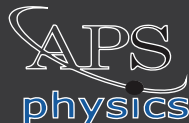




The 72nd Gaseous Electronics Conference (GEC)

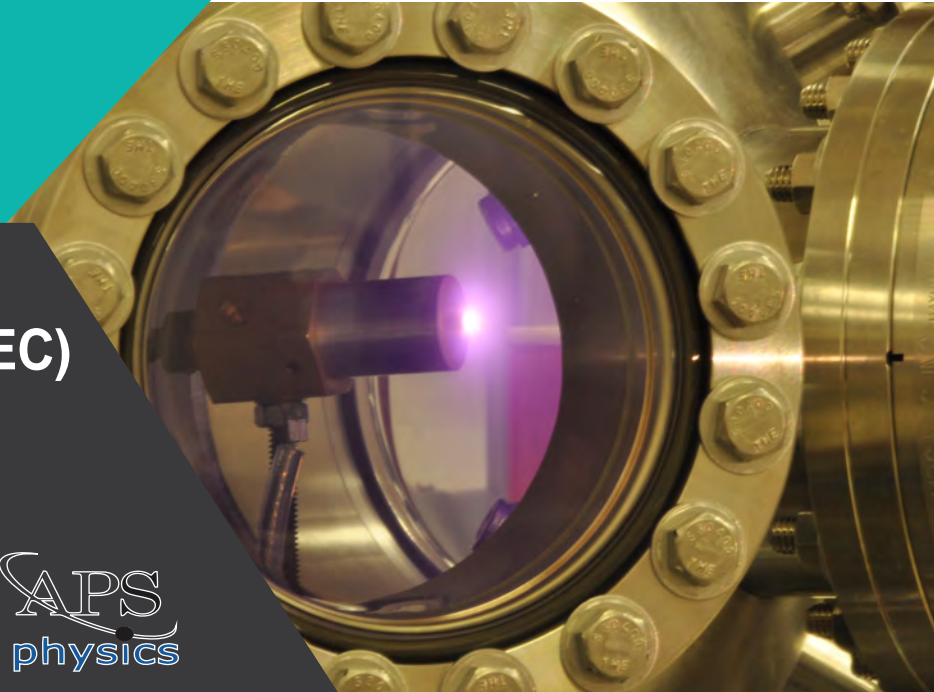
October 28th – November 1st, 2019
in College Station, Texas

Hosted by: Texas A&M University



<http://apsgec.org/gec2019/>

<https://www.aps.org/units/gec/>



Conference Topics



Introduction

The Gaseous Electronics Conference (GEC), a special meeting of the APS Division of Atomic, Molecular, and Optical Physics (DAMOP), promotes ideas on the physical and chemical processes and dynamics taking place in partially ionized, collisional plasma and between the atoms, molecules, charged particles, photons, waves, and fields. The GEC has a long leadership history of presenting fundamental and basic science contributions on plasma sources, diagnostics, simulation, plasma chemistry, basic phenomena, atomic and molecular processes. In recent years, GEC has also been a leading venue for reporting on emergent areas of plasma-bio-technology, plasma medicine, multiphase plasmas, environmental applications and atmospheric-pressure plasma systems. The 2019 GEC will continue its tradition of offering a truly outstanding venue for leading research in low temperature plasma science and collision physics.



Program

The scientific program runs Tuesday – Friday and consist of three to four parallel oral sessions of both invited and contributed papers, poster sessions, and Prize talks. Contributed papers will be presented as 15-minute or talks or in poster sessions. Sessions will be organized around coherent subjects in order to facilitate useful discussions and focus on appropriate solutions to problems. On Monday there are instructional and hands-on workshops related to plasma diagnostics, modeling and sources. There are also organized social gatherings and non-technical meeting on selected 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, other
- 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



Abstracts and Proceeding

Participants will be given a digital APS Bulletin with conference program and abstracts of invited and contributed talks and posters. Abstracts are digitally archived and searchable online as a publication of the Bulletin of the American Physical Society.



Conference Location

The conference will be held at the Texas A&M Hotel and Conference Center in college station Texas on the campus of Texas A&M University. Texas A&M is a public, comprehensive university holding triple federal designations as a land-, sea- and space-grant university. It hosts over 65,000 students on its 5,200-acre campus is located in College Station. Texas A&M Engineering is a top 10 public programs in the US. The locale of Bryan-College Station - "Aggieland" in a burgeoning small city nestled in the heart of rural Texas. Attractions are Texas A&M University, Texas A&M Athletics, The George Bush Library, and NASA Johnson Space Center (2 hrs away). College Station is within a 100 minute drive to Houston, and 2 hr drive of Austin, and 3 hr drives to Dallas and San Antonio. Accessible airports (local or by shuttle) are CLL, IAH, and AUS.



Hotel Accommodations

A room block has been reserved at the Texas A&M Hotel and Conference Center. Rate is \$155+taxes available till October 6th 2019.
<https://www.texasamhotelcc.com/>



Calendar of Events

- ▶ GEC abstract deadline: **June 5th**, 2019
- ▶ Student Travel Applications: **June 2nd**, 2019
- ▶ Student Excellence Awards Nominations: **June 2nd**, 2019
- ▶ Final Program Announced: **Sept** 2019
- ▶ Pre-Registration Closes: **Oct 6th**, 2019
- ▶ Hotel Reservation Cutoff: **Oct 6th**, 2019
- ▶ Conference: **Oct. 28th**, 2019



GEC Executive Committee

- ▶ Chair: Edward Barnat, Sandia National Laboratories
- ▶ Past Chair: Tom Kirchner, York University
- ▶ Secretary: David Staack, Texas A&M University
- ▶ Secretary Elect: Kallol Bera, Applied Materials
- ▶ Past Secretary: Douglas Keil, Lam Research
- ▶ Treasurer: Sylwia Ptasinska, University of Notre Dame
- ▶ Katharina Stapelmann, North Carolina State University
- ▶ Julian Schulze, Ruhr-U Bochum
- ▶ Nicholas Braithwaite, Open University
- ▶ Fumiyoshi Tochikubo, Tokyo Metropolitan University
- ▶ James Colgan, Los Alamos National Laboratory
- ▶ Alisher Kadyrov, Curtin University



Local Organizing Committee:

- David Staack
- Kentaro Hara
- Tanvir Farouk
- Chris Limbach
- Kallol Bera
- Dick Miles



2019