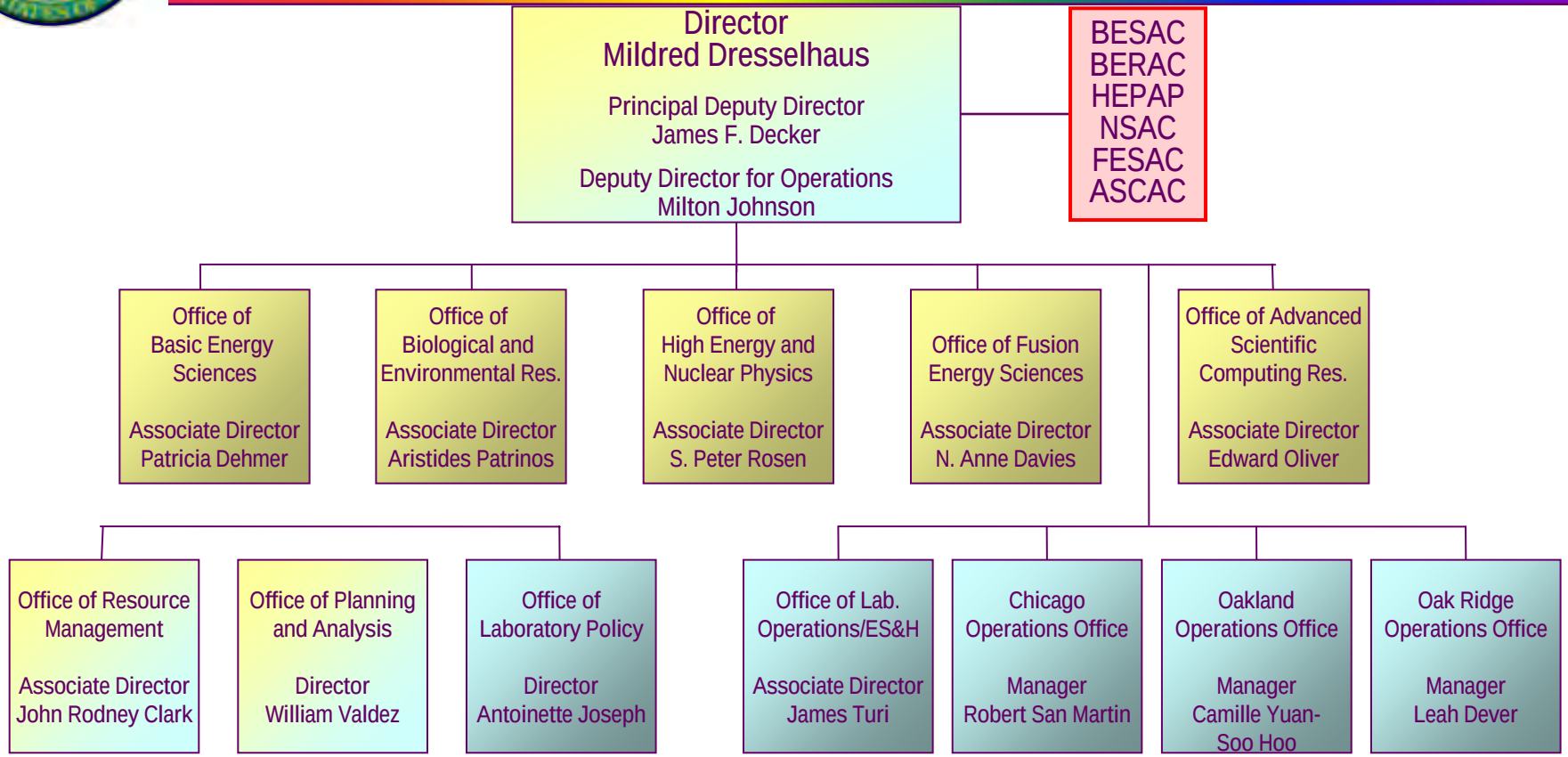
Office of Science



OTHER OFFICE OF SCIENCE ADVISORY COMMITTEES

Examples of Reports Prepared in Response to the Charge from the Director, Office of Science

Biological and Environmental Research Advisory Committee **– (www.sc.doe.gov/production/ober/berac.html)**

- **BERAC Subcommittee Report on Boron Neutron Capture Therapy (BCNT) Clinical Trials**
- **Bringing the Genome to Life – Energy Related Biology in the New Genomic World**

Basic Energy Sciences Advisory Committee **– (www.sc.doe.gov/production/bes/BESAC/BESAC.htm)**

- **Report of BESAC Subpanel on Neutron Scattering**
- **BESAC Subpanel Review of the Advanced Light Source at LBNL**

OTHER OFFICE OF SCIENCE ADVISORY COMMITTEES (continued)

Fusion Energy Sciences Advisory Committee **–**
(www.ofe.er.doe.gov/More_HTML/FESAC_Charges_Reports.html)

- **Summary of Opportunities in the Fusion Energy Sciences Program**
- **Report of the FESAC Panel on Priorities and Balance**

High Energy Physics Advisory Panel **–**
(hepserve.fnal.gov:8080/doe-hep/hepap_reports.html)

- **Planning for the Future of U.S. High-Energy Physics**
- **High Energy Physics Advisory Panel's Composite Subpanel for the Assessment of the Status of Accelerator Physics and Technology**

Advanced Scientific Computing Advisory Committee

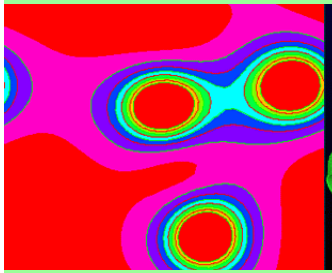
Advanced Scientific Computing Research Overview

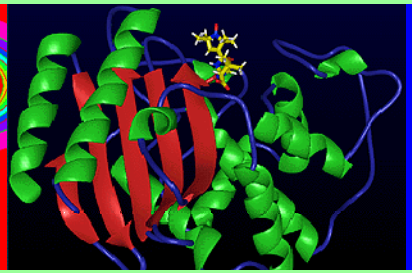
presented by

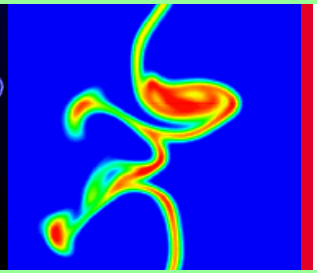
C. Edward Oliver
Associate Director of Science for Advanced Scientific Computing Research

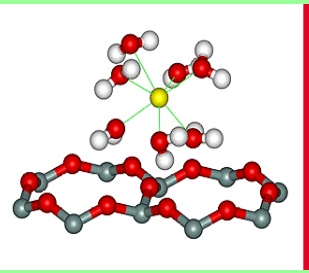
October 31, 2000

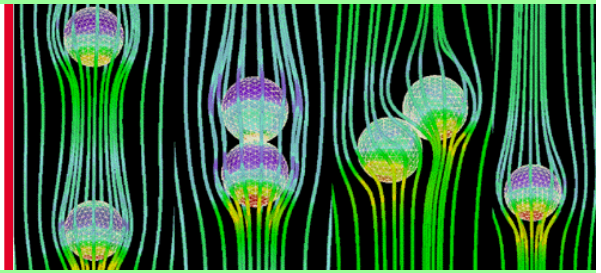
Advanced Computing is Critical for Scientific Discovery

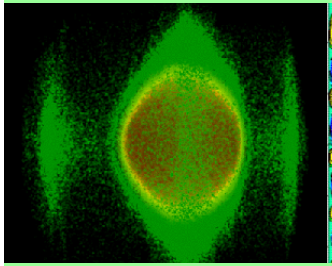

Vortices in a superfluid

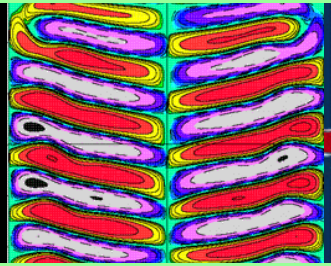

Protein dynamics


Turbulent methane flame

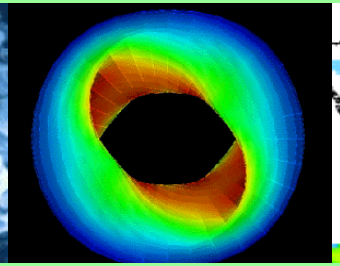

Clay-mineral geochemistry

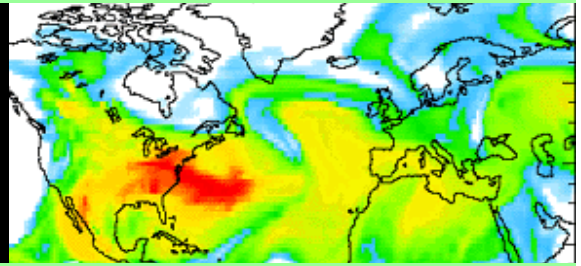

Two spheres mixing in a stream

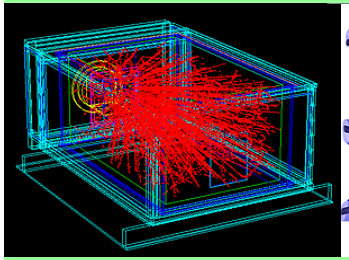

HEP particle beam halo

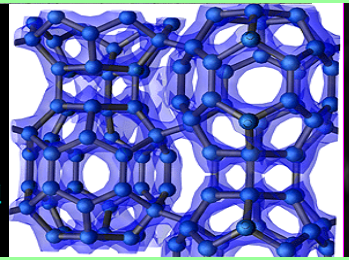

Transport barrier dynamics

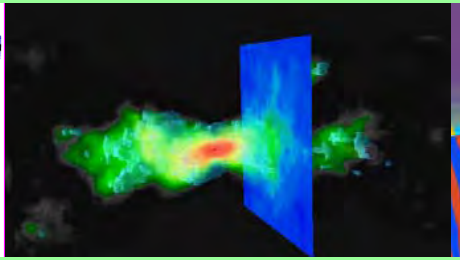

Combustion turbulence modeling

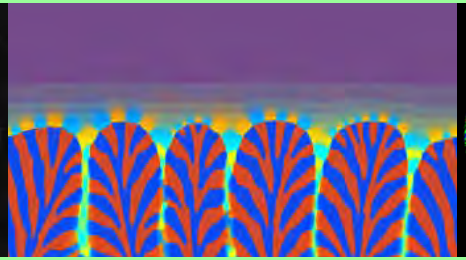

Fusion magnetic field

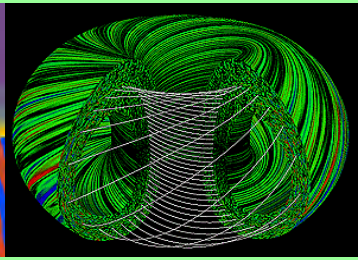

Perturbation in clear-sky and cloud albedo

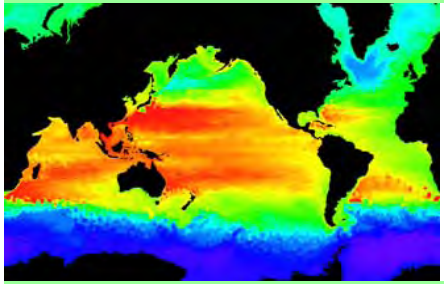

Au-Au collision

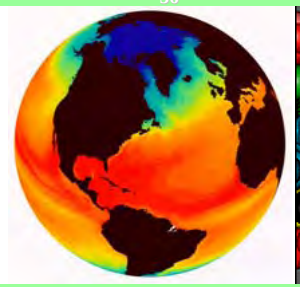

Crystal structure for C_{36} solid

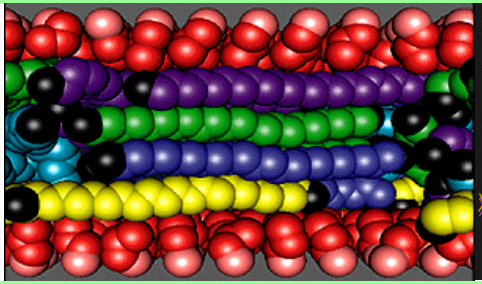

Lattice quantum chromodynamics

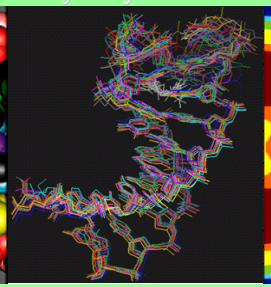

Binary alloy solidification

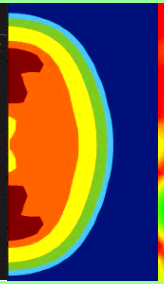

Perturbed plasma density

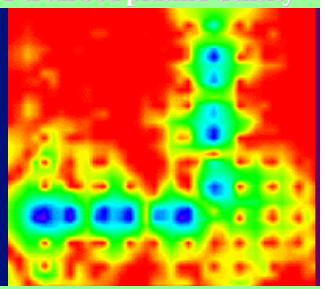

DOE Parallel Climate Model


Sea surface temperature

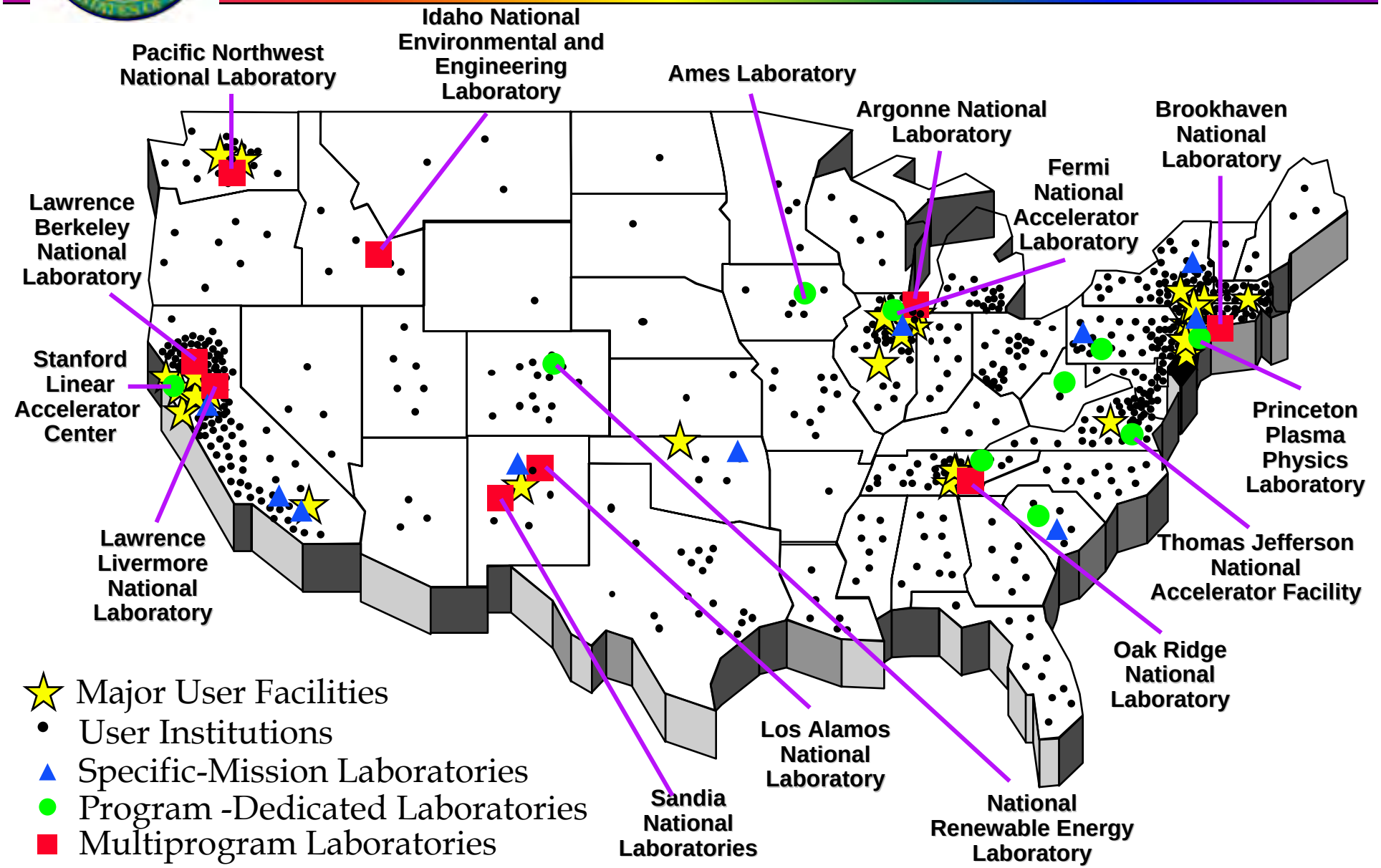

Molecular simulation of complex fluids


Structural biology

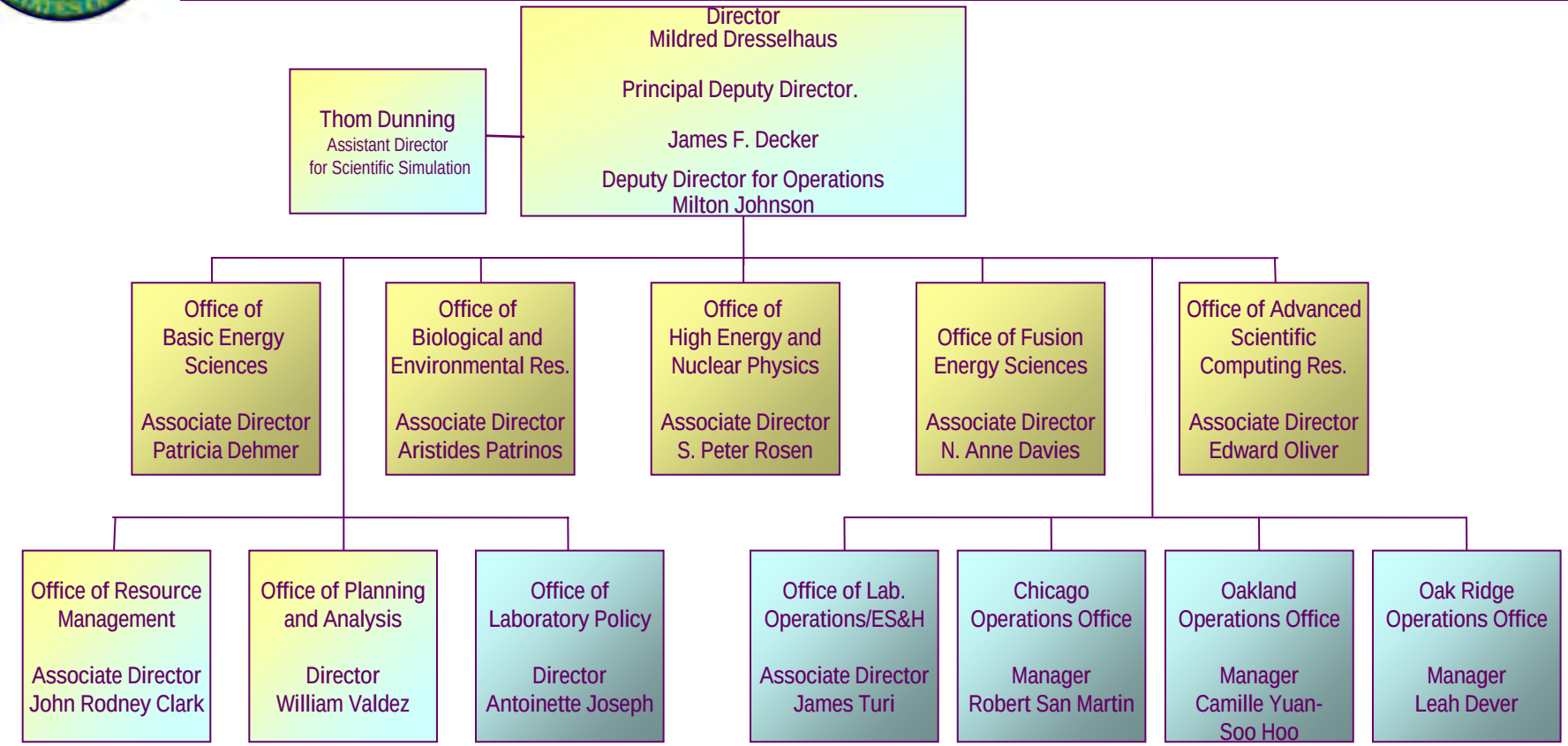

Nuclear theory


Waveguide optics

Location of DOE Laboratories, Facilities, and Their Users



Office of Science



Organization Chart

Office of Advanced Scientific Computing Research
C. Edward Oliver, Associate Director
Phone: (301)903-7486
E-mail: ed.oliver@science.doe.gov

Dan Hitchcock, Sr. Technical Advisor
Phone: (301) 903-6767
E-mail: dan.hitchcock@science.doe.gov

Mathematical, Information, and Computational Sciences Division
Acting Dir. - C. Edward Oliver
Phone: (301)903-7486
E-mail:
ed.oliver@science.doe.gov

Mission: To foster and support fundamental research in advanced computing research -- applied mathematics, computer science, and networking -- and to operate supercomputer, networking, and related facilities to enable the analysis, modeling, simulation, and prediction of complex phenomena important to the Department of Energy.

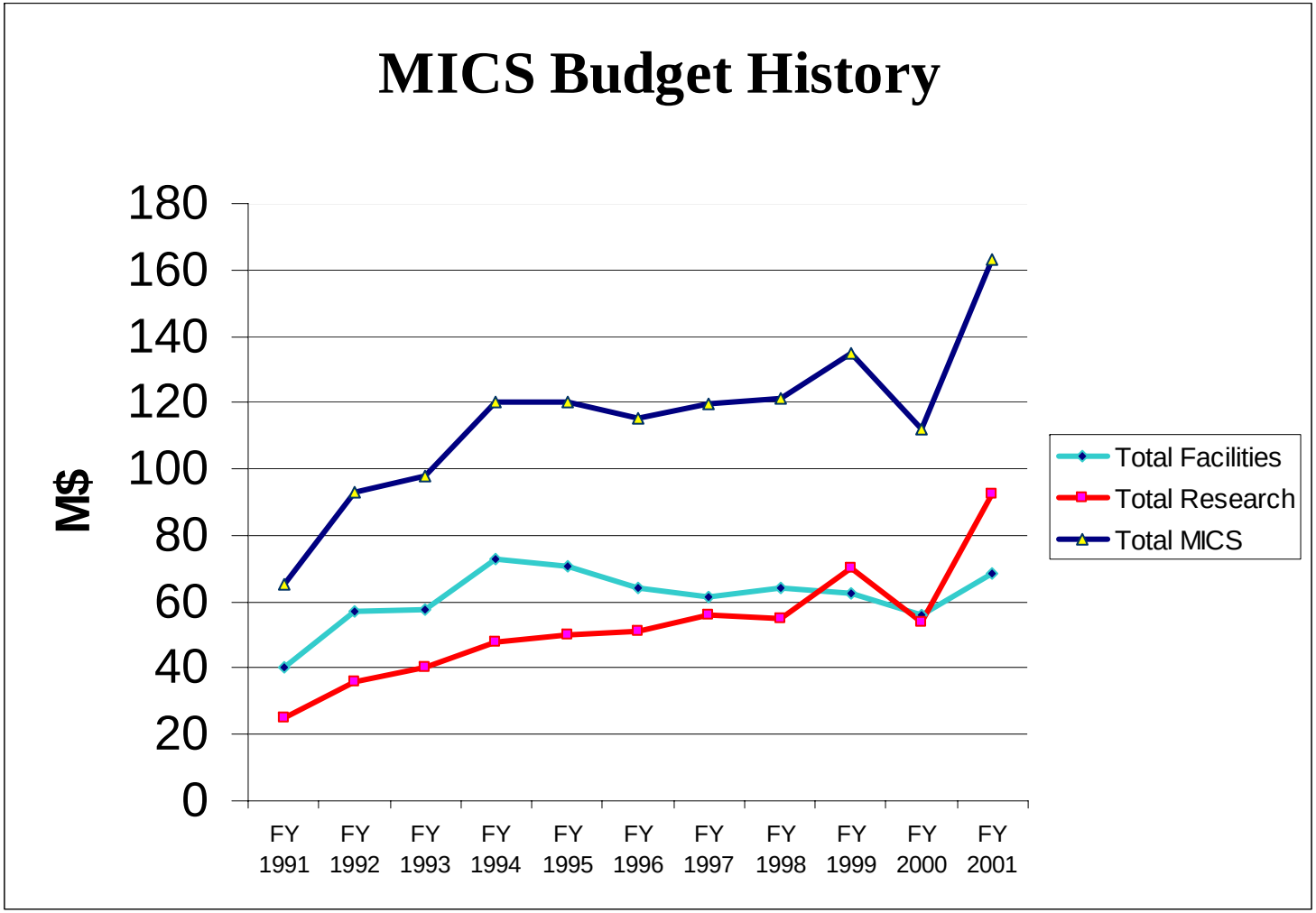
Technology Research Division
Director - Walter Polansky
Phone: (301)903-5995
E-mail:
walt.polansky@science.doe.gov

Mission: To foster and support high-risk research in the natural sciences and engineering in partnership with the private sector leading to innovative applications relevant to the Nation's energy sector.

Office of Scientific and Technical Information
Director - Walter Warnick
Phone: (301)903-7996
E-mail:
walt.warnick@science.doe.gov

Managed by ASCR office but not part of the ASCR program.

Mathematical, Information, and Computational Sciences Budget History



ASCR Program

	FY 1999 Approp.	FY2000 Conf. Approp.	FY2001 Amended Request	FY2001 Conf. Approp.
Mathematical, Information, and Computational Sciences……	**.$135,364**	**$120,833**	**$167,803**	**TBD**
Laboratory Technology Research……	**$ 15,721**	**$ 8,845**	**$ 12,014**	**TBD**
Advanced Energy Projects……	**$ 2,427**	**$ 0**	**$ 0**	**0**
Subtotal ASCR	$153,512	$132,000	$179,817	$170,000
Adjustments	- 1,573	- 4,117	0	- 3,885
Total ASCR	$151,939	$127,883	$179,817	$166,115

Mildred S. Dresselhaus

Director, Office of Science
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585
(202) 586-5430
mildred.dresselhaus@sc.doe.gov

Currently on a leave of absence as:
Institute Professor
Massachusetts Institute of Technology

Dr. Dresselhaus is one of 12 Institute Professors at the Massachusetts Institute of Technology (MIT). A solid-state physicist, she holds appointments in the Department of Electrical Engineering and Computer Science and the Department of Physics. She began her association with MIT in 1960 when she joined the staff at Lincoln Laboratory. She was later affiliated with MIT's Center for Materials Science and Engineering, which she directed from 1977-83, and with the Francis Bitter National Magnet Laboratory.

Her current work focuses on various carbon-based systems including fullerenes and nanotubes, low dimensional thermoelectricity, magnetism, and high-temperature superconductivity. She is author of a comprehensive source book on fullerenes and another book on carbon nanotubes and fibers.

Dr. Dresselhaus has served as president of the AAAS; chair of the AAAS Board of Directors; president of the APS; treasurer of the NAS. She has been a member of the Councils of NAS and the NAE and is also a member of the American Philosophical Society, the Materials Research Society, and the Society of Women Engineers. She is a fellow of the American Academy of Arts and Sciences, APS, and IEEE. Dr. Dresselhaus has received numerous honors and awards including 17 honorary doctorates and the National Medal of Science.

Advanced Scientific Computing Advisory Committee Members

Chair

Dr. Margaret M. Wright

Bell Laboratories/Lucent Technologies

Co-Chair

Dr. John W. Connolly

Center for Computational Sciences

University of Kentucky

Other Members

Dr. Jill P. Dahlburg

Distributed Sensor Technology Office, Tactical Electronic