

Science with a Mission

Advancing the Energy, Economic, and National Security of the United States

USER FACILITIES

The Department of Energy's Office of Science builds and operates the world's finest suite of scientific facilities and instruments that researchers depend on to extend the frontiers of science.

In the 2007 fiscal year, these facilities were used by more than 21,000 researchers from universities, national laboratories, private industry, and other federal science agencies.

These very large and complex machines and instruments have enabled U.S. researchers to make many of the most important scientific discoveries over the past six decades, with spin-off technological advances creating entirely new devices and industries.

The Office of Science's state-of-the-art facilities are located at national laboratories and universities, open to researchers on a peer-reviewed basis, shared with the science community worldwide, and feature technologies and capabilities that are available nowhere else.



The \$1.4 billion Spallation Neutron Source (SNS) at Oak Ridge National Laboratory, the largest civilian science project in the U.S., was completed in 2006 on time and on budget. The SNS will provide the most intense pulsed neutron beams in the world for scientific research and technology development.



WHAT DISTINGUISHES THE DOE OFFICE OF SCIENCE?

The Office of Science fills a unique and central role in the Nation's scientific endeavor. Our work is complementary to that of other government research agencies.

We distinguish ourselves by our emphasis on research that:

- > is driven by the Department of Energy missions,
- > takes the long view,
- > is open and interdisciplinary,
- > requires the use of large-scale facilities, and
- > takes risks commensurate with the high pay-offs we expect.

OUR FACILITIES

The DOE Office of Science facilities include:

- > particle accelerators,
- > synchrotron light sources,
- > neutron scattering facilities,
- > nanoscale science research centers,
- > supercomputers,
- > high-speed networks, and
- > genome sequencing facilities.

20-YEAR FACILITIES OUTLOOK

The health and vitality of U.S. science and technology depends upon the availability of the most advanced research facilities.

Facilities for the Future of Science: A Twenty-Year Outlook listed 28 new large scientific facilities and upgrades of current facilities that will define scientific opportunities across all fields of science supported by DOE over the next 20 years.

Investment in these facilities will yield extraordinary scientific breakthroughs – and vital societal and economic benefits.



Priority	Program	Facility
3	FES	ITERS
3	ASCR	UltraScale Scientific Computing Capability
Near Term	HEP	JLab Dark Energy Mission
	BES	Linear Coherent Light Source
	BER	Proton Production and Tag
	BER	High Isotope Accelerator
The Year	NP	Characterization and Imaging
	NP	CERAP Upgrade
The Year	ASCR	Excalibur Upgrade
	ASCR	NERSC Upgrade
Mid Term	BES	Transmission Electron Asymmetric Monochromator
	HEP	BIBAC
	HEP	Linear Collider
	BER	Analysis and Modeling of Cellular Systems
The Year	BES	SNS 2-4 MW Upgrade
	BES	SNS Second Target Station
The Year	FES	Whole Proteome Analysis
	NP/HEP	Double Beta Decay Underground Detector
The Year	FES	Next Step Spherical Torus
	NP	RHIC II
The Year	BES	National Synchrotron Light Source Upgrade
	HEP	Super-Hadron Beams
The Year	BES	Advanced Light Source Upgrade
	BES	Advanced Proton Source Upgrade
The Year	NP	WJRC
	FES	Fusion Energy Contingency
The Year	BES	WJRC Second Cold Source and Guide Hall
	FES	Integrated Beam Experiment



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