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American Physical Society Invites Fort Lauderdale to Discover Plasma

Free hands-on science events offered to teachers, students and the public.

Fort Lauderdale, Fla.— The Plasma Sciences Expo—planned as the biggest celebration of plasma physics in the country—presents teachers, students and the public with a free opportunity to explore what scientists call “the fourth state of matter.”

A plasma is a gas so hot its atoms break apart into charged particles. Plasma is the energy source of the sun and other stars, and scientists around the world are researching how to use plasmas to create that same power on Earth. The vast majority—99 percent—of the visible universe is in the plasma state. Our sun, stars, northern lights, solar flares and lightning bolts are all examples of naturally occurring plasmas. Man-made plasmas are used for lighting (fluorescent lights), sterilizing medical equipment, welding, manufacturing computer chips, producing energy by fusion and medical surgery procedures.

During the week of Oct. 20-25, more than 1,500 plasma scientists will gather for the American Physical Society’s Division of Plasma Physics 61st Annual Meeting. At the Fort Lauderdale / Broward County Convention Center, plasma scientists will staff exhibitor booths to excite students and the public about science, research and technology in the “hot” career field of plasma physics.

The Plasma Sciences Expo will be open to school groups on Oct. 24-25 from 8 a.m. to 3 p.m., and to the public on Oct. 24 from 6-8 p.m. **The Expo is a free event** sponsored by the American Physical Society’s Division of Plasma Physics and the U.S. Department of Energy.

“The event will be entirely hands-on,” says Arturo Dominguez, the Education Outreach Chair for the Division of Plasma Physics. “You will be able to create arcs of lightning, manipulate glowing plasma with magnets, and wear special glasses to observe colors made by various plasmas.” Participants can also observe their body temperatures on a monitor, create a cloud in a chamber, explore lasers, and enjoy the hair-raising experience of a Van de Graaff generator. Exhibits are staffed by researchers from Auburn University, Massachusetts Institute of Technology, Princeton Plasma Physics Laboratory, Lawrence Livermore National Laboratory and other national institutions, as well as many institutions from Florida.

“The response from the local universities has been fantastic,” says Dominguez. “We have a record number of local groups interested in reaching out to local students with hands-on demos.” The list currently includes Florida Atlantic University, Florida International University, Florida Polytechnic University, University of Central Florida, University of Florida, and Broward County Public Schools.

In addition to the Expo, local teachers are invited to attend Science Teacher Day at the Hilton Fort Lauderdale Marina on Tuesday, Oct. 22 from 8 a.m. to 4 p.m., where they will spend the morning learning about the fundamentals of fusion energy and plasma science. The remainder of the day is spent in workshops of their choosing, focusing on subjects like the nature of matter, cosmology, mechanics, lasers, the electromagnetic spectrum, and Newton’s Laws. The workshops align with national and state science standards. There is no charge for this event, but online registration is required and available on the event website at <http://fusioned.gat.com/dppoutreach/>.

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