DOE Office of Fusion Energy Sciences Announces Selectees for Negotiation of Innovative Confinement Concepts Awards

The Office of Fusion Energy Sciences (FES) has recommended 18 proposals for funding from 41 submitted to the FY 2010 solicitations, for non-laboratories and for laboratories, of the Innovative Confinement Concepts (ICC) program. The solicitations reflected the reorientation of the program to highlight research on problems that are critical to the tokamak concept. Every project in the FY 2010 ICC portfolio was given an opportunity to submit a proposal to one of the solicitations.

Subject to grant award negotiations, $14.9 million of FY 2011 funds are expected to be allocated to the 18 projects, which should continue through FY 2013 subject to the availability of funds.

Thirty-eight of the 41 proposals were determined to be responsive to the solicitation and were subjected to an external peer review on the basis of scientific/technical merit. The principal investigators were given an opportunity to provide a rebuttal to the reviewers' comments. In addition to the results of the peer review, programmatic priorities were used in the award selection process.

The selected projects include research on stellarators, spherical tori, compact toroids, plasma turbulence, and computational predictability for ICC experiments.

A list of the institution, principal investigator, and title for each selectee is shown below.

Auburn University, Stephen Knowlton
MHD Stability and Equilibrium in a Current-Driven Stellarator-Tokamak Hybrid

California Institute of Technology, Paul Bellan
Enhancing Fundamental Understanding of Magnetic Confinement in the Presence of Flows, Non-Conservative Forces, Dynamics, Collisions, Relaxation, and Kinetic Effects

Columbia University, Gerald Navratil
High Beta Tokamak Research

Oak Ridge National Laboratory (ORNL), Jeffrey Harris
A Comparison of Edge Localized Mode (ELM) and ELM-free Regimes in Stellarators and Tokamaks

ORNL, Rajesh Maingi
A Collaborative Program on the Lithium Tokamak Experiment

Princeton Plasma Physics Laboratory (PPPL), Elena Belova
Advanced Simulation Studies of Innovative Confinement Experiments

PPPL, Samuel Cohen
The Princeton Field-Reversed Configuration (PFRC-2): Energy Confinement and Ion Heating in FRCs Generated by Odd-Parity Rotating Magnetic Fields

PPPL, Philip Efthimion
Off-Site University Research Support

PPPL, Richard Majeski
The Lithium Tokamak Experiment

PPPL/ORNL/Los Alamos National Laboratory, George Neilson/Jeffrey Harris/Glen Wurden
Control of 3D Diverted Plasmas: A Partnership with Wendelstein 7-X

Swarthmore College/Naval Research Laboratory (NRL), Michael Brown/Vyacheslav Lukin
Relaxation of 3D Magnetic Structures: SSX Experiments and Experimentally-Validated Simulations

University of California at Davis/Sandia National Laboratories (CA), David Hwang/Dean Buchenauer
Multiple Applications of Accelerated Compact Toroids in Magnetic Fusion Devices

University of Texas at Austin, Kenneth Gentle
Turbulence, Turbulence Suppression, and Controlled Fluid Flows in the Helimak

University of Washington, Thomas Jarboe
The Helicity Injected Torus (HIT) Current Drive Program

University of Washington/University of Wisconsin/Utah State University/NRL, Thomas Jarboe/Carl Sovinec/Eric Held/Vyacheslav Lukin
The Plasma Science and Innovation (PSI) Center at Washington, Wisconsin, Utah State, and NRL

University of Wisconsin, David Anderson
HSX: A Helically-Symmetric Toroidal Experiment

University of Wisconsin, Raymond Fonck
Non-Solenoidal Startup and Stability Limits at Near-Unity Aspect Ratio

University of Wisconsin, Chris Hegna
Targeted Optimization of Quasi-symmetric Stellarators