



Wednesday
October 8, 2014
4:00 pm
Room TBD

Dr. Ned Sauthoff

Oak Ridge National Laboratory

The ITER Project: Bringing a Star to Earth

Fusion has the potential to yield clean, abundant, safe energy that could be a major contributor to the U.S. energy portfolio in the future. The mission of the international ITER project is to demonstrate the scientific and technological feasibility of fusion energy, using strong magnetic fields to confine fusion fuels in a plasma state hotter than the sun. ITER will be the largest tokamak ever constructed, and is designed to deliver 10 times more power than the plasma heating power. The United States is part of an international ITER partnership with China, the European Union, India, Japan, South Korea and the Russian Federation. The US ITER project office is based at Oak Ridge National Laboratory, with partner labs Princeton Plasma Physics Lab and Savannah River National Lab.

The ITER facility is now under construction in southern France and the contributing partners are engaged in fabricating components for the ITER tokamak. This presentation will review the basics of fusion power, the overall design of ITER, and the latest construction and fabrication progress both at the ITER site and by ITER partners, with particular emphasis on the activities in the United States. The challenges and approaches of complex international project collaboration will also be discussed.

About the Speaker: Dr. Ned Sauthoff is a plasma physicist and director of US ITER Project Office, the execution arm of the U.S. Domestic Agency for the ITER international partnership. Prior to the establishment of the US ITER Project Office, Ned was head of the Off-Site Research Department at the Princeton Plasma Physics Laboratory (PPPL), where he managed research on leading facilities around the US and the world to address key fusion physics and technology issues. Earlier at PPPL, Ned developed x-ray instrumentation and performed research on tokamak plasmas. He managed design of the control and data system for the Tokamak Fusion Test Reactor until 1985, headed the PPPL Computer Division until 1988, the Princeton Beta Experiment until 1990, the Experimental Projects Department until 1992, the Physics Department until 1994, and the Plasma Science and Technology Department until 1997. He is a fellow of the APS, the AAAS, and the IEEE. Ned received his B.S. in physics and M.S. in nuclear engineering from MIT, and his Ph.D. in astrophysical sciences from Princeton University.