59th Annual Gaseous Electronics Conference
October 9–13, 2006
Columbus, Ohio

GENERAL INFORMATION

Welcome to Columbus for the 59th Annual Gaseous Electronics Conference (GEC) of the American Physical Society. The GEC 2006 will address a broad range of topics at the forefront of Gaseous Electronics. The program includes The Allis Prize Lecture, The GEC Student Award for Excellence Talks, 27 invited talks and over 250 contributed papers presented in oral and poster sessions. The conference will be located at The Holiday Inn on The Lane, Columbus, OH.

SPECIAL SESSIONS AND EVENTS

The GEC Executive Committee is pleased to announce that the Allis Prize Lecture for 2006 will be presented by Mike Lieberman. His talk is entitled "Nano-electronics and Plasma Processing—The Next 15 Years and Beyond," and will be presented on Wednesday morning at 10 AM in Salon CD. The Allis Prize Lecture, alternating each year with the GEC Foundation talk, commemorates the outstanding contributions of Will Allis to the field of ionized gases.

SESSIONS

Session AS  Opening Reception  
Session BT1  Plasma Sources I  
Session BT2  Plasma Boundaries: Sheaths and Boundary Layers  
Session CT1  Plasma Aerodynamics and Propulsion I  
Session CT2  Collision Processes with Biological and Environmental Applications  
Session DT1  Plasma Chemistry  
Session DT2  Electron Impact Ionization and Excitation I  
Session ET1  Plasma Sources II  
Session ET2  Oxygen-Iodine Lasers  
Session FPT  Poster Session I  
Session GW1  Diagnostics I: Electrical  
Session GW2  High Pressure Discharges I  
Session HW  Allis Prize Lecture  
Session LW1  Plasma Aerodynamics and Propulsion II  
Session LW2  Electron Impact Ionization and Excitation II  
Session MW1  Diagnostics II: Optical  
Session MW2  Thermal Plasmas, Arcs, and Breakdown  
Session PR1  Plasma Applications for Nanotechnology  
Session PR2  Computational Methods and Modeling for Plasmas  
Session QR1  High Pressure Discharges II  
Session QR2  Electron and Positron Collisions  
Session RR1  Material Processing in Low Pressure Plasmas  
Session RR2  Lighting Plasmas  
Session SRP  Poster Session II  
Session UR  Reception and Banquet  
Session VF1  Plasma-Surface Interactions  
Session VF2  Transport Theory and Electron Distribution Functions  
Session WF1  Capacitively Coupled Plasmas  
Session WF2  Heavy Particle Collisions, Attachment, and Recombination

PRESENTATION FORMATS

Papers that have been accepted for presentation are listed in the technical program. Invited papers are allotted 25 minutes, with 5 additional minutes for questions and discussion. Oral contributed presentations are allotted 12 minutes, with 3 additional minutes for questions. Poster sessions will be provided with 48 in. by 96 in. posterboards. Presenters may mount their posters anytime in the day upon which their presentation is scheduled. Poster materials must be removed at the close of the poster session.
**GEC STUDENT AWARD FOR EXCELLENCE**

In order to recognize the outstanding contribution students make to the GEC and to encourage further student participation, the GEC will continue to award a prize for the best paper presentation by a student. A subcommittee of the GEC Executive Committee will choose the award winner. Students competing for the $500 award, in the order of their appearance in the program, are:

**Violaine Vizcaino**, Australian National University, “Electron collisions with formic acid and tetrahydrofurane,” Tuesday, October 10, 11:30 AM.

**Scott Baalrud**, University of Wisconsin, “Electron sheaths and non-ambipolar diffusion in laboratory plasmas,” Tuesday, October 10, 8:00 AM.

**Sampad Laha**, Rice University, “Gaussian expansion and annular analysis of ultracold Sr plasma,” Wednesday, October 11, 4:00 PM.

**Erik Wagenaars**, Eindhoven University, “Electric field measurements in moving ionization fronts during plasma breakdown,” Wednesday, October 11, 5:00 PM.

**Maria Herd**, University of Wisconsin, “Infrared continuum radiation from metal halide hid lamps,” Thursday, October 12, 2:00 PM.

**Kuma Ohnishi**, Tokyo Institute of Technology, “Deposition of vertically oriented single-walled carbon nanotubes...,” Thursday, October 12, 8:30 AM.

**Olivier Guaitella**, Ecole Polytechnique, “Dynamic of the plasma current amplitude in a barrier discharge...,” Thursday, October 12, 11:30 AM.

**Jason Young**, University of California – San Diego, “Resonances in positron-molecule annihilation,” Thursday, October 12, 11:00 AM.

**REGISTRATION**

The registration desk will be located in the Holiday Inn Hotel, in the vicinity of the lobby. Registration will be available Monday afternoon from 4:00 – 6:00 PM and throughout most of the week, starting at 7:00 AM. The on-site conference registration fee is $310 for regular registrations and $190 for students and retirees.

**BANQUET AND RECEPTION**

An opening reception will be held on the evening of Monday, October 9, 2006, in The Ohio State University Department of Mechanical Engineering’s Scott Laboratory, starting at 6:00 pm. Scott Laboratory is located on the main Ohio State University campus, a short walk from the conference hotel. The reception will be held in the Scott Laboratory Multi-Purpose room. Printed directions will be available on Monday afternoon in the GEC registration area.

The conference banquet will be held in Salon CD of the Holiday Inn Hotel on Thursday evening, October 12, starting with a reception in the lobby at 6:00 pm. Banquet tickets are $40 and are available upon registration. Conference participants are encouraged to attend the reception and the banquet.

**E-MAIL AND OTHER BUSINESS SERVICES**

Wireless internet access will be available throughout the conference hotel, including all guest rooms and public areas. Other business services (fax, photocopy services, etc.) will be available from the hotel business center.

**AUDIO-VISUAL EQUIPMENT**

Each conference room will be equipped with an LCD projector. If additional equipment is required, please contact the conference secretary.

**DINING OPTIONS**

A list with dining options in the vicinity of the Holiday Inn Hotel is included in the registration packet provided to each conference participant.

**GUEST PROGRAM**

Welcome to Columbus, the capital city of Ohio. It is the largest city in Ohio, and the 15th largest in the nation, with a population of 750,000. Columbus is a friendly city and offers a wide variety of attractions for guests. There is everything from visual and performing...
arts, professional and collegiate sports, excellent shopping and fine dining to a world renowned zoo.

The Holiday Inn on the Lane is located near the campus of The Ohio State University. This provides visitors with convenient access to many sites of interest, both at the University and in the Columbus area.

Cultural highlights include: The Wexner Center for the Arts, the Columbus Museum of Art, the King Arts Complex, the Franklin Park Conservatory, and the Center for Science and Industry (COSI). Of historic interest are: the Ohio Statehouse, German Village and the Santa Maria replica.

For shopping, dining, and entertainment, Columbus provides the Arena District, the Short North Market, Easton Town Center, Polaris Fashion Place, City Center Mall and much, much more! For those interested in wildlife, a visit to the Columbus Zoo and Aquarium is a must. It is the third largest municipally-owned zoo in North America and serves as animal sanctuary, scientific research center and family-fun spot.

For more information on the wide variety of activities and places of interest in Columbus, please visit www.ExperienceColumbus.com.

We hope that you enjoy your visit to Columbus!

CALL FOR NOMINATIONS FOR GEC GENERAL AND EXECUTIVE COMMITTEES

The GEC Executive Committee (ExComm) is the governing body of the GEC. It is the responsibility of the ExComm to oversee all aspects of the conference. This includes selection of meeting sites, budgetary decisions, selection of special topics and invited speakers, accepting and rejecting abstracts, and arranging of the program. The General Committee and the ExComm meet during the GEC, and the ExComm meets again during the summer to plan the program of the next GEC. There are numerous communications between members of the ExComm (usually via e-mail) during the year to ensure the successful completion of their duties. We have been fortunate over the years to have a dedicated group of volunteers who have been willing to take on these very necessary roles.

The by-laws of the Gaseous Electronics Conference describe the process whereby members of the ExComm are elected. At the GEC Business Meeting (to be held on Wednesday, October 11, at 11:00 in Salon CD of the Holiday Inn Hotel), nominations are accepted for members of the GEC General Committee (GenComm).

The GenComm consists of the ExComm and 6 at-large members elected at the Business Meeting. The eligible voting membership of the GEC (defined as those attending the Business Meeting) elects 6 at-large members. The GenComm then meets to fulfill its only duty: to elect new members of the ExComm.

The ExComm membership consists of the Chair, Treasurer, Past-Secretary, Secretary, Secretary-elect, past or incoming Chair, and 4 at-large members. The Chair is a 4 year term (1 year incoming, 2 years Chair, and 1 year past-Chair), the Secretary is a 3 year term (1 year incoming, 1 year Secretary, 1 year past-Secretary), and all other ExComm members serve 2 years. The Secretary is the person who manages the local arrangements for the meeting and is usually recruited and appointed to the ExComm.

The ExComm welcomes nominations, including self-nomination, for both the GenComm and the ExComm. Becoming a GenComm and/or ExComm member provides a unique opportunity to see both how the GEC is run and to influence its future direction by helping to define the programs and choosing future sites.

Please submit your nominations to the GEC Chair or any member of the ExComm. The ExComm also welcomes inquiries on hosting future GECs.

GEC 2005 EXECUTIVE COMMITTEE

Greg Hebner, Chair, Sandia National Laboratory
Peter Ventzek, Chair-Elect, Tokyo Electron
Walter Lempert, Secretary, Ohio State University
William Rich, co-Secretary, Ohio State University
Jong Shon, Past Secretary, JuSung Engineering Corporation
Darrin Leonhardt, Secretary-Elect, Naval Research Laboratory
Don Madison, Treasurer, University of Missouri-Rolla
Stephen Buckman, Australia National University
Uwe Czarnetzki, Ruhr Universitat Bochum
Rainer Johnson, University of Pittsburgh
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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 meeting Corrigenda distributed with this Bulletin.