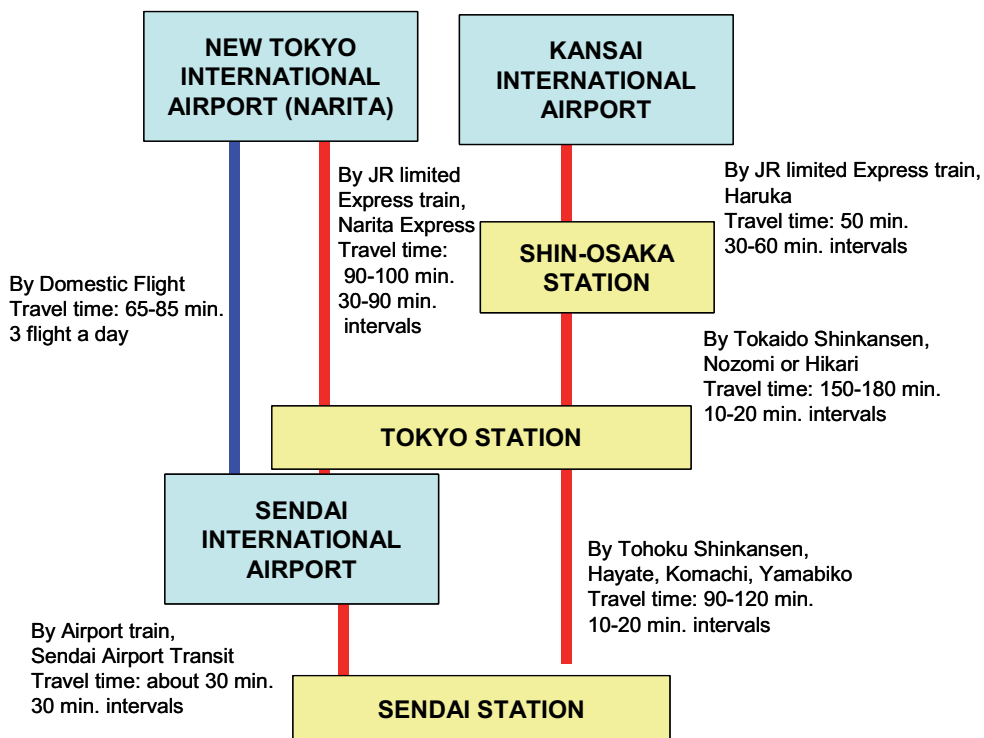
Address : Aoba 6-6-05, Aramaki-Aza,
Aoba-ku, Sendai, Miyagi 980-8579
Tel :+81-22-795-7993



Travel Information

◆Access to Sendai Airport / Station

The diagram below explains how to get to Sendai by air or land. Sendai is located 350 kilometers north of Tokyo on the Pacific coast of Japan. Domestic flights to Sendai from Narita, Osaka, and other major domestic airports are available. The Shinkansen (bullet train) connects major cities in Japan with its fast and punctual service. An express night bus from Narita Airport to Sendai is in service but is limited to one departure daily. The JR airport train is available from Sendai Airport to Sendai Station. It will take about 30 min.



◆To Hotel Crescent from Sendai Station

<Bus stop information>

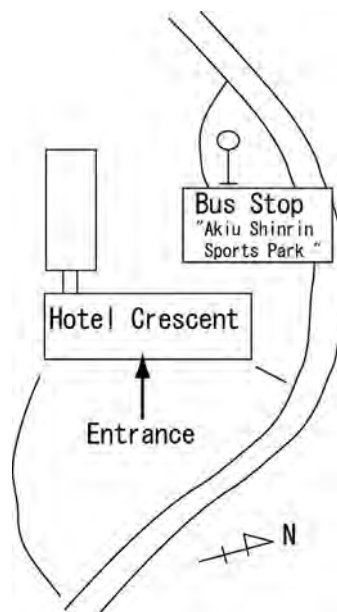
Free shuttle bus of Crescent hotel departs from the bus stop at the west exit of Sendai Station. Bus stop is located between a rotary and a taxi stand (see below).

Route bus departs from **No.8 bus stop** at bus terminal in Sendai Station. Take the bus going to “Akiu Shinrin Sports Park” (50 min). Get off the bus at “Akiu Shinrin Sports Park”, that is the last destination. You can arrive at the conference place “Hotel Crescent” from the bus stop within 3 min on foot.

Map around the Sendai Station



Map around Hotel Crescent



<Shuttle bus time schedule>

Free of Charge

September 4 (Thursday):

Sendai Station		Hotel Crescent
16:00	→	16:40
21:10	←	20:30

September 5 (Friday):

Sendai Station		Hotel Crescent
08:00	→	08:40
11:00	→	11:40
15:40	←	15:00
22:10	←	21:30

September 6 (Saturday):

Aoba-Kinen Kaikan		Hotel Crescent
08:40	←	08:00
18:00	→	21:30 (after Mini-Sightseeing)

September 7 (Sunday):

Sendai Station		Hotel Crescent
06:30	←	06:00
10:40	←	10:00

<Route bus time schedule from No. 8 bus stop>

One way: 820 Japanese Yen

From Sendai Station to Akiu-Shinrin Sports Park

Week day		Saturday		Sunday	
Sendai Station	Akiu-Shinrin Sports	Sendai Station	Akiu-Shinrin Sports	Sendai Station	Akiu-Shinrin Sports
		7:08	7:59	7:24	8:11
8:44	9:39	7:49	8:41	7:53	8:40
9:14	10:09	8:19	9:11	8:44	9:31
10:39	11:34	8:54	9:46	9:24	10:11
11:14	12:09	9:24	10:16	9:54	10:43
11:54	12:49	10:39	11:34	10:38	11:28
12:24	13:19	11:14	12:09	11:24	12:13
12:54	13:49	11:53	12:48	11:54	12:43
13:24	14:19	12:24	13:19	12:24	13:13
14:24	15:19	12:54	13:50	12:55	13:47
14:55	15:51	13:24	14:19	13:24	14:13
15:25	16:21	14:24	15:21	13:54	14:50
15:55	16:51	14:54	15:51	14:24	15:20
16:55	17:51	15:24	16:21	14:54	15:50
17:25	18:21	15:54	16:51	15:24	16:20
17:55	18:51	16:24	17:21	15:54	16:50
18:25	19:21	16:54	17:51	16:54	17:50
18:55	19:51	17:24	18:21	17:24	18:20
19:54	20:44	17:54	18:51	17:54	18:44
20:24	21:14	18:54	19:49	18:54	19:43
21:24	22:13	19:54	20:42	19:54	20:43

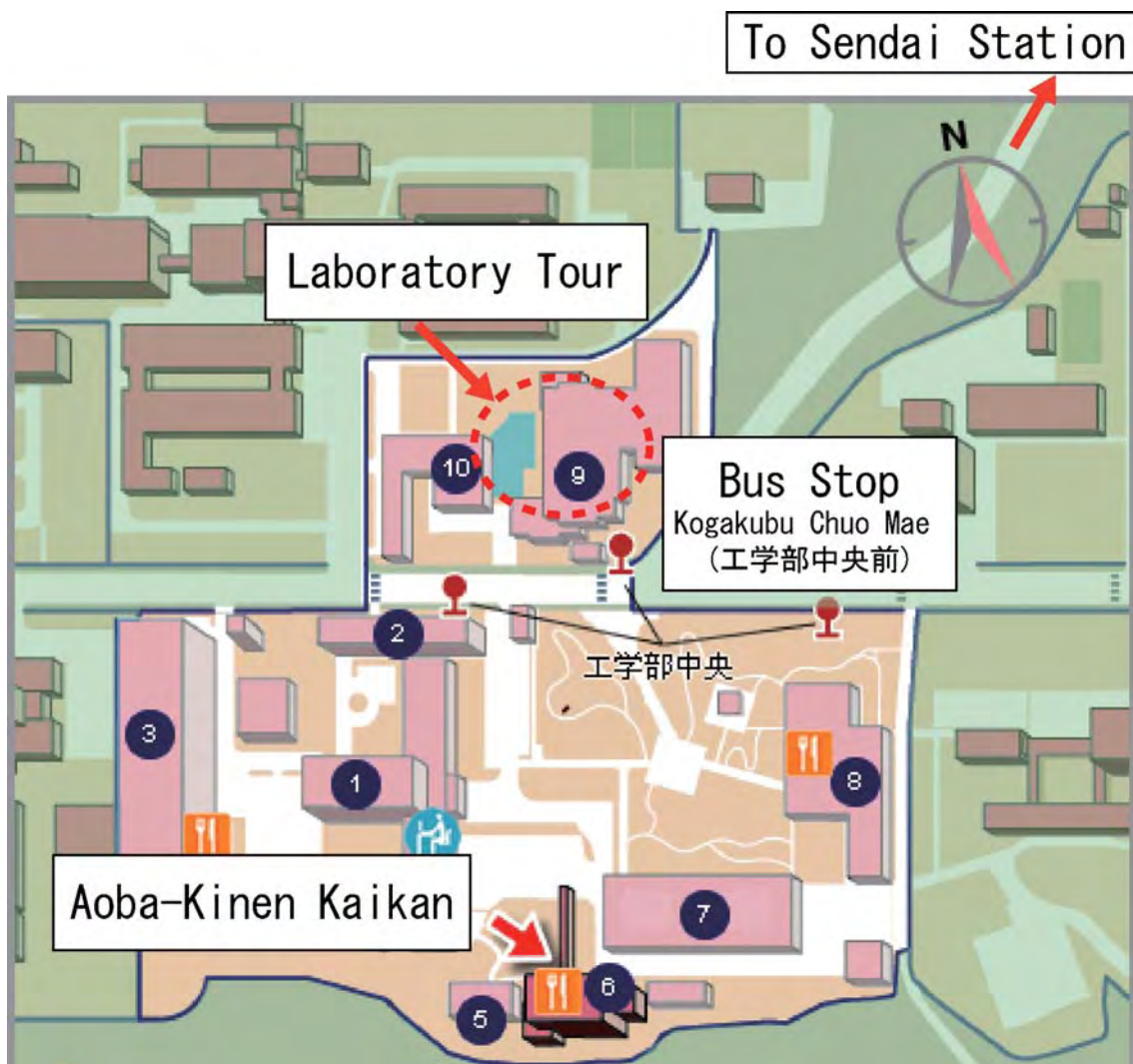
From Akiu-Shinrin Sports Park to Sendai Station

Week day		Saturday		Sunday	
Akiu-Shinrin Sports	Sendai Station	Akiu-Shinrin Sports	Sendai Station	Akiu-Shinrin Sports	Sendai Station
6:26	7:23	6:43	7:32	6:53	7:42
6:43	7:39	7:10	8:00	7:25	8:14
7:10	8:12	7:33	8:23	7:53	8:42
7:33	8:30	7:53	8:43	8:25	9:19
7:59	9:01	8:25	9:24	8:53	9:51
8:25	9:26	8:58	9:59	9:27	10:25
8:53	9:52	9:25	10:26	9:53	10:51
9:26	10:28	9:53	10:54	10:53	11:53
9:55	10:56	10:53	11:54	11:25	12:23
11:27	12:26	11:26	12:24	11:53	12:52
11:53	12:52	11:54	12:53	12:53	13:52
12:26	13:25	12:26	13:23	13:23	14:22
12:54	13:53	12:54	13:53	13:53	14:52
13:27	14:26	13:27	14:26	14:24	15:23
13:53	14:52	13:53	14:52	14:53	15:52
14:27	15:26	14:23	15:22	15:27	16:25
14:53	15:52	14:53	15:52	16:53	17:50
15:55	16:53	15:55	16:53	17:27	18:20
16:55	17:52	16:53	17:52	18:53	19:44
17:27	18:25	17:25	18:23		
18:53	19:44	18:53	19:47		

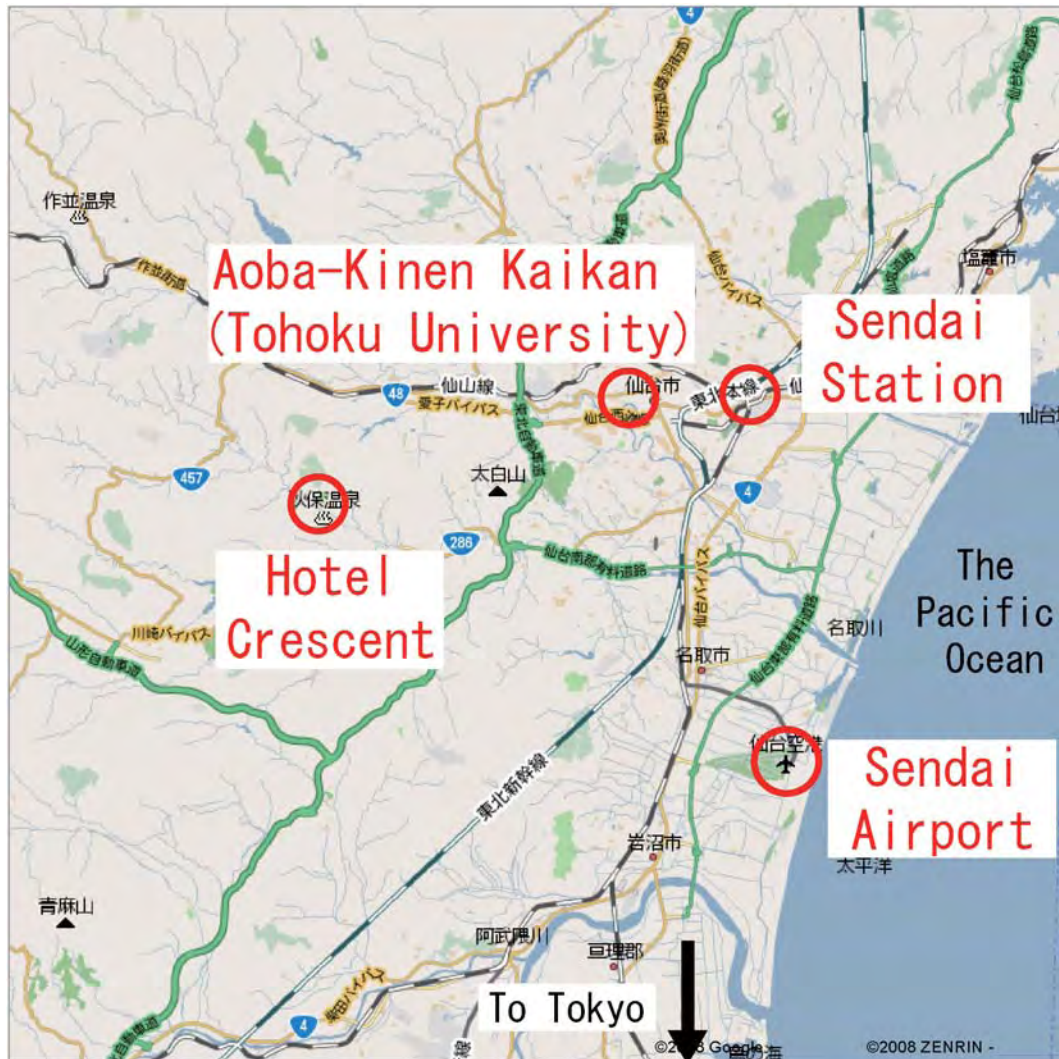
◆To Aoba-Kinen Kaikan from Sendai Station

1. Board one of the following route bus departs from **No.9 bus stop** at bus terminal in Sendai Station (see the map around Sendai Station for the place of bus stop):
 - a. Bus bound for Miyakyodai (W8-2), or
 - b. Bus bound for Aobajoshi Junkan (W7-1)
2. Alight at Kougakubu Chuo Mae (工学部中央前). Journey takes 15-20 minutes.
(One way: 220 Japanese Yen)
3. Aoba-Kinen Kaikan: 1 min walk from bus stop (see below for details).

Map around Aoba-Kinen Kaikan



Map of the Total Correlation relating with the conference



<For the participants attend ICPP2008 in Fukuoka>

Take the Airport train “Sendai Airport Transit” from Sendai Station to Sendai Airport. You can arrive at the Fukuoka Airport within 2 hours with a direct flight from Sendai Airport.

ISGLP2008 Daily Program

Thursday, September 4

- 16:00- Registration
18:00- Welcome Reception

Friday, September 5

- 9:00-9:15 Opening Session
- 9:15-10:00 Plenary Lecture Chair : R. W. Boswell
GP-PL **Laboratory-Experiment and Space-Observation Interrelationships**
Mark E. Koepke
Department of Physics, West Virginia University, WV, USA
- 10:00-10:30 Invited Lecture Chair : Y. Kiwamoto
GP-I1 **Singular Vortex Formations in a Magnetized Plasma**
Masayoshi Y. Tanaka¹, Kohei Ogiwara¹, Shuzo Etoh¹, Shinji Yoshimura²,
Mitsutoshi Aramaki³, Jovo Vranjes⁴
¹*Department of High Energy Engineering Science, Kyushu University, Kasuga, Japan,*
²*National Institute for Fusion Science, Toki, Japan,*
³*Department of Electrical Engineering, Nagoya University, Nagoya, Japan,* ⁴*Center for Plasma Astrophysics, Leuven, Belgium*
- 10:30-11:10 Oral Session
GP-O3 **Collisional Instability in Inhomogeneous Pair-Ion Plasma**
J. Vranjes^{1,2}, S. Poedts¹
¹*Center for Plasma Astrophysics, and Leuven Mathematical Modeling and Computational Science Centre (LMCC) Celestijnenlaan 200B, 3001 Leuven, Belgium,*
²*Faculté des Sciences Appliquées, avenue F.D. Roosevelt 50, 1050 Bruxelles, Belgium*
- GP-O1 **On the Plasma-Sheath Boundary in Finite- ϵ Plasmas with Warm Ion Sources**
Nikola Jelić^{1,2}, Siegbert Kuhn¹, Janez Krek²
¹*Association EURATOM-ÖAW, Institute for Theoretical Physics, University of Innsbruck, Innsbruck, Austria,*
²*LECAD Laboratory, Faculty of Mechanical Engineering, University of Ljubljana, Ljubljana, Slovenia*
- 11:10-11:30 Coffee Break
- 11:30-12:30 Invited Lectures Chair : R. Schrittwieser / C. Charles
GP-I2 **Isolated Confinement and Control of Non-Neutral Plasma and Application to Anti-Particle Physics and Atom-Technology**
Yasuhito Kiwamoto, Jun Aoki, Yukihiro Soga, Makiko Nakano, Yosuke Kawai
Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan

- GP-I3 ***Fluids at the Kinetic Level: Studies with Complex Plasmas***
A. V. Ivlev¹, V. Nosenko¹, S. Zhdanov¹, V. Steinberg², R. Kompaneets¹, G. Morfill¹
¹Max Planck Institute for Extraterrestrial Physics, Garching, Germany,
²Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot, Israel
- 12:30-13:05 Oral Session
- GP-O6 ***Optical Properties and Surface Morphology of Aluminum Nanolayer Deposited on Glass and (Cu, Fe) Thin Films by DC Magnetron Sputtering***
Mahmood Ghoranneviss¹, Parvin Alizadeh Eslami^{2,3}, Saeed Nasiri Laheghi¹
¹Plasma Research Center, Islamic Azad University, Science and Research Branch, Tehran-Iran,
²Department of Chemistry, Islamic Azad University, North Tehran Branch, Tehran-Iran,
³Department of Science-Applied Chemistry, Islamic Azad University, Tabriz Branch, Tabriz-Iran
- GP-O4 ***Antibacterial Application of Nitrogen-Based Streamer Discharge at Normal Atmospheric-Pressure, Excited by Inductive Energy Storage Pulse-Generator with Off-Controlled Static-Induction Thyristor***
Tetsuya Akitsu, Keiko Katayama-Hirayama
Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi, Yamanashi, Japan
- 13:05-14:00 Lunch Break
- 14:00-15:00 Invited Lectures Chair : B. R. Locke
- LP-I6 ***Solution Plasma Processing for Nanoparticles***
Osamu Takai¹, Nagahiro Saito²
¹EcoTopia Science Research Institute, Nagoya University, Nagoya, Japan,
²Department of Molecular Design and Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan
- LP-I5 ***Reactions at the Interface between Ionic Liquids and Low Temperature Plasmas***
Manuel Pölleth, Sebastian A. Meiss, Marcus Rohnke, Jürgen Janek
Institute of Physical Chemistry, Justus-Liebig-University, Gießen, Germany
- 15:00-15:30 Oral Session
- LP-O3 ***Efficiency Improvement of Solute Decomposition in Water by Multibubble Plasma Excited by Microwave Discharge***
Tatsuo Ishijima¹, Hiroyasu Sugiura², Ryota Saito², Hirotaka Toyoda², Hideo Sugai³
¹Plasma Nanotechnology Research Center, Nagoya University, Nagoya, Japan,
²Department of Electrical Eng. Computer Sci., Nagoya University, Nagoya, Japan,
³Department of Electrical and Electronic Engineering, Chubu University, Kasugai, Japan

LP-O1 ***Pulse Modulated DC Atmospheric Glow Microdischarges with Electrolyte Cathode and Miniature Gas Flow***
Naoki Shirai, Masato Nakazawa, Shinji Ibuka, Shozo Ishii
Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan

15:30-15:50 Coffee Break

15:50-16:50 Invited Lectures Chair : J. Janek

LP-I3 ***Plasma Production in Water and its Application to Bio Systems and Living Organisms***

Hidenori Akiyama¹, Sunao Katsuki², Takao Namihira², Takashi Sakugawa¹, Seyed Hamid Reza Hosseini¹

¹*Graduate School of Science and Technology, Kumamoto University, Kumamoto, Japan,*

²*Bioelectrics Research Center, Kumamoto University, Kumamoto, Japan*

LP-I4 ***Physical Characteristics of Dc-Excited Discharges in and in Contact with Water***

Peter Bruggeman, Christophe Leys

Department of Applied Physics, Ghent University, Ghent

16:50-17:20 Oral Session

LP-O7 ***Electron Spin Resonance (ESR) Study of Free Radical Formation in Water during Atmospheric-Pressure Plasma Processing in Liquids***

Atsushi Tani¹, Katsuhisa Kitano², Kohei Mizotani², Satoshi Ikawa³, Satoshi Hamaguchi²

¹*Department of Earth and Space Science, Graduate School of Science, Osaka University, Osaka, Japan,*

²*Center for Atomic and Molecular Technologies, Graduate School of Engineering, Osaka University, Osaka, Japan,*

³*Technology Research Institute of Osaka Prefecture, Osaka, Japan*

LP-O2 ***Atmospheric Pressure Discharge Using Electrolyte Solution as Cathode***

Qiang Chen, Kenji Saito, Hajime Shirai

Graduate School of Science and Engineering, Saitama University, Saitama, Japan

19:00- Banquet

Saturday, September 6

9:00-9:45 Plenary Lecture Chair : H. Akiyama

LP-PL ***Electrical Discharge Plasma Formed in Liquid Water Compared to Adding Water Droplets to a Gas Phase Plasma***

Bruce R. Locke

Department of Chemical and Biomedical Engineering, Florida State University, FL, USA

- 9:45-10:15 Invited Lectures Chair : S. Ishii
 LP-I2 ***Underwater Electrical Wire Explosion***
 Yakov E. Krasik, A. Grinenko, Sergey Efimov, Dekel Veksler, Alexander Fedotov,
 Daniel Sheftman, Victor Tz Gurovich,
 Svetlana Gleizer, Galina Bazalitski
Physics Department, Technion, Israel
- 10:15-10:30 Oral Session
 LP-O4 ***FTIR Study of Methylene Blue Plasma Degradation Products***
 Tatsuru Shirafuji¹, Tadasuke Morita², Osamu Sakai², Kunihide Tachibana²
¹*Innovative Collaboration Center, Kyoto Univ., Kyoto, Japan,*
²*Dept. Electronic Sci. and Eng., Kyoto Univ., Kyoto, Japan*
- 10:30-10:50 Coffee Break
- 10:50-11:20 Invited Lectures Chair : Y. E. Krasik
 LP-I1 ***Generation of High-Frequency and Microwave In-Liquid Plasma and its Applications***
 Shinfuku Nomura, Hiromichi Toyota
*Department of Engineering for Production and Environment, Ehime University, Ehime,
 Japan*
- 11:20-11:50 Oral Session
 LP-O5 ***Pulsed Dielectric Barrier Discharge and OH Radical Formation in Gas-Liquid
 Two-Phase Flow for Water Purification***
 Koichi Yasuoka, Keisuke Sasaki, Yasuaki Matsui
*Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo,
 Japan*
- LP-O6 ***Condition for High Yield Synthesis of Carbon Nanohorns by Gas-Injected Arc-in-
 Water System***
 Noriaki Sano¹, Yuu Kimura², Yoshinaga Yasumura², Hajime Tamon¹
¹*Department of Chemical Engineering, Kyoto University, Kyoto, Japan,*
²*Department of Mechanical and System Engineering, University of Hyogo, Himeji, Japan*
- 11:50-12:20 Lunch Break
- 12:20-14:20 Poster Session

- 14:20-15:50 Invited Lectures Chair : M. E. Koepke
- GP-I4 ***Double Layers in Helicon Plasmas Used for Space Applications***
 Roderick William Boswell, Christine Charles
Space Plasma, Power and Propulsion Group, Research School of Physical Sciences and Engineering, The Australian National University, Australia
- GP-I5 ***VASIMR Performance Measurements at Powers Exceeding 50 kW and Lunar Robotic Mission Applications***
 Jared P. Squire¹, Franklin R. Chang-Díaz¹, Tim W. Glover¹, Mark D. Carter¹, Leonard D. Cassady¹, William J. Chancery¹, Verlin T. Jacobson¹, Greg E. McCaskill¹, Chris S. Olsen¹, Edgar A. Bering², Michael S. Brukardt², Ben W. Longmier²
¹*Ad Astra Rocket Company, Webster, Texas, USA,*
²*The University of Houston, Houston, Texas, USA*
- GP-I6 ***Three dimensional global fluid simulations of cylindrical magnetised plasmas***
 Volker Naulin¹, Olaf Grulke², Thomas Windisch²
¹*Association EURATOM - Riso DTU PO Box 49 DK-4000 Roskilde, Denmark*
²*Max-Planck Institute for Plasma Physics EURATOM Association D-17491 Greifswald, Germany*
- 15:50-16:45 Oral Session Chair : S. Kuhn
- GP-O7 ***Development of Reactive Plasma Processes for Hydrogen Fuel Cells***
 Christine Charles¹, Amael Caillard^{1,2}, Cormac Corr¹, Rod B. Boswell¹, Herve Rabat², Pascal Brault²
¹*Space Plasma, Power and Propulsion group (SP3), RSPHYSSE, The Australian National University (ANU), Canberra, Australia,*
²*Groupe de Recherches sur l'Energétique des Milieux Ionisés (GREMI), UMR6606 CNRS, Université d'Orléans, France*
- GP-O5 ***Ultra-Long Storage of Fresh Plants under the Controlled Environment with Help of Plasma***
 C. M. Liu¹, H. T. Chen¹, Y. Nishida^{1,2}, H. Ito³, K. Iwasaki⁴, K. Ting¹
¹*College of Engineering, Lunghwa University of Science and Technology, Taoyuan, Taiwan,*
²*Energy and Environmental Science, Graduate School of Engineering, Utsunomiya University, Tochigi, Japan,*
³*Electric and Electronic Engineering, Faculty of Engineering, University of Toyama, Toyama, Japan,*
⁴*Daikoh Shoji Corporation, Tochigi, Japan*
- GP-O2 ***Turbulence Measurements with Cold and Emissive Probes in ISTTOK***
 R. Schrittwieser¹, C. Ionita¹, C Silva², P. Balan¹, H. Figueiredo², V. Naulin³, J. Juul Rasmussen³
¹*Association Euratom-ÖAW, Institute for Ion Physics and Applied Physics, University of Innsbruck, Technikerstr, Innsbruck, Austria,*
²*Association EURATOM/IST, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Av. Rovisco Pais, Lisboa, Portugal,*
³*Association EURATOM - RisøDTU, Technical University of Denmark, Optics and Plasma Research Department, Roskilde, Denmark*

16:45-17:00 Closing Session

17:00-18:00 Lab tour

18:00- Mini-sightseeing tour

- GP-P01 **Beaming of CO₂ Laser-Produced Metal Plasma along B-Field**
 Yoshifumi Ueno, George Soumagne, Takashi Suganuma, Hiroshi Komori, Akira Sumitani, Akira Endo
R&D Center Hiratsuka, EUVA (Extreme Ultraviolet Lithography System Development Association), Kanagawa, Japan
- GP-P02 **Time and Space Resolved Optical Emission Spectroscopy of an Atmospheric Transient Glow Microdischarge Powered by Double Pulsed Voltages**
 Jun Kikuchi, Koichi Igarashi, Shinji Ibuka, Shozo Ishii
Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan
- GP-P03 **Observation and Modeling of Recombination Plasma with Vibrationally Excited Hydrogen Molecules**
 A. Tonegawa, A. Nakanowatari, T. Shibata, H. Ishioka, K. Kawamura
Department of Physics, School of Science, Tokai University, Kanagawa, Japan
- GP-P04 **Spectral Investigations of Fireballs**
 Codrina Ionita¹, Silviu Gurlui², Dan Gheorghe Dimitriu², Roman Wolfgang Schrittwieser¹
¹Institute for Ion Physics and Applied Physics, University of Innsbruck, Austria, ²Faculty of Physics, Alexandru Ioan Cuza University, Iasi, Romania
- GP-P05 **Characteristics of an Alfvén Mach Probe in a Fast-Flowing Plasma**
 Shingo Jo, Ryosuke Arakaki, Takahiro Taguchi, Akira Ando
Department of Electric Engineering, Tohoku University, Sendai, Japan
- GP-P06 **Drift Waves Driven by Parallel Ion Flow Velocity Shears in Potassium-Cesium Mixed Plasmas**
 Shuichi Tamura, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P07 **Formation of Electron Temperature Gradient in Magnetized Plasmas**
 M. M. Rahman, S. Tamura, S. Yanagi, T. Kaneko, R. Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P08 **Dust Behavior in Dust Flow with Velocity Shear in RF Plasma**
 Takuma Gohda, Satoru Iizuka
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P09 **Comparative Study on the Sterilization of Aspergillus Niger by Pulsed Power Atmospheric Microplasma**
 Siti Khadijah¹, Keiko Katayama-Hirayama², Tetsuya Akitsu¹
¹Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi, Yamanashi, Japan, ²Department of Civil and Environmental Engineering, University of Yamanashi, Yamanashi, Japan
- GP-P10 **Nonequilibrium Atmospheric Pressure Plasma Excited by Three-Phase AC and its Application to Surface Modification of Polymer Materials**
 Hirotohi Inui¹, Hiroyuki Kano², Yasuhiko Suzuki³, Daisuke Sutou³, Kazuhiko Nakada³, Masaru Hori¹
¹Department of Electrical Engineering and Computer Science, Graduate School of Engineering, Nagoya University, Nagoya, Japan, ²NU EcoEngineering Co., Ltd., Japan, ³Central R&D Lab., Menicon Co., Ltd., Japan

- GP-P11 ***Application of Compact Solid State Opening Switch / Magnetic Compression Pulsed Power in Inactivation of *Geobacillus Stearothermophilus* Spore***
Hiroshi Ohkawa¹, Weihua Jiang², Keiko Katayama-Hirayama¹, Tetsuya Akitsu¹
¹*Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi, Yamanashi, Japan,* ²*Nagaoka University of Technology, Nagaoka, Niigata, Japan*
- GP-P12 ***Expanding Plasma Source Using Permanent Magnets for Generation of Supersonic Ion Beam***
Kazunori Takahashi, Hiroshi Yamada, Tamiya Fujiwara
Department of Electrical and Electronic Engineering, Iwate University, Iwate, Japan
- GP-P13 ***Ion Heating and Acceleration in Helium and Hydrogen Plasmas for Advanced Plasma Thrusters***
Akira Ando, Shingo Jo, Takahiro Taguchi, Ryosuke Arakaki, Jyunji Komuro
Department of Electric Engineering, Tohoku University, Sendai, Japan
- GP-P14 ***Synthesis of Iron-Atom Endohedral Fullerene with Electron Cyclotron Resonance Plasma Irradiation Method***
Go Yokokura, Hiroyasu Ishida, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P15 ***Selective Fullerene-Plasma-Ion Irradiation to Single-Walled Carbon Nanotubes Using Substrate Bias Method***
Yohei Hanabusa, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P16 ***MgO Microparticle Deposition by RF Impulse Discharge in Small Coaxial Electrode System***
Takumasa Muraoka, Toru Kashimura, Satoru Iizuka
Department of Electrical Engineering, Tohoku University, Sendai, Japan
- GP-P17 ***Culture of Neural Stem Cells on Carbon Nanotube Based Bio Nanosensor Treated by Plasma-Activation Method***
Takamichi Hirata¹, Masahiro Akiya¹, Takafumi Sakai²
¹*Department of Biomedical Engineering, Musashi Institute of Technology, Tokyo, Japan,* ²*Division of Life Science, Graduate School of Science and Engineering, Saitama University, Saitama, Japan*
- GP-P18 ***Electrohydrodynamic Gas Flow Generation with a Wire Electrode***
Nozomi Takeuchi, Koichi Yasuoka
Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan
- GP-P19 ***Formation of Calcium Encapsulated Single-Walled Carbon Nanotubes via Calcium Plasma Ion Irradiation***
Tetsuhiro Shimizu¹, Toshiaki Kato¹, Wataru Oohara², Rikizo Hatakeyama³
¹*Department of Electronic Engineering, Tohoku University, Sendai, Japan,* ²*Graduate School of Science and Engineering, Yamaguchi University, Yamaguchi, Japan,* ³*Department of Electronic Engineering, Tohoku University, Sendai, Japan*

- GP-P20 ***The Effect of Magnetic Field Direction on Physical Properties of Fe Film Prepared by Cylindrical Magnetron Sputtering System***
Maryam Khaksar, Majid Eshghabadi, Kiomars Yasserian, Mahmood Ghoranneviss
Plasma Physics Research Center, Science and Research Campus, Azad University, Tehran, Iran
- GP-P21 ***Effects of Plasma Irradiation Variation on Synthesis of Nitrogen Atom Encapsulated Fullerenes***
Sunao Miyana, Toshiro Kaneko, Hiroyasu Ishida, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P22 ***Synthesis of Carbon Nanoparticles by Arc Discharge under Reduced Pressure Air within a Spherical Chamber***
Chantamane Poonjarearnsilp¹, Tawatchai Charinpanitkul¹, Apinan Soottitantawat¹, Noriaki Sano², Hajime Tamon²
¹*Center of Excellence in Particle Technology, Department of Chemical Engineering, Chulalongkorn University, Bangkok, Thailand,* ²*Department of Chemical Engineering, Graduate School of Engineering, Kyoto University, Kyoto, Japan*
- GP-P23 ***Electric Property of Carbon Nanotube Based Field-Effect Transistor Improved by Heat Treatment***
Tatsuya Y. Kato, Yongfeng F. Li, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P24 ***Functional Double-Walled Carbon Nanotubes Created by Plasma Processing***
Yongfeng Li, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P25 ***Electron Injection into a Forced Excited Plasma Wake Field Driven by Femto-Sec Beat Wave***
Yoshitaka Mori, Yoneyoshi Kitagawa
The Graduate School for the Creation of New Photonics Industries, Hamamatsu, Japan
- GP-P26 ***Gas Pressure Effects on the Structure of Single-Walled Carbon Nanotube Grown with Diffusion Plasma CVD***
Shunsuke Kuroda, Toshiaki Kato, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P27 ***Growth of Carbon Nanotubes Using Plasma CVD over Gold Catalyst***
Zohreh Ghorannevis, Toshiaki Kato, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- GP-P28 ***Decomposition of Carbon Dioxide by CO₂/H₂O Plasma in a Narrow Tube***
Genki Satoh, Satoru Iizuka
Department of Electrical Engineering, Graduate School of Engineering, Tohoku University, Sendai, Japan
- GP-P29 ***Effects of Noble-Gas Ion Density on Creation of Gas-Atom Encapsulated Silicon Fullerenes***
Masahiro Yabuno, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan

GP-P30 ***Production of ZnO Nanowires in Hollow-Type Magnetron O₂/Ar RF Plasma***

Hideki Ono, Satoru Iizuka

*Department of Electrical Engineering, Graduate School of Engineering, Tohoku University,
Sendai, Japan*

GP-P31 ***Effect of Plasma Parameters on Synthesis and Properties of Nitrogen Atom Encapsulated Fullerene***

Jamal Uddin Ahamed, Shohei Nishigaki, Sunao Miyanaga, Toshiro Kaneko, Yongfeng Li, Rikizo Hatakeyama

Department of Electronic Engineering, Tohoku University, Sendai, Japan

- LP-P01 **Density Evolution of Nitrate Ions Generated in Water by DC Discharge within Gas Bubbles**
Yoko Ishii, Youhei Miyata, Koichi Yasuoka
Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan
- LP-P02 **Water Plasma Discharge Studied by Optical Emission Spectroscopy**
Štěpán Potocký^{1,3}, Nagahiro Saito^{2,3}, Osamu Takai^{1,3}
¹*EcoTopia Science Institute, Nagoya University, Nagoya, Japan,* ²*Department of Molecular Design and Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan,* ³*JST-CREST, Saitama, Japan*
- LP-P03 **Formation of OH Radical and Hydrogen Peroxide Via RF Plasma in Water**
Tsunehiro Maehara¹, Ippei Miyamoto¹, Shingo Onishi¹, Shinobu Mukasa¹, Hiromichi Toyota¹, Makoto Kuramoto², Shinfuku Nomura¹, Ayato Kawashima³
¹*Graduate School of Science and Engineering, Ehime University, Matsuyama, Japan,* ²*Integrated Center for Science, Ehime University, Matsuyama, Japan,* ³*Faculty of Agriculture, Ehime University, Matsuyama, Japan*
- LP-P04 **Water Purification Using Non-Thermal Plasma Driven by Blumlein-line Stacked Pulsed Power Generator**
Katsuyuki Takahashi¹, Seiji Mukaigawa¹, Koichi Takaki¹, Tamiya Fujiwara¹, Naoya Satta²
¹*Faculty of Engineering, Iwate University, Iwate, Japan,* ²*Faculty of Agriculture, Iwate University, Iwate, Japan*
- LP-P05 **Electrolyte Plasmas Creating Single-Walled Carbon Nanotubes Decorated with Ionic Liquids**
Yu Hirotsu, Toshiro Kaneko, Rikizo Hatakeyama
Department of Electronic Engineering, Tohoku University, Sendai, Japan
- LP-P06 **Interfaces Between Ionic Liquids and Low Temperature Plasmas - A Novel Type of Fluid/Fluid Interface**
Mareike Brettholle¹, Oliver Höfft¹, Frank Endres¹, Manuel Pölleth², Sebastian A. Meiss², J. Janek²
¹*Institute of Metallurgy, Clausthal University of Technology, Germany,* ²*Institute of Physical Chemistry, Justus-Liebig-University of Giessen, Germany*
- LP-P07 **Ionic Liquid Interfaced Discharge Plasma Controlling Interfacial Electric Field for Nanomaterial Creation**
Kazuhiko Baba¹, Toshiro Kaneko^{1,2}, Rikizo Hatakeyama¹
¹*Department of Electronic Engineering, Tohoku University, Sendai, Japan,* ²*CREST/JST, Japan*
- LP-P08 **Interpretation of Gold Nanoparticles Synthesis in Solution Plasma with Quantitative Underpinning**
Norihiro Fujikawa¹, Nagahiro Saito^{2,4}, Osamu Takai^{3,4}
¹*Department of Materials Engineering, Nagoya University, Nagoya, Japan,* ²*Department of Molecular Design and Engineering, Nagoya University, Nagoya, Japan,* ³*CREST / JST, Nagoya, Japan,* ⁴*EcoTopia Science Institute, Nagoya University, Nagoya, Japan,*
- LP-P09 **Chemical Reaction of Carboxyl Acids in Solution Plasma**
Koji Mitamura^{1,3}, Nagahiro Saito^{2,3}, Osamu Takai^{1,2,3}
¹*EcoTopia Science Institute, Nagoya University, Nagoya, Japan,* ²*Graduate School of Engineering, Nagoya University, Nagoya, Japan,* ³*JST-CREST*

- LP-P10 **ROS Generation in Water by Exposure to an Argon Plasma Flow**
Takashi Miyahara¹, Shiroh Ochiai², Takehiko Sato³
¹Faculty of Engineering, Shizuoka University, Hamamatsu, Japan, ²Graduate School of Engineering, Tohoku University, Sendai, Japan, ³Institute of Fluid Science, Tohoku University, Sendai, Japan
- LP-P11 **Synthesis and Characterization of Copper-Based Nanoparticles Via Solution Plasma**
Neculai Apetroaei¹, Nagahiro Saito², Osamu Takai¹
¹EcoTopia Science Institute, Nagoya University, Nagoya, Japan, ²Departement of Molecular Design and Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan
- LP-P12 **Protection Ability of Surfactant for Copper Nanoparticles in Solution Plasma**
Takaaki Mori¹, Nagahiro Saito^{1,2,4}, Osamu Takai^{2,3,4}
¹Department of Molecular Design and Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan, ²Department of Material Science and Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan, ³EcoTopia Science Institute, Nagoya University, Nagoya, Japan, ⁴CREST/JST, Nagoya, Japan
- LP-P13 **Effect of Microwave Plasma Chemical Modification of Polymer Surface on Amino Group Introduction and Heparin Immobilization**
Martin Král¹, Suguru Noguchi², Akihisa Ogino³, Masaaki Nagatsu^{2,3}
¹Graduate School of Electronic Science and Technology, Shizuoka University, Shizuoka, Japan, ²Graduate School of Science and Engineering, Shizuoka University, Shizuoka, Japan, ³Graduate School of Science and Technology, Shizuoka University, Shizuoka, JapanGP-PL Laboratory-Experiment and Space-Observation

ISGLP2008 Program at a Glance

Sep. 4 Thursday	Sep. 5 Friday (Cosmos Room in Hotel Crescent)	Sep. 6 Saturday (Conference Room in Aoba-Kinen Kaikan)
Opening 9:00 9:15	Opening Session	Plenary 9:00 9:45 LP-PL <i>Electrical Discharge Plasma Formed in Liquid Water Compared to Adding Water Droplets to a Gas Phase Plasma</i> Bruce Robert Locke
Plenary 9:15 10:00	GP-PL <i>Laboratory-Experiment and Space-Observation Interrelationships</i> Mark E Koepke	Invited 9:45 10:15 LP-1 2 <i>Underwater Electrical Wire Explosion</i> Yakov E Krasik
Invited 10:00 10:30	GP-1 1 <i>Singular Vortex Formations in a Magnetized Plasma</i> Masayoshi Tanaka	Oral 10:15 10:30 LP-04 <i>FTIR Study of Methylene Blue Plasma Degradation Products</i> Tatsuru Shirafuji
Oral 10:30 10:50	GP-03 <i>Collisional Instability in Inhomogeneous Pair-Ion Plasmas</i> Jovo Vranjes	10:30 10:50 Coffee Break
Oral 10:50 11:10	GP-01 <i>On the Plasma-Sheath Boundary in Finite-ε Plasmas with Warm Ion Source</i> Siegbert Kuhn	Invited 10:50 11:20 LP-1 1 <i>Generation of High Frequency and Microwave in-Liquid Plasma and its Applications</i> Shinfuku Nomura
11:10 11:30	Coffee Break	Oral 11:20 11:35 LP-05 <i>Pulsed Dielectric Barrier Discharge and OH Radical Formation in Gas-Liquid Two-Phase Flow for Water Purification</i> Koichi Yasuoka
Invited 11:30 12:00	GP-1 2 <i>Isolated Confinement and Control of Non-Neutral Plasma and Application to Anti-Particle Physics and Atom-Technology</i> Yasuhito Kiwamoto	Oral 11:35 11:50 LP-06 <i>Condition for High Yield Synthesis of Carbon Nanohorns by Gas-Injected Arc-In-Water System</i> Noriaki Sano
Invited 12:00 12:30	GP-1 3 <i>Fluids at the Kinetic Level: Studies with Complex Plasmas</i> Alexei Ivlev	11:50 12:20 Lunch Break
Oral 12:30 12:50	GP-06 <i>Optical Properties and Surface Morphology of Al Monolayer Deposited on Glass and (Cu, Fe) Thin Films by DC Magnetron Plasma</i> Mahmoud Ghorannevis	Poster 12:20 14:20 Poster Session (see Poster Program) (First Floor)
Oral 12:50 13:05	GP-04 <i>Anti-Bactericidal Application of Nitrogen-based Streamer Discharge at Normal Atmospheric-Pressure, Excited by Inductive Energy Storage Pulse-Generator with Off-Controlled Static-Induction Thyristor</i> Tetsuya Akitsu	Ahamed, Ando, Apetroaei, Baba, Bretholle, Fujikawa, Ghorannevis, Gohta, Hanabusa, Hirata, Hirotsu, Inui, Ionita, Ishii, Jo, Kato, Khaksar, Kikuchi, Kral, Kuroda, Li, Maehara, Mitamura, Miyahara, Miyanaga, Mori (Takaaki), Mori (Yoshitaka), Muraoka, Ohkawa, Ono, Poonjareamsilp, Potocky, Rahman, Satoh, Shimizu, Takahashi(Katsuyuki), Takahashi(Kazunori), Takeuchi, Tamura, Tonegawa, Ueno, Yabuno, Yokokura, Zaaba
13:05 14:00	Lunch Break	
Invited 14:00 14:30	LP-1 6 <i>Solution Plasma Processing for Nanoparticles</i> Osamu Takai	Invited 14:20 14:50 GP-1 4 <i>Double Layers in Helicon Plasmas used For Space Applications</i> Roderick William Boswell
Invited 14:30 15:00	LP-1 5 <i>Reactions at the Interface between Ionic Liquids and Low Temperature Plasmas</i> Juergen Janek	Invited 14:50 15:20 GP-1 5 <i>VASIMR Performance Measurements at Powers Exceeding 50 kW and Lunar Robotic Mission Applications</i> Jared Philip Squire
Oral 15:00 15:15	LP-03 <i>Efficiency Improvement of Solute Decomposition in Water by Multibubble Plasma Excited by Microwave Discharge</i> Tatsuo Ishijima	Invited 15:20 15:50 GP-1 6 <i>Three dimensional global fluid simulations of cylindrical magnetised plasmas</i> Volker Naulin
Oral 15:15 15:30	LP-01 <i>Pulse Modulated DC Atmospheric Glow Microdischarges with Electrolyte Cathode and Miniature Gas Flow</i> Naoki Shirai	Oral 15:50 16:10 GP-07 <i>Development of Reactive Plasma Processes for Hydrogen Fuel Cells</i> Christine Charles
15:30 15:50	Coffee Break	Oral 16:10 16:25 GP-05 <i>Ultra-Long Storage of Fresh Plants under the Controlled Environment with Help of Plasma</i> C. M. Liu / Y. Nishida
Invited 15:50 16:20	LP-1 3 <i>Plasma Production in Water and its Application to Bio Systems and Living Organisms</i> Hidenori Akiyama	Oral 16:25 16:45 GP-02 <i>Turbulence Measurements with Cold and Emissive Probes in ISTTOK</i> Roman Schrittwieser
16:00	Registration	16:45 17:00 Closing Session
Invited 16:20 16:50	LP-1 4 <i>Physical Characteristics of DC-Excited Discharges in and in Contact with Water</i> Peter Bruggeman	17:00 18:00 Lab Tour
Oral 16:50 17:05	LP-07 <i>Electron Spin Resonance (ESR) Study of Free Radical Formation in Water During Atmospheric-Pressure Plasma Processing in Liquids</i> Atsushi Tani	18:00- Mini-Sightseeing Tour
Oral 17:05 17:20	LP-02 <i>Atmospheric Pressure Discharge using Electrolyte Solution as Cathode</i> Qiang Chen	
18:00- Welcome Reception	19:00- Banquet	