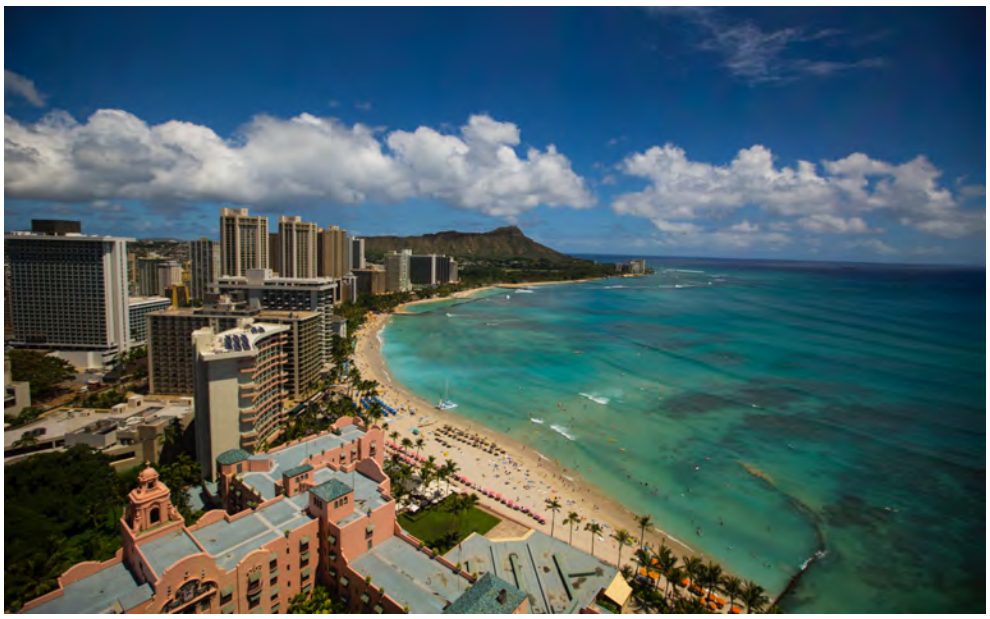
Second Announcement and Call for Papers

GEC-68/ICRP-9/SPP-33

October 12 – 16, 2015
Hawaii Convention Center
Honolulu, U.S.A.

68th Gaseous Electronics Conference
9th International Conference on Reactive Plasmas
33rd Symposium on Plasma Processing



[image courtesy of Hawaii Tourist Authority / Dana Edmunds]

Sponsored by
American Physical Society
The Japanese Society of Applied Physics

http://gec2015.wordpress.drake.edu
http://www.plasma.engg.nagoya-u.ac.jp/icrp-9/

General Information

The 68th Gaseous Electronics Conference (GEC) will take place October 12-16, 2015, in Hawaii, U.S.A., as a joint conference with the 9th International Conference on Reactive Plasmas (ICRP) and the 33rd Symposium on Plasma Processing (SPP). This is the third joint meeting of GEC/ICRP after Maui (Hawaii, 1998) and Paris (France, 2010). The conference will be held at the Hawaii Convention Center in Honolulu.

The GEC is a special conference of the American Physical Society, which promotes the exchange of scientific information and viewpoint concerning basic phenomena in the field of gaseous electronics. It has been held annually since 1948. The ICRP has taken place by the initiative of the Division of Plasma Electronics, the Japan Society of Applied Physics, since 1991. The SPP is known as an annual Japanese domestic meeting, which has also been held by the Division of Plasma Electronics since 1984.

The subjects covered in this joint conference are the entire field of gaseous electronics, including charged-particle collisions, reactive plasmas, and their applications to various materials processing such as surface modification, etching and deposition with emphasis on basic phenomena, technologies, and the underlying basic physics and chemistry. Furthermore, the subjects have been extended to bio- and/or medical applications of plasmas. This conference particularly encourages papers dealing with basic properties of the plasma itself, its generation and control, fundamental processes in the plasma, and plasma-solid/liquid interactions.

The ICRP-9/GEC-68/SPP-33 will consist of a series of oral sessions (composed of both invited and contributed papers), poster sessions, and several arranged sessions on selected topics. Sessions will be organized around coherent subjects in order to facilitate useful discussions and focus on appropriate solutions to problems.

The official language of the conference is English. It will be used for all presentations and printed materials.

[image courtesy of Hawaii Tourist Authority / Kirk Lee Aeder]

Scientific Program

Conference Topics

General Sessions:

1 Atomic and Molecular Processes

1.1 Electron and photon collisions with atoms and molecules: excitation
1.2 Electron and photon collisions with atoms and molecules: ionization
1.3 Heavy-particle collisions
1.4 Dissociation, recombination and attachment
1.5 Distribution functions and transport coefficients for electrons and ions
1.6 Other atomic and molecular collision phenomena

2 Plasma Science

2.1 Nonequilibrium kinetics of low-temperature plasmas
2.2 Basic plasma physics phenomena in low- temperature plasmas
2.3 Plasma boundaries: sheaths, boundary layers, others,
2.4 Gas phase plasma chemistry
2.5 Plasma-surface interactions
2.6 Plasma diagnostic techniques
2.7 Modeling and simulation
2.8 Glows: dc, pulsed, microwave, others
2.9 Capacitively coupled plasmas
2.10 Inductively coupled plasmas
2.11 Magnetically-enhanced plasmas: ECR, helicon, magnetron, others
2.12 High pressure discharges: dielectric barrier, discharges, coronas, breakdown, sparks
2.13 Microdischarges: dc, rf, microwave
2.14 Thermal plasmas: arcs, jets, switches, others
2.15 Plasmas in liquids
2.16 Negative ion and dust particle containing plasmas
2.17 Other plasma science topics

3 Plasma Applications

3.1 Plasmas for light production: laser media, glows, arcs, flat panels, and novel sources
3.2 Plasma etching
3.3 Plasma deposition
3.4 Plasma ion implantation
3.5 Green plasma technologies: environmental and energy applications
3.6 Plasma processing for photovoltaic applications
3.7 Biological applications of plasmas
3.8 Plasma applications in medicine
3.9 Plasma propulsion and aerodynamics
3.10 Plasmas for nanotechnologies, flexible electronics, and other emerging applications

4 Workshops (12 October, 2015; tentative)

Advanced Plasma Processing for Life Science Innovation
Generation and Assessment of Atomic and Molecular Data for Plasma Modeling

Plenary and Invited Speakers (tentative)

GEC Foundation Talk

Timothy J. Gay, University of Nebraska-Lincoln, U.S.A.
"The Gaseous Electronics Conference in its seventh decade: some new problems in an old field"

ICRP Plenary Talk

Kouichi Ono, Kyoto University, Japan
" Plasma-surface interactions for top-down and bottom-up nanofabrication" (tentative)

Atomic and Molecular Processes

Bruno deHarak, Illinois Wesleyan University, Bloomington, U.S.A.
"Effects of polarization direction on laser-assisted free-free scattering"

Joan Dreiling, University of Nebraska-Lincoln, U.S.A
"Chirally sensitive electron-induced molecular breakup"

Michael Fogle, Auburn University, U.S.A.
"Momentum imaging of dissociative electron attachment to small molecules"

Tom Kirchner, York University, Toronto, Canada
"Theory and modeling of few-body dynamics in fast ion-atom and ion-molecule collisions"

Marco Lima, Universidade Estadual de Campinas, Brazil
"Electron scattering data for molecular targets related to biofuel production"

Don Madison, Missouri University of Science and Technology, Rolla, U.S.A.
"Fully-differential cross sections for electron-impact ionization of atoms and molecules"

Thomas Schlathoelter, University of Groningen, The Netherlands
"Biomolecular ionization and fragmentation dynamics after interaction with keV ions and energetic photons."

Hirotake Sugawara, Hokkaido University, Japan
"Fundamental study on filter effect of confronting divergent magnetic fields applied to a low-pressure inductively coupled plasma"

James Sullivan, Australian National University, Canberra, Australia
"Positron scattering measurements for application to medical physics"

Cliff Surko, University of California-San Diego, U.S.A.
"Positron atomic physics – new tools and results"

Masahiko Takahashi, Tohoku University, Sendai, Japan
"Progress in (e,2e) electron momentum spectroscopy: From the static to the time-resolved regime"

Plasma Science

Mikhail Benilov, University of Madeira, Portugal
"Spots and patterns on electrodes of gas discharges"

Anne Bourdon, Ecole Polytechnique, Paris, France
"2D fluid simulations of discharges at atmospheric pressure in reactive gas mixtures"

Peter Bruggeman, University of Minnesota, U.S.A.
"Diagnostics of transient non-equilibrium atmospheric pressure plasmas"

Keith Cartwright, Sandia National Laboratories, Albuquerque, U.S.A.
"Numerical uncertainty estimation for stochastic particle-in-cell simulations applied to verification and validation"

Luis Chacon, Los Alamos National Laboratories, U.S.A.
"Multidimensional, fully implicit, exactly conserving electromagnetic particle-in-cell simulations"

Andrew Christlieb, Michigan State University, U.S.A.
"Understanding Plasmas with a High Degree of Correlation Through Modeling: From Rydberg and Fermionic plasmas to Penning Plasmas"
Francesco Fracassi, University of Bari, Italy
"Surface functionalization with atmospheric pressure DBD"
Timo Gans, University of York, U.K.
"Tailoring the electron dynamics and chemical kinetics in radio-frequency driven atmospheric pressure plasmas"
David Go, University of Notre Dame, U.S.A.
"Understanding charge transfer reactions at the interface of plasmas in contact with liquids" (tentative)
Erik Johnson, LPICM-CNRS, Ecole Polytechnique, France
"Gaining greater control and understanding of processing plasmas through tailored voltage waveforms"
Holger Kersten, University of Kiel, Germany
"Diagnostics of nano-particle formation in process plasmas"
Natalia MacDonald-Tenenbaum, Air Force Research Laboratory, U.S.A.
"Laser diagnostics for spacecraft propulsion"
Ryo Ono, The University of Tokyo, Japan
"Measurement of gas phase reactive species for plasma medicine"
Laxminarayan L. Raja, University of Texas at Austin, U.S.A.
"Computational modeling and simulation of micron-scale discharges and their interactions with high-frequency electromagnetic waves" (tentative)
Stephan Reuter, Institute for Plasmaphysics, Greifswald, Germany
"Dynamics of filamentary plasma jets used in plasma medicine"
Osamu Sakai, University of Shiga Prefecture, Japan
"Negative-permittivity plasma generation in negative-permeability metamaterial space"
Masaya Shigeta, Osaka University, Japan
"Modelling for turbulent transfer of nanoparticles growing around a thermal plasma jet"
David Smith, General Electric, U.S.A.
"Operating modes of a low pressure, high current, magnetized rare-gas plasma"
Kentaro Tomita, Kyushu University, Japan
"Thomson scattering diagnostics of atmospheric pressure plasmas -Pulsed filament discharges and plasma jets"
Jan Trieschmann, University of Bochum, Germany
"Heavy-particle transport in highly ionized high-power plasmas"
Xi-Ming Zhu, University of Bochum, Germany
"Challenges in collisional-radiative modeling for low-temperature plasmas: EEDF, species density profiles, and collisional cross-section data"

Plasma Applications

Farzaneh Arefi-Khonsari, University Pierre and Marie Curie, France
"Plasma polymers for biomedical applications"
John Caughman, Oak Ridge National Laboratory, U.S.A.
"The interaction of the near-field plasma with antennas used in magnetic fusion research"
Eun Ha Choi, Kwangwoon University, Korea
"Diagnostics of nonthermal atmospheric pressure plasma for plasma biosciences and their biological cell interactions throughout ultraviolet photolysis"
Vittorio Colombo, University of Bologna, Italy
"Atmospheric non-equilibrium plasma sources and processes with a focus on plasma medicine and antibacterial applications" (tentative)

Sylvain Coulombe, McGill University, Canada
"Plasmas and nanostructures for energy applications"
Demetre Economou, University of Houston, U.S.A.
"In-plasma photo-assisted etching"
David Gahn, Impedans Ltd, Dublin, Ireland
"Wireless sensor technology for in-situ plasma process monitoring"
Nobuyuki Kuboi, Sony, Japan
"Advanced simulation technology to design etching process on CMOS devices" (tentative)
Yongfeng Li, China University of Petroleum-Beijing, China
"Plasma-functionalized nanocarbon materials and their applications"
Xinpei Lu, Huazhong, University of Science & Technology, P.R. China
"Reactive species: from plasma to cell"
Masaaki Nagatsu, Shizuoka University, Japan
"High-sensitive virus and bacteria detection using plasma-surface-functionalized and antibody-integrated carbon nanomaterials"
Deirdre Olynick, Lawrence Berkeley National Laboratory, U.S.A.
"Applicability of cryogenic etching for sub-10 nm etching using block copolymer lithography and double patterning"
Gerard van Rooij, Dutch Institute for Fundamental Energy Research (DIFFER), Netherlands
"Plasmolysis for efficient CO_2-to-fuel conversion"
Jochen Schein, Universität der Bundeswehr, Munich, Germany
"Thermal plasmas: Influence of current modulation on process performance"
Volker Schulz von der Gathen, University of Bochum, Germany
"Design and characterization of an RF excited micro atmospheric pressure plasma jet for reference in plasma medicine"
Koichi Takaki, Iwate University, Japan
"Long-term preservation of marine products via conformational change of protein by electrostatic effect"
Jyh-Ming Ting, National Cheng Kung University, Taiwan
"Self-assembled multi-layer a-C:H/Me coatings by reactive sputter deposition"
Hindrik W. de Vries, Dutch Institute for Fundamental Energy Research (DIFFER), Netherlands
"Roll-to-roll atmospheric plasma processing of moisture barrier film on polymer substrate"
Thomas von Woedtke, INP Greifswald, Germany
"Cold atmospheric plasma for medicine: state of research and clinical application" (tentative)

Contributed Papers

Call for Contributed Papers

Contributed papers will be presented as 15-minutes oral talks or in poster sessions. Authors are requested to submit a GEC-style abstract to the APS website by June 19, 2015. A preference for oral/poster may be indicated. The final decision will be communicated to the corresponding author. In addition to GEC abstract submission, authors are strongly recommended to submit a two-page manuscript for the ICRP proceedings volume (in a two-column, camera-ready form) no later than June 19, 2015.

GEC Abstracts:

Those who intend to contribute a paper are requested to submit an GEC abstract through the APS website (http://abstracts.aps.org) by June 19, 2015. The length for the text of the abstract is limited to 1300 characters. The title, author(s), and their institutional affiliation(s) are needed for the abstract submission. It is essential that abstracts state concisely, but informatively, the objectives, methods, principal findings, and significance of the work to be presented. The abstracts will be refereed by the GEC/ICRP Program Committee. Authors will be notified regarding the acceptance of their papers for presentation in August, 2015, along with an assignment to specific oral and poster sessions. Post-deadline papers will not be accepted.

Important: If you do not have an APS ID number, please use the code "GEC" instead!

ICRP Proceedings:

Authors are strongly encouraged to also submit a two-page abstract for the ICRP proceedings volume by June 19, 2015. Instructions for preparing these abstracts (in two-column, camera-ready form) can be found at http://www.plasma.engg.nagoya-u.ac.jp/icrp-9/submissions_step2.html#page. ***Please be advised that the GEC abstract must be submitted first, and the log number must be indicated, before the ICRP abstract can be submitted.*** The conference proceedings containing the invited and contributed papers are included in the registration fee and will be available for pick-up upon arrival at the conference site.

JJAP Special Issue:

Papers of the abstracts in the ICRP proceedings volume may also be submitted for publication in a special issue devoted to “Plasma Processing” of the Japanese Journal of Applied Physics (JJAP). Authors who wish their paper to be included in the JJAP special issue, which will be published in July of 2016, are requested to submit their manuscript directly to the Publication Office of JJAP by the end of October, 2015.

Each manuscript should occupy 4-6 journal pages as a full paper, including additional data and detailed interpretations of the findings. The manuscripts will be refereed by the Editorial Board of JJAP according to the standards of regular JJAP submission. Submissions that do not contain significantly more information than those published in the proceedings will not be accepted.

The authors (or their institution) will be requested to pay the publication charges of JJAP when the paper is accepted. The most cited paper of the JJAP Special Issue will receive an award at a future ICRP meeting.

Social Events

Reception: An informal reception will be held Monday, October 12th, 2015, beginning at approximately 6:00 pm with refreshments and finger food.

Conference Banquet: The banquet will be held on Thursday evening, October 15th, 2015 in the Hawaii Convention Center. The Chairs of GEC and ICRP will present the conference awards for the best student oral and poster presentations.

Registration

Conference fees for early and late registrations are listed below. The conference fees include: banquet fees, admittance to scientific sessions, all coffee breaks, and one copy of the GEC abstract and ICRP proceedings. The reduced conference fee for students will be applied to those who give official proof of their student status.

Conference Fee:	**by September 30, 2015**	**after September 30, 2015**
Regular:	550 USD	700 USD
Students / Retirees:	275 USD	350 USD
One-Day:	350 USD	400 USD
Accompanying Person:	160 USD	200 USD

Further information about registration and payments will be forthcoming.

GEC Student Award for Excellence

The GEC student award for excellence will be given to the best student oral presentation. A short-list of finalists will be selected by the GEC Executive Committee before the conference. To nominate your student (maximum one per supervisor), please send a nomination letter and the student's abstract, both in PDF format, before June 19, 2015 to:

Dr. Mirko Vukovic
Chair, GEC
mirko.vukovic@gmail.com

A student nominated for this award cannot compete for the following ICRP best poster award.

ICRP Best Poster Award

The ICRP student poster prize will be given to the best student poster presenter. A short-list of finalists will be selected by the ICRP Advisory Committee before the conference. To nominate your student (maximum one per supervisor), please send a nomination letter and the student's abstract, both in PDF format, before June 19, 2015 to:

Professor H. Toyoda
Chair, ICRP
toyoda@nuee.nagoya-u.ac.jp

A student nominated for this award cannot compete for the GEC best oral presentation award.

GEC Student Support

The GEC expects to provide some support for students to attend the conference. To apply for student support, the student's supervisor should send the student's name, a copy of the abstract(s) on which the student is a co-author, and a brief justification. Supervisors may nominate up to two students from their group, but in the case of multiple nominations a priority ranking will need to be provided. The awardees will be selected by the GEC Executive Committee before the conference. To apply for support on behalf of your student(s), please send the requested material, in PDF format, before June 19, 2015 to:

Dr. Mingmei Wang
mmeiwcbe@gmail.com

Please indicate in the subject line of your email that your are requesting GEC student support!

Conference Location

The conference will be held at the Hawaii Convention Center, which is located within walking distance to the Ala Moana hotel and the Ala Moana Shopping Center.

Hotel Accommodation

A room block has been reserved at the Ala Moana Hotel, at $155 (Kona Tower) and $175 (Waikiki Tower) per night + tax. The cut-off date for the special rate is September 11, 2015 or when the block is filled, whichever comes first. Early reservations are strongly recommended. Further information about booking the hotel at the special rate will be forthcoming.

Visas

All foreign visitors entering the United States of America must possess a valid passport. Citizens of some countries may be required to apply for entry visas in advance. Depending on the country, processing of a visa application can take a significant amount of time. It is strongly recommended that prospective participants contact their local Consular Offices immediately to determine whether or not a visa is required. If needed, a letter of invitation will be sent to a prospective participant after an abstract has been submitted through the GEC website. When sending the request for an invitation letter, please include your full name exactly as it appears on your passport, your current mailing address, your submitted abstract title, a list of all authors, and the log number of your abstract. Then email this information to:

Saralyn Stewart
GEC Conference Organizer
stewart@physics.utexas.edu

When requesting a letter of invitation, please allow 7-10 days to receive it.

Calendar of Events

Nomination deadline for best oral/poster presentation	June 19, 2015
Application deadline for student support	June 19, 2015
GEC abstract deadline	June 19, 2015
ICRP abstract deadline	June 19, 2015
(two pages, two-column, camera-ready form)	
Notification of acceptance and placement	August, 2015
Early registration deadline	September 30, 2015
Third (final) announcement / program	September, 2015
Paper submission deadline for the special issue of JJAP	October 31, 2015

Travel Information

How to get there ?

Honolulu International Airport is served by many international and US domestic carriers.

Arrival/Departure Transportation:
Roberts Hawaii operates the Airport Express Service from Honolulu International Airport to the Ala Moana Hotel. This is a very affordable and efficient non-exclusive service. The Ala Moana is the first stop on the shuttle.

- Option A: One-Way Transfer $12.80 per person
- Option B: Round-Trip Transfer $24 per person

These rates include 4.712 GET tax and discount to all conference attendees.

Arrival Service Includes:

- Meet and greet at gate upon arrival with **GEC/ICRP/SPP** signage
- Escort to baggage claim
- Luggage handling and porter service out to vehicle
- Transportation to the Ala Moana Hotel

Departure Service Includes:

- Transportation from the Ala Moana Hotel to the airport.

Notes:

- The above rates include two (2) standard pieces of luggage and (1) carry-on per person.
- A customized web-link will be provided by Roberts Hawaii for all conference attendees to sign up and purchase directly through the web at the discounted rates.

Further Information

Details of the scientific program, such as the daily schedule, will be given in the third (final) announcement. For up-to-date information, please see the websites:

http://gec2015.wordpress.drake.edu
http://www.plasma.engg.nagoya-u.ac.jp/icrp-9/

All questions for further information regarding this conference should be directed to one of the contact persons listed on the above websites. For GEC-specific issues, please contact:

Saralyn Stewart (GEC Conference Organizer): stewart@physics.utexas.edu

Klaus Bartschat (GEC Secretary): klaus.bartschat@drake.edu

Mirko Vukovic (GEC Chair): mirko.vukovic@gmail.com

GEC Executive Committee

M. Vukovic (Chair)	Tokyo Electron America
A. Wendt (Past-Chair)	University of Wisconsin-Madison
M. Schulz (Treasurer)	Missouri University of Science & Technology
K. Bartschat (Secretary)	Drake University
U. Czarnetzki (Secretary-Elect)	University of Bochum
S. Shannon (Past Secretary)	University of North Carolina
C. Biloiu	Applied Materials
U. Fantz	University of Augsburg
M. Hopkins	Sandia National Laboratory
M. Laroussi	Old Dominion University
J. Lawler	University of Wisconsin-Madison
L. U. Ancarani	Université de Lorraine
H. Toyoda	Nagoya University

GEC Local Organizing Committee

K. Bartschat (Chair)	Drake University
K. Bera	Applied Materials
A. S. Kadyrov	Curtin University
S.-H. Song	Tokyo Electron America
S. Stewart	University of Texas-Austin
M. Wang	Tokyo Electron America

If you know individuals who may have a paper to contribute and have not received this *Second Announcement and Call for Papers*, please bring it to their attention.