

Stewart Prager



Stewart Prager is director of the Princeton Plasma Physics Laboratory, a Department of Energy national laboratory, and professor of astrophysical sciences at Princeton University. Prager's research focuses on basic plasma physics, particularly applications to fusion energy and, more recently, applications to astrophysics. Dr. Prager was director of the University of Wisconsin-Madison Symmetric Torus (MST) experimental facility supported by DOE. He also served as director of the Center for Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, established through the National Science Foundation program of "physics frontier centers." Prager has participated in numerous scientific planning and advisory processes, including service as the chair of the DOE's Fusion Energy Sciences Advisory Committee, as chair of the Division of Plasma Physics of the American Physical Society (APS), and as President of the University Fusion Association. He is also a co-recipient of the APS Dawson Prize for Excellence in Plasma Physics, a fellow of the APS, and a recipient of the Leadership Award of Fusion Power Associates.

Monday, February 6, 2012

Barus & Holley 166

4:00 p.m.

Refreshments served at 3:30 p.m.

The Path to Magnetic Fusion Energy

When the possibility of fusion as an energy source for electricity generation was realized in the 1950s, understanding of the plasma state was primitive. The fusion goal has been paced by, and has stimulated, the development of plasma physics. Our understanding of complex, nonlinear processes in plasmas is now mature. We can routinely produce and manipulate 100 million degree plasmas with remarkable finesse, and we can identify a path to commercial fusion power. The international experiment, ITER, will create a burning (self-sustained) plasma and produce 500 MW of thermal fusion power. This talk will summarize the physics progress in fusion research to date, and the remaining steps to fusion power.

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