



## The 71<sup>st</sup> Gaseous Electronics Conference (GEC) November 5-9, 2018 in Portland, Oregon

The 2018 GEC meeting will co-locate with the 60<sup>th</sup> annual meeting of the American Physical Society's Division of Plasma Physics (DPP).

### GENERAL INFORMATION

- The 2018 GEC will continue its tradition of offering a truly outstanding venue for leading research in low-temperature plasma science and collision physics.
- DPP co-location adds the dimension of high-temperature plasma science and novel plasma applications.

**Over 2300 attendees expected at the combined events.**

GEC is a special meeting of the Atomic, Molecular, and Optical Physics Division of the American Physical Society. The GEC enables invaluable exchange of scientific information, viewpoints, ideas, and methods (experimental, theoretical, and simulation) regarding particle collision dynamics and the physical and chemical processes occurring in partially ionized, collisional plasmas.

The GEC is a leading venue for reporting on emerging areas of plasma-biotechnology, plasma medicine, plasma-metal catalysis, & atmospheric-pressure plasma systems.

### TOPICS

#### 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/molecular collision phenomena

#### 2. Plasma science

- 2.1 Non-equilibrium kinetics of low-temp plasmas
- 2.2 Basic phenomena in low-temp plasmas
- 2.3 Boundaries: sheaths, double layers, others
- 2.4 Gas phase plasma chemistry
- 2.5 Plasma-surface interactions
- 2.6 Plasma diagnostic techniques
- 2.7 Plasma 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/dust particle-containing plasma
- 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 Photovoltaic-application plasma processing
- 3.7 Biological/biomedical applications of plasma
- 3.8 Plasma propulsion and aerodynamics
- 3.9 Plasma nanotechnology, flexible electronics and other emerging applications

### PROGRAM

#### The Program will include:

- Oral sessions (invited and contributed papers)
- Poster sessions
- Will Allis Prize Talk
- Sunday & Monday Workshops
- The Plasma Data Exchange Project and LXCat Platform discussion
- Non-Technical meetings on selected topics
- Student Awards

### CONTRIBUTED PAPERS

- Contributed papers will be presented as 15-min oral talks or as posters.
- Authors are requested to submit GEC-style abstracts to the APS website by June 15, 2018.
- Preference for oral or poster should be indicated.

The final decision will be communicated to the corresponding author

### ABSTRACTS BOOK & CONFERENCE APP

A printed APS Bulletin must be requested at time of registration. A meetings app will be available that will contain the full conference program. The mobile app will include access to the abstracts of invited and contributed talks. Posters will be available for download to your mobile device.

### WORKSHOPS/SPECIAL SESSIONS

- Two-Day MOOSE Workshop on Sunday & Monday
- The Will Allis Prize talk on Wednesday morning
- LXCat discussion on Wednesday
- Non-Technical Programs (*NEW*)

## ENJOY PORTLAND

Portland is an eclectic city with a walkable downtown, a vibrant “food cart” culture, and a wide selection of microbreweries, coffee shops, restaurants, and book stores. The city is surrounded by the breathtaking beauty of the Pacific Northwest, Mount Hood, and the sparkling Willamette and Columbia Rivers. The city is rich in US frontier history.  
<https://www.travelportland.com/>

## TRANSPORTATION

Ground transportation and car rentals are available at the Portland airport (PDX). However, the Metropolitan Area Express (MAX) light rail is highly recommended. The MAX Redline departs from PDX with stops in front of the GEC conference hotel and at the Portland Convention Center (the GEC conference venue). An additional 15 min ride on the MAX Redline brings you to the heart of the Portland city center. PDX airport has frequently been ranked as one of America’s best domestic airports with its friendly customer service, free WIFI, and convenient layout. <http://flypdx.com/PDX>

## HOTEL ACCOMMODATIONS

### DoubleTree by Hilton Portland

1000 NE Multnomah  
Portland, OR 97232  
Telephone 503-331-4916

- \$166.00 per night, plus taxes
- \$149.00 Government Rate
- Hotel reservations are open, please visit the GEC website for more details

## CONFERENCE MANAGEMENT

Lynda Lauria

[GEC2018@yahoo.com](mailto:GEC2018@yahoo.com)

## EXECUTIVE COMMITTEE

Chair: *T. Kirchner*, York U.  
Secretary: *D. Keil*, Lam Research  
Secretary Elect: *D. Staack*, Texas A&M  
Chair Elect: *E. Barnat*, Sandia Natl. Lab  
Past Secretary: *M. Koepke*, West Virginia U  
Treasurer: *M. Schulz*, Missouri S&T  
DAMOP: *J. Colgan*, Los Alamos Natl. Lab

### General Members:

*K Stapelmann*, North Carolina State U  
*A. Bourdon*, Ecole Polytechnique  
*F. Tochikubo*, Toko Metropolitan U  
*J. Schulze*, Ruhr U. Bochum /West Virg. U

### Appointed Members:

*A. Wendt*, U of Wisconsin  
*K. Bera*, Applied Materials

## STUDENT AWARDS

*J. Schulze*, Ruhr U. – Bochum / WVU  
*K. Stapelmann*, North Carolina State U.  
*A. Derzsi*, W. Virginia U. / Wigner RCP

## CONFERENCE VENUE

The Oregon Convention Center  
Co-Located with the APS Division of  
Plasma Physics Meeting



Portland Waterfront Area

## 71<sup>st</sup> Annual GEC - Portland, Oregon

**November 5 – 9, 2018**

<http://www.apsgec.org/gec2018/>

## DATES TO REMEMBER

June 15, 2018: Abstract submission deadline  
October 15, 2018: Hotel reservation cut-off date

See the GEC website for the pre-registration start date, the student-poster/oral award nomination process, and the student-travel-grant program. Information and due dates may be found at: <http://www.apsgec.org/gec2018/>

## LOCAL ORGANIZING COMMITTEE

D. Keil (Lam Research)  
L. Lauria (Conference Manager)  
Y. Sakiyama (Lam Research)  
M. Mamunuru (Lam Research)  
C. Biloiu (Applied Materials/Varian)  
D. Staak (Texas A&M University)  
S. Song (Lam Research)