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American Physical Society Invites Portland to Discover Plasma

Free science events and educational opportunities expected to draw thousands.

PORTLAND, Ore.—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.”

Plasma is a gas so hot that 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 surgical procedures.

During the week of November 5-9 more than 1,500 plasma scientists will gather for the American Physical Society’s Division of Plasma Physics 60th Annual Meeting. At the Oregon 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 Nov. 8-9 from 8 a.m. to 2 p.m., and to the public on Nov. 8 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. Some funds are available for busing students to the Expo and back to schools.

“The event will be entirely hands-on,” said 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.

In addition to the Expo, local teachers are invited to attend Science Teacher Day at the Hilton Portland Downtown on Tuesday, Nov. 6, 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 science standards and Oregon Next Generation Science Standards. There is no charge for this event, but online

registration is required and available on the event website at <http://fused.gat.com/dppoutreach/>. Science Teacher Day includes parking and lunch at no cost to participants. Some funding is available for substitute teachers.