
68th Annual Gaseous Electronics Conference held jointly with 9th Annual International Conference on Reactive Plasma & 33rd Symposium on Plasma Processing

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October 12–16, 2015

Honolulu, Hawaii

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.

The conference will bring together over 500 scientists and engineers from around the world who will attend 65 invited talks, 270 oral contributed talks, and 323 poster presentations. The GEC program includes a preconference workshop on Monday, an opening reception on Monday evening, two workshops on Tuesday and Wednesday evening, the Foundation Talk on Wednesday morning, and a Thursday evening awards banquet. An ICRP plenary talk will also be presented on Wednesday morning.

The GEC prides itself in student attendance. We will also present the “Student Award for Excellence” to the best student oral presentation, selected from a group of five finalists.

SPECIAL SESSIONS AND EVENTS

The GEC Executive Committee is pleased to announce that the GEC Foundation Talk will be presented by Timothy Gay from the University of Nebraska at Lincoln. His talk entitled “The Gaseous Electronics Conference in its seventh decade: some new problems in an old field” is scheduled for 11:00 am on Wednesday, October 10. The ICRP plenary talk, entitled “Plasma-surface interactions for top-down and bottom-up nanofabrication”, will be presented by Kouichi Ono from Kyoto University at 10:00 am on Wednesday, October 10.

Several workshops will be held during the conference:

SESSION AM1:

Challenge of Plasma Science towards Future Medicine I

Monday, October 8 • 1:00 pm

SESSION AM2:

Challenge of Plasma Science towards Future Medicine II

Monday, October 8 • 3:30 pm

SESSION HT1:

Atomic and Molecular Scattering Data for Plasma and Related Applications I

Tuesday, October 9 • 8:00 pm

SESSION MW1:

Atomic and Molecular Scattering Data for Plasma and Related Applications II

Wednesday, October 10 • 8:00 pm

SESSION NUMBERING SCHEME

Each session has a code consisting of a letter and a number. The first letter indicates the numbering for that session in the program, e.g., A for 1, B for 2, etc. The second letter indicates the day of the week: M for Monday, T for Tuesday, W for Wednesday, R for Thursday, and F for Friday. The last number indicates the room location of the oral presentations: 1 for 301 B, 2 for 308 AB, 3 for 305 AB, and 4 for 303 AB. The plenary session will take place in room 311, and the poster sessions will be held in Exhibit Hall III.

PRESENTATION FORMAT

Papers that have been accepted for presentations are listed in the scientific program. Invited talks are allotted 25 minutes, with 5 additional minutes for questions and discussion. Oral contributed talks are allotted 12 minutes, with 3 additional minutes for questions and discussion. Poster boards measure 4 feet (height) by 8 feet (width). The posters may remain on display throughout the day and should be removed at the close of each day.

GEC STUDENT AWARD FOR EXCELLENCE

The GEC Executive Committee will award a \$1000 prize for best oral presentation by a student. Their advisor must have nominated a student before being selected by GEC Executive Committee members to present and compete for the Excellence Award. Student award finalists will present their work on Tuesday, October 13 and Wednesday, October 14. Students competing for the award, in the order of their appearance in the GEC 2015 program are:

Sandra Schröter, University of York
“Reactive species generated in atmospheric-pressure plasmas with water admixtures for biomedical applications: Absolute measurements and numerical simulations”

Tuesday, Oct. 13 • 8:30 am in 305 AB

Bastien Bruneau, Ecole Polytechnique, University Paris-Saclay

“Comparison of the effect of sawtooth-like voltage waveforms on discharge dynamics of Ar, H₂, and CF₄ plasmas”

Tuesday, Oct. 13 • 11:00 am in 308 AB

Jan Trieschmann, Ruhr-Universität Bochum
“Negative Power Absorption in Low-Pressure Inductive Discharges”

Tuesday October 13 • 1:30 pm in 308 AB

Keishiro Tamura, Tokyo Institute of Technology
“Transient Analysis of Pulsed Dry Methane Reforming in DBD-Catalyst Hybrid Reaction”

Wednesday, Oct. 14 • 2:00 pm in 301 B

Jannis Teunissen, Eindhoven Univ of Technology
“Advances in the three-dimensional simulation of streamer discharges”

Wednesday, Oct. 14 • 3:15 pm in 305 AB

At the 2014 GEC in Raleigh North Carolina, the GEC Student Award for Excellence was presented to Andrew Gibson, Queen’s University Belfast, for the oral presentation “Tailoring plasma properties through the non-linear frequency coupling of odd harmonics”.

REGISTRATION

The registration desk will be located in Room 301A, Hawaii Convention Center, Level 3. The registration desk will be open on Monday, October 12 from 11:00 am to 5:00 pm. Tuesday through Friday, the registration desk will be open from 7:00 am to 4:00 pm. The on-site registration fees are:

Regular Attendee	\$700
Retired/Unemployed.....	\$350
Student	\$350
One-Day Attendee	\$400
Guest Banquet Ticket.....	\$100
Guest Reception Ticket.....	\$60

OPENING RECEPTION AND BANQUET

An opening reception will be held from 6:00 pm to 8:00 pm on Monday, October 12, in Room 311, Hawaii Convention Center. On Thursday evening, October 15, the banquet featuring live entertainment and awards presentations will be held from 6:00 to 9:00 pm on the Rooftop Garden, Hawaii Convention Center. The cost of the banquet is included in the attendee's registration fee. Banquet and reception guest tickets may be purchased for \$100 (banquet) and \$60 (reception) at the registration desk on-site through the end of the day on Tuesday, October 13. All conference attendees and guests are encouraged to attend. The GEC and ICRP Awards for Best Student Oral and Poster Presentations will be presented during the banquet.

WI-FI AND OTHER SERVICES

Wi-Fi access is complimentary in the sleeping rooms at the Ala Moana Hotel and meeting areas at the Hawaii Convention Center. For a fee, services such as faxing, printing, and photocopying are available in the Business Center located at the Hawaii Convention Center, Level 3.

AUDIO - VISUAL EQUIPMENT

The technical sessions will be equipped with an LCD projector and amplified sound. Laptops will be provided for the technical sessions. All laptops will be equipped with Windows 7, PowerPoint,

Acrobat Reader, QuickTime, and Windows Media player. Presentations need to be uploaded before the session to the laptop provided. Experience shows that saving your presentation as a PDF file avoids potential conversion problems between PC and Macintosh computers. If presenters wish/need to use their own computer, any setup delay will be counted against their allotted presentation time.

DINING OPTIONS

The Ala Moana Hotel offers a wide range of dining choices perfectly suited to every taste while maintaining a decidedly serene ambience in the heart of the city. Treat the entire family to breakfast at the Plantation Café. Enjoy Chinese cuisine at the Royal Garden or healthful Japanese food at Yuzu. Spend an evening at Rumours, a fun Honolulu nightclub. The Waikiki neighborhood is Honolulu's center for sampling a diverse selection of food, walking along the iconic crescent beach backed by palms, shopping, and nightlife, with volcanic Diamond Head looming in the distance.

CALL FOR NOMINATIONS FOR GEC GENERAL AND EXECUTIVE COMMITTEES

The GEC Executive Committee welcomes nominations, including self-nominations, for both the General Committee and the Executive Committee. Becoming a General Committee and/or Executive Committee member provides a unique opportunity to see both how the GEC is governed and how one may influence GEC's future direction by helping to define scientific programs and select future venues. This includes selection of special event topics, invited speakers, abstract sorting categories, arranging the technical program, selection of meeting sites, and budgetary decisions.

Please submit your nominations to the GEC Chair or any member of the Executive Committee. At the GEC Business Meeting nominations will be accepted to select five new members of the GEC General Committee. The General Committee meets once a year during the GEC. The Executive Committee meets twice a year, once during the GEC and once during the summer at the Sorters Meeting.

Written proposals to host future GEC meetings are encouraged and should be discussed with the Chair of the Executive Committee. The General Committee reviews all proposals and makes the final site selection. The selected host is then elected to a 3-year term on the Executive Committee as Secretary-Elect, then Secretary, and finally as Past Secretary. The 2015 Business Meeting will take place on Wednesday, October 14 immediately following the Foundation Talk in Room 311.

CALL FOR INVITED SPEAKER RECOMMENDATIONS FOR THE 69TH GEC (BOCHUM, GERMANY, 2016)

This year, the GEC Executive Committee will solicit recommendations for invited speakers from GEC participants. As specified in the GEC constitution, the Executive Committee will make the final selection of invited speakers.

PUBLICATION OF INVITED SPEAKER ARTICLES IN PLASMA SOURCES, SCIENCE, AND TECHNOLOGY

All GEC invited speakers are invited to submit their conference article to the Plasma Sources, Science, and Technology journal. The articles will be reviewed to the usual Journal standards and published as regular papers. Once all the articles are published they will be gathered in a web page dedicated to the 68th GEC and free to download for a period of time. This year, the Guest Editors are Ugo Ancarani (Université de Lorraine) and Costel Biloiu (Applied Materials). Please contact the Guest Editors to submit your GEC invited talk article to the Journal.

GEC 2015 EXECUTIVE COMMITTEE

Mirko Vukovic
Chair, Tokyo Electron

Amy Wendt
Past Chair, University of Wisconsin

Klaus Bartschat
Secretary, Drake University

Steve Shannon
Past Secretary, N.C. State University

Michael Schulz
Treasurer, Missouri University of Science & Technology

Lorenzo Ugo Ancarani
Université de Lorraine

Costel Biloiu
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Max-Planck-Institut für Plasmaphysik

Matt Hopkins
Sandia National Laboratories

Mounir Laroussi
Old Dominion University

Jim Lawler
APS-DAMOP, University of Wisconsin

Hirotaaka Toyoda
Nagoya University

MEMBERS OF GEC 2015 LOCAL ORGANIZING COMMITTEE

Klaus Bartschat, Drake University
Kallol Bera, Applied Materials
Alisher Kadyrov, Curtin University
Sang-Heon Song, Tokyo Electron Limited
Saralyn Stewart, GEC Conference Manager
Mingmei Wang, Tokyo Electron Limited

GEC 2015 SPONSORS AND EXHIBITORS

Sponsors and Exhibitors allow the GEC Executive Committee to provide many benefits to attendees including travel assistance and an excellence award for junior attendees. The 68th GEC has been fortunate to receive support from the following organizations (up to the time of this publication.) GEC is very grateful for the continued support from government and industry.

Sponsors

GOLD SPONSORS (\$5,000 OR MORE):

Tokyo Electron Limited
United States Department of Energy
United States National Science Foundation

SILVER SPONSORS (\$2,500 - \$4,999):

Applied Materials
ARISE Technology
Engineering Systems International Group
Institute of Physics Publishing
LAM Research
Sandia National Laboratories

BRONZE SPONSORS (\$1,500 - \$2,499):

Eagle Harbor Technologies Inc.
Esgee Technologies Inc.
Hiden Analytical
Plasma Sensors

Due to generous support of sponsors, we have been able to accommodate most student requests for travel assistance!

PLEASE NOTE

The APS has made every effort to provide accurate and complete information in this *Bulletin*. However, changes or corrections may occasionally be necessary and may be made without notice after the date of publication. To ensure that you receive the most up-to-date information, please check the “Program Changes” board located near the registration desk.