



# Advanced Scientific Computing Research

An Update

For the

Advanced Scientific Computing  
Advisory Committee

Washington, DC  
October 25-26, 2001

C. Edward Oliver, Associate Director,  
Advanced Scientific Computing  
Research



# Office of Advanced Scientific Computing Research Organization Chart

**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

**Corporate R&D Portfolio  
Management Environment (PME)  
Project**

**Acting Dir. – Kimberly Rasar**

Phone: (301) 903-9617

kimberly.rasar@science.doe.gov

**Mission:** To foster and support innovative approaches to R&D management.

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

**Mathematical, Information, and  
Computational Sciences Division**

**Acting Dir. – Walt Polansky**

Phone: (301) 903-5800

walt.polansky@science.doe.gov

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

**Technology Research Division**

**Acting Dir. – Sam Barish**

Phone: (301) 903-5995

sam.barish@science.doe.gov

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

Manages SBIR/STTR program.

**Office of Scientific and  
Technical Information**

**Dir. - Walter Warnick**

Phone: (301) 903-7996

walt.warnick@science.doe.gov

**Mission:** To lead DOE e-gov't initiatives for disseminating information resulting from the Dept.'s annual research & development (R&D) program. (Managed by ASCR office but not part of the ASCR program.)



## Advanced Scientific Computing Research Staff Responsibilities Related to MICS

- Ed Oliver, Associate Director for Advanced Scientific Computing Research
- Dan Hitchcock, Senior Technical Advisor
- Linda Twenty, Program Analyst
- Melea Baker, Associate Director's Secretary
  
- Walt Polansky, Acting Director MICS
- Jane Hiegel, Secretary
- Susan Kilroy, Office Automation Assistant

		<u>Base</u>	<u>SciDAC</u>
Dan Hitchcock (Acting)	Applied Mathematics (AMS)	√	
Fred Johnson	Computer Science	√	√
Thomas Ndousse-Fetter	Network Research	√	√
Chuck Romine	Computational Sci. / AMS	√	√
Mary Anne Scott	Collaboratories	√	√
William "Buff" Miner	NERSC / Sci. App. Pilots	√	√, √
Walt Polansky (Acting)	ACRTs	√	√
George Seweryniak	ESnet	√	√
Kimberly Rasar	PME/SC-SciDAC		√
Gary Johnson	Consultant – Comp. Biology	√	



# Program Budget

## Advanced Scientific Computing Research

(BA \$ in Thousands)

	FY 2001 Approp.	FY2002 Request
Mathematical, Information, and Computational Sciences.....	\$151,647	\$156,170
Laboratory Technology Research.....	<u>9,649</u>	<u>\$ 6,880</u>
Total- ASCR.....	<sup>(a)</sup> \$ 161,296	\$163,050

<sup>(a)</sup> Excludes \$3,990,000 which was transferred to the SBIR program and \$239,000 which was transferred to the STTR program.



# MICS Program Evolution

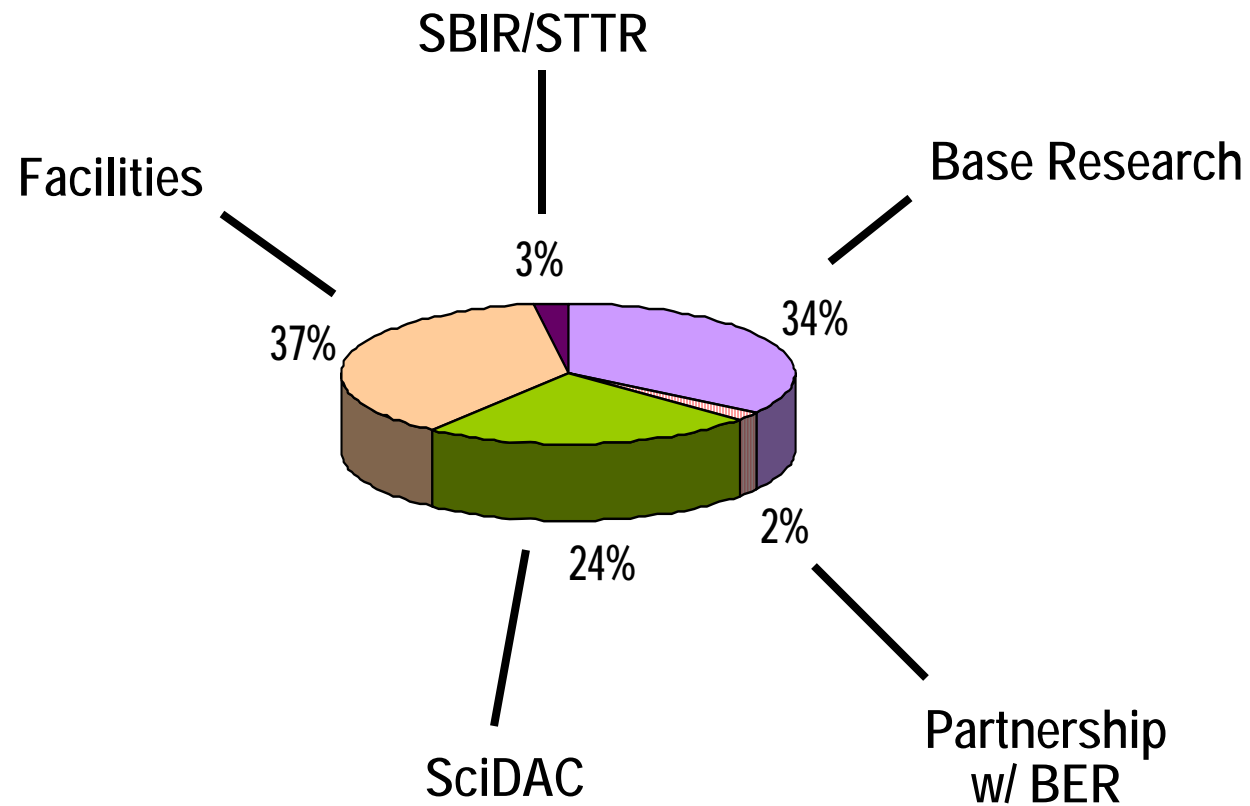
---

- FY 2001 Accomplishments
  - Initiated SciDAC research program (NFR – 01-06; 01-07)
  - Upgraded NERSC to 5 teraflops
  - Initiated research projects on computational biology (NFR- 01-21)
  - Acquired IBM Power 4 Hardware for evaluation/scaling studies
- FY 2002 Plans
  - Ensure success of SciDAC
  - Strengthen core basic research efforts
  - Initiate procurement cycle for NERSC-4



# MICS FY2002 Funding Profile

Pres. Req.- \$156,170,000





## Early Career Principal Investigators

---

- Goal: Include exceptionally talented “early career” researchers in MICS base research program.
- A new base program element for FY2002
- Issue Requests for Proposals in applied mathematics, computer science, and network research.
- Target individuals in tenure-track regular faculty positions at U. S. academic institutions (within 5 years after Ph.D. or post-doctoral position).
- Phase-in over 2-3 years;
  - FY2002: About 30 awards, each at \$100K/yr. for three years.
- Extra consideration to applications in which part of the research is conducted at a DOE national laboratory (e.g. summer months).