

Scientists Launch a Fight To Save The U.S. Fusion Program

by Marsha Freeman

When the Obama Administration released its fiscal year 2013 budget proposal for the magnetic fusion energy research program a year ago, fusion scientists and many in Congress were stunned. In order to meet our obligations to the construction of the International Thermonuclear Experiment Reactor (ITER), now being built in France, the Administration proposed to hold the fusion budget

approximately to last year's \$400 million level, and pay for ITER by cutting \$50 million from the fusion research programs in the U.S. Immediately on the chopping block are the research positions of 100 scientists who work at the MIT Alcator C-Mod tokamak, which is proposed to be shut down. Also at risk are about 10% of the researchers at the Princeton Plasma Physics Laboratory, and experiments and smaller research programs at universities across the nation. In a welcome show of unanimity, the entire fusion community has rallied to try to reverse these cuts.

That the U.S. would have to substantially increase its budget allocation, starting this year, to design and build components for ITER, has been known for years. But without an increase in total fusion funding, the White House is proposing to trade away decades of American leadership in critically important fusion research and development. In September,



MIT Plasma Science and Fusion Center

63 younger fusion scientists, "under 40," sent a letter to Dr. Edmund Synakowski, Associate Director of the Office of Science at the Department of Energy, to protest this proposed policy.

"The vibrant *domestic program* must be maintained and nurtured," they wrote, "so that today's graduate students and postdocs can become experienced scientists and leaders 15 years from now," when ITER becomes fully operational. They warn that if this proposed policy is implemented, "within the next two years, hundreds of scientists and engineers at some of the premier U.S. institutions will be laid off. In the long run, this will lead to the *permanent loss of some of the brightest minds* from the U.S. plasma and fusion program..."

In response to attacks on the U.S. fusion program, both from the media and from near-sighted and demoralized scientists *outside* the fusion community, Dr. Stewart Prager, director of

If nothing is done to reverse the proposed cuts to the U.S. fusion program, almost all of the scientists, professors, and graduate students in this photo of MIT's Alcator C-Mod tokamak will be gone when the project is shut down, this coming March.

the Princeton Plasma Physics Laboratory, responded in comments to the *New York Times* on November 19th, explaining that fusion is "a transformative source of energy for the world." It is a "truly grand scientific challenge," with the expected result to be "a nearly ideal energy source," which will "transform our energy future." He pointed out that countries representing more than half the world's population are participating in the

ITER project, to make fusion a reality.

A review of progress in fusion energy research at the annual meeting of Fusion Power Associates in Washington on December 5-6, included analyses by staff members from both the House and Senate Appropriations Committees on the Congressional outlook for the fusion budget. While the Senate has refused to increase total funding, leaving the domestic programs to the hangman's noose, in a show of pure partisan politics, the Republican-controlled House increased the total fusion funding. But those funds were taken wholly from Department of Energy "sustainable" or "green" projects, which House Members well know the Democratic-controlled Senate will never agree to.

The Congress has a choice: continue to play politics with this nation's energy and strategic future, or enable the United States to continue to play a leadership role in the global fusion development.