

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 “*Nanoelectronics 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 tetrahydrofuran," 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

Murtadha Khakoo, California State University Fullerton

Kouichi Ono, Kyoto University

CONFERENCE SECRETARY

Walter Lempert, Secretary

Departments of Mechanical Engineering and
Chemistry

The Ohio State University

650 Ackerman Rd - Room 130 F

Phone: 614/292-2736

Fax: 614/292-3163

E-mail: lempert.1@osu.edu

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*.