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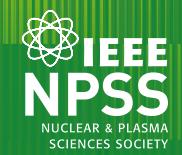


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IEEE NUCLEAR & PLASMA SCIENCES SOCIETY



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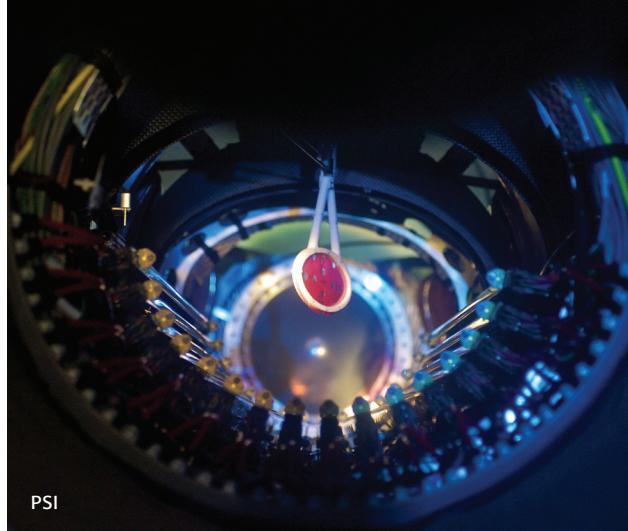
The IEEE Nuclear & Plasma Sciences Society is there...

INVESTIGATING THE FUNDAMENTAL NATURE OF MATTER

The community of physicists and engineers represented by the Particle Accelerator Conference and the NPSS Particle Accelerator Science and Technology Committee provide the beams of particles that the nuclear and high-energy physics experimenters require for their research into the fundamental nature of matter. Attendees of the Nuclear Science Symposium (organized by the NPSS Radiation Instrumentation Committee) develop the detectors that are used to detect and characterize the particles resulting from the interactions, providing data for nuclear and high-energy physicists to analyze. Delegates of the Real Time Conferences (organized by the Computer Applications in Nuclear and Plasma Sciences Committee) develop the readout electronics for those detectors and the computing infrastructure to transport, analyze and manage this data.

PROBING THE UNIVERSE AND EXPLOITING SPACE

The extreme reliability required of electronics in a high radiation environment is the reason for the Nuclear and Space Radiation Effects Conference (organized by the NPSS Radiation Effects Committee) and the European Conference on Radiation and its Effects on Components and Systems (RADECS). In addition, the Nuclear Science Symposium has astrophysics detector sessions.



DEVELOPING ENERGY SOURCES AND EFFICIENCY

No one can question the importance of a reliable and low-cost energy supply. The Symposium on Fusion Engineering and the NPSS Fusion Technology Committee are devoted to the development of Fusion Power.

The International Conference on Plasma Science and the NPSS Plasma Science and Applications Committee concentrate on all aspects of plasmas including efficient lighting, materials processing and many other applications. Power sources for many applications, including particle accelerators, fusion, plasma, and hydrodynamic systems are the focus of the Pulsed Power Conference and the NPSS Pulsed Power Science and Technology Committee.

The Nuclear Science Symposium has sessions on Instrumentation for Experimental Reactors and Nuclear Power to reflect the synergy between the Nuclear Power Industry and the contributions the Nuclear and Plasma Sciences Society community makes in sensors, instrumentation and controls. This will help to meet current and future power needs safely and with minimal greenhouse gas emissions.

IMPROVING HEALTH CARE

The Medical Imaging Conference (organized by the NPSS Nuclear Medical and Imaging Sciences Committee) provides a forum for the presentation of new concepts and developments in nuclear medical imaging technology that significantly enhance medical diagnosis. This technology has evolved into health care systems using positron emission tomography (PET), single photon emission computed tomography (SPECT), X-ray computed tomography (CT), mammography, digital radiography systems, and multimodality imaging systems. All of these technologies are based on radiation detection systems developed by the participants in the NPSS Nuclear Science Symposium and Medical Imaging Conference. Cancer treatment with particle beams requires particle accelerators developed by the Particle Accelerator Conference community. The International Conference on Plasma Science also has sessions on medical and biological applications. Plasma medicine has grown from this community and is providing major medical advances.

SPEEDING DATA HANDLING AND AIDING SEMICONDUCTOR DEVELOPMENT

New technologies in all these areas need the highest performance data capture and processing involving electronics and specialized computer hardware and software. The Real-Time Conference (organized by the NPSS Computer Applications in Nuclear and Plasma Science Committee) covers all these aspects. Plasmas are used in semiconductor processing and the work of the community of researchers represented by the Nuclear and Space Radiation Effects Conference adds to the reliability of semiconductors for everyone.