

**Biosurfactant Green Fluorescent Protein**

The photograph shows a biosurfactant green fluorescent protein (GFP) reporter organism fluorescing as biosurfactant is produced. Surfactants—or surface-active agents—are substances that lower the surface tension, a membrane-like barrier between different liquid phases that affects the ability of molecules to move from one phase to another. In addition to synthetically produced surfactants, these substances are also produced by a wide diversity of microorganisms. Some types of biosurfactants can bind tightly to toxic metals such as lead and cadmium. Some types can adhere strongly to surfaces, sometimes completely changing the properties of the surface. NSF-funded researchers Raina Maier and Jean Pemberton of the University of Arizona are investigating how biosurfactant production in soil systems influences the behavior of toxic metal contaminants. This information is a critical piece of the puzzle required to understand how metals are mobilized and immobilized under both natural and engineered conditions.

*Credit:* Raina Maier and Jean Pemberton, University of Arizona

## FROM THE CHIEF FINANCIAL OFFICER

I am delighted to join our new Director, Dr. Arden L. Bement, Jr., in presenting the NSF's *Performance Highlights* for FY 2004.

NSF's continuing quest to provide the highest quality business services to our customers, stakeholders, and staff is evident in our commitment to effective internal controls, prompt and streamlined award processes, and reliable and timely financial data to support good management decisions. In FY 2004,

- On the Department of Treasury's inaugural Financial Management Services Scorecard, NSF received "green" successful ratings for the two performance indicators that applied to the agency—Timeliness and Accuracy.
- For the second consecutive year, NSF successfully met the accelerated financial reporting requirements, producing a year-end report 45 days after the close of the fiscal year. The agency received its seventh consecutive unqualified audit opinion and was commended for exemplary public accountability reporting in several external independent reviews.
- NSF automated preparation of the new government-wide financial statements so that they are now systematically produced in conjunction with preparation of the agency's financial statements. The Department of Treasury has recognized this achievement as a federal agency best practice.
- NSF again received two "green" ratings, for successful achievement in the financial performance and electronic government initiatives of the PMA. NSF is the only federal agency to have maintained a "green" rating in financial performance for 4 consecutive years.

NSF continues to face the future in a position of operational strength, thanks to our sound financial management, our commitment to continuous improvement in business practices, and, most important, the extraordinary talent and commitment of our staff. For NSF, excellence in financial management has enabled the agency to pursue critical investments in science and engineering research and education that will ensure a secure homeland, continued prosperity, and a high quality of life for our children.




Thomas N. Cooley  
December 2004



**Thomas N. Cooley**  
Chief Financial Officer

For more information:

 [www.nsf.gov/bfa](http://www.nsf.gov/bfa)

NSF is a recognized leader in federal financial management. The Foundation's high-quality responsive electronic communications and processing systems are the backbone of our operations and the key to our success in interacting and servicing our research and education communities efficiently and effectively. An agency priority is providing reliable, timely, and useful financial management information.

In 2004, NSF launched a web-based "Report.Web" database that allows management and staff "24/7" direct accessibility to accurate and current financial information at their workstations. The addition of "Report.Web" to NSF's existing Executive Information System and Financial Accounting System provides comprehensive financial, budgetary, merit review, and awards management information to all levels of the Foundation's decision makers.

As a federal agency, NSF prepares annual financial statements in conformity with U.S. generally accepted accounting principles and then subjects them to an independent audit to ensure their reliability in assessing NSF's performance. An unqualified audit opinion is a measure of the fair presentation of our financial statements; in FY 2004, NSF received its seventh unqualified "clean" audit opinion.

As a federal agency, the Foundation prepares the following annual financial statements: Balance Sheet, Statement of Net Cost, Statement of Changes in Net Position, Statement of Budgetary Resources, and Statement of Financing. Supplementary statements prepared include Budgetary Resources by Major Budgetary Accounts, Intra-governmental Balances, Deferred Maintenance, and Stewardship Investments. The statement on Stewardship Investments appears on page 31.

The following pages feature highlights of NSF's FY 2004 financial condition. A more detailed discussion of financial performance and a complete set of the agency's financial statements, accompanying notes, and the audit opinion can be found in NSF's *FY 2004 Performance and Accountability Report*.

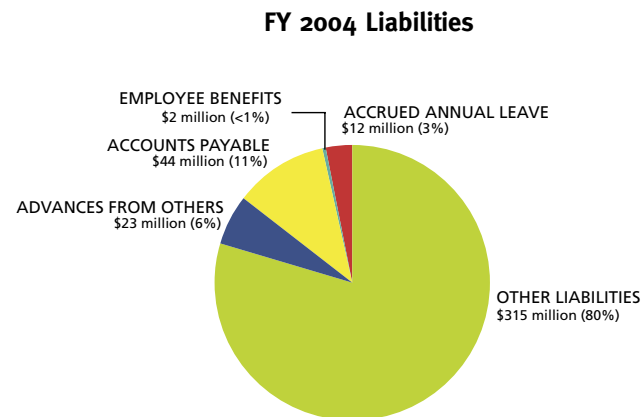
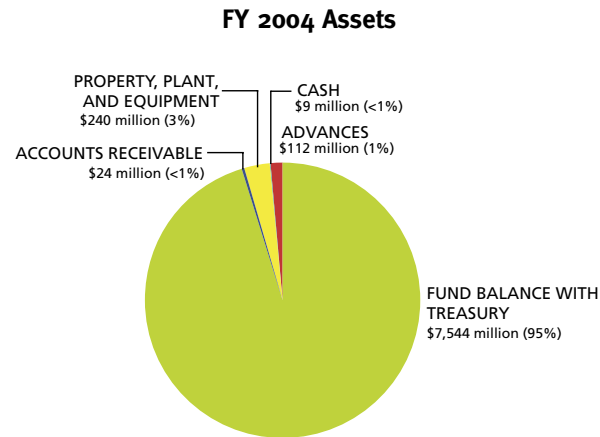
NSF is funded primarily through 6 congressional appropriations totaling \$5.6 billion in FY 2004, a 5 percent increase from the previous year (see Figure 1 on page 30). NSF appropriations funded 4 Strategic Outcome Goals: People, Ideas, Tools,


<b>Net Financial Condition</b>				
	<b>FY 2004</b>	<b>FY 2003</b>	<b>Increase/ Decrease</b>	<b>% Change</b>
Assets	\$7,929,034	\$7,424,919	\$504,115	7%
Liabilities	\$396,113	\$379,705	\$16,408	4%
Net Position	\$7,532,921	\$7,045,214	\$487,707	7%

## FINANCIAL HIGHLIGHTS

and Organizational Excellence (see Figure 2 on page 30). Organizational Excellence focuses on the business and management activities that the agency supports in order to accomplish its programmatic activities and mission. Thus in Figure 3 on page 30, funding for Organizational Excellence has been allocated among People, Ideas, and Tools, to capture the (net) cost of each. Figure 3 also shows the net cost of NSF's investment categories.

NSF by the Numbers	
\$5.65 billion	FY 2004 budget (obligations)
4%	NSF's share of total annual federal spending for research and development
50%	NSF's share of federal funding for nonmedical basic research at academic institutions
40,000	Proposals evaluated in FY 2004 through a competitive merit review process
10,400	New awards funded in FY 2004
50,000	Scientists and engineers who evaluate proposals for NSF each year
200,000	Proposal reviews done each year
40,000	Students supported by NSF Graduate Research Fellowships since 1952
216,000	People (researchers, postdoctoral fellows, trainees, teachers, and students) NSF supports directly



 FY 2005 Budget Request to Congress: <http://www.nsf.gov/about/budget/fy2005/>

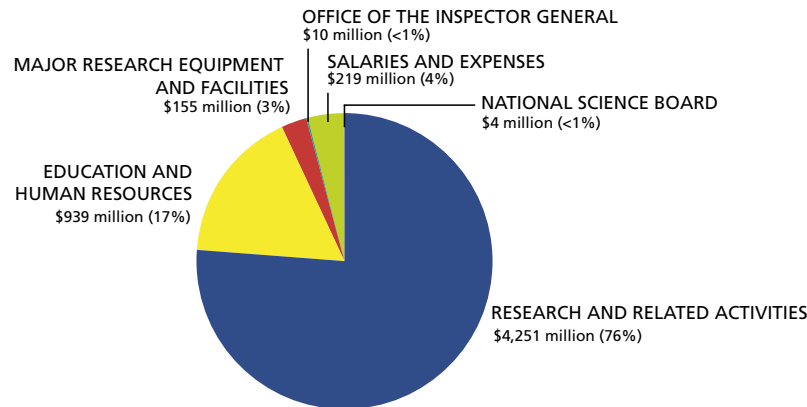
### FY 2004 Assets and Liabilities

*Fund Balance with Treasury*; *Property, Plant, and Equipment (PP&E)*; and *Advances* represent 99 percent of NSF's current-year assets. *Fund Balance With Treasury* is funding available through the Department of Treasury accounts from which NSF is authorized to make expenditures and pay amounts due. *PP&E* is capitalized property located at NSF headquarters and NSF-owned property that supports the U.S. Antarctic Program. *Advances* are funds advanced to NSF grantees, contractors, and other government agencies.

*Advances From Others*, *Accounts Payable*, and *Accrued Liabilities (Other Liabilities)* represent 96 percent of NSF's liabilities. *Advances From Others* are remaining prior year amounts advanced to NSF from other federal entities for the administration of grants on their behalf. *Accounts Payable* includes liabilities to NSF vendors for unpaid goods and services received. *Accrued Liabilities* are amounts recorded for NSF's grants and contracts for which work has been completed, although payment has not been rendered.

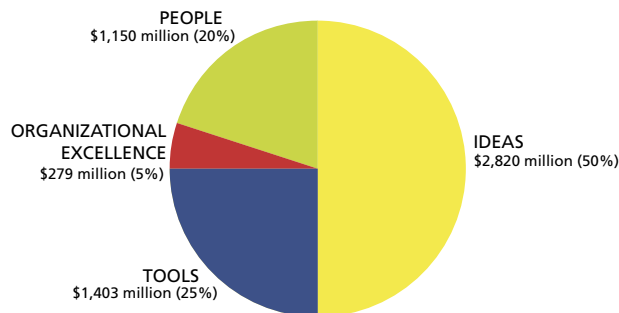
NSF's Net Position increased to \$7.5 million in FY 2004 due to an increase in *Unexpended Appropriations*. *Unexpended Appropriations* is affected mainly by *Appropriations Received* and *Appropriations Used*, with minor impact from *Appropriation Transfers* from the U.S. Agency for International Development and *Other Adjustments*, which include appropriation rescissions and cancellations.

**Figure 1: FY 2004 Appropriations by Account (Budget Authority)**  
**\$5,578 Million**



Note: Other revenue sources such as transfers from other agencies, and donations account for a minor portion of the Foundation's resources.

**Figure 2: FY 2004 Budget Obligations**  
**\$5,652 Million**



**Figure 3: FY 2004 Net Cost of Investment Categories**  
 (Millions of Dollars)

PEOPLE	
Individuals	\$ 651
Institutions	202
Collaborations	428
	<hr/>
	\$ 1,281
Less Earned Revenue	20
Net People	<b>\$ 1,261</b>
IDEAS	
Fundamental Science and Engineering	\$ 2,121
Centers	298
Capability Enhancements	221
	<hr/>
	\$ 2,640
Less Earned Revenue	62
Net Ideas	<b>\$ 2,578</b>
TOOLS	
Large Facilities	\$ 536
Infrastructure and Instrumentation	281
Polar Tools, Facilities, and Logistics	245
Federally Funded Research and Development Centers	212
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	\$ 1,274
Less Earned Revenue	13
Net Tools	<b>\$ 1,261</b>
<b>NET COST OF OPERATIONS</b>	<b>\$ 5,100</b>

## Stewardship Investments Research and Human Capital

(Amounts in Thousands)  
(Unaudited)

	2004	2003	2002	2001	2000
<b>Research and Human Capital Activities</b>					
Basic Research	\$ 3,494,302	\$ 3,519,159	\$ 3,092,060	\$ 2,692,243	\$ 2,636,518
Applied Research	209,225	218,152	193,788	211,421	173,670
Education and Training	1,224,058	867,489	767,734	704,949	596,517
Non-Investing Activities	268,298	196,363	183,887	170,757	162,021
<b>Total Research and Human Capital Activities</b>	<b>\$ 5,195,883</b>	<b>\$ 4,801,163</b>	<b>\$ 4,237,469</b>	<b>\$ 3,779,370</b>	<b>\$ 3,568,726</b>

### Inputs, Outputs, and/or Outcomes

#### Research and Human Capital Activities

##### Investments In

Universities	\$ 3,705,751	\$ 3,310,365	\$ 2,919,897	\$ 2,631,405	\$ 2,470,300
Industry	196,260	178,000	185,062	162,176	160,573
Federal Agencies	107,212	144,792	106,458	125,823	132,790
Small Business	200,995	186,400	144,844	130,977	119,345
Federally Funded Research and Development Centers	985,665	981,606	881,208	728,989	685,718
	<b>\$ 5,195,883</b>	<b>\$ 4,801,163</b>	<b>\$ 4,237,469</b>	<b>\$ 3,779,370</b>	<b>\$ 3,568,726</b>

##### Support To

Scientists	\$ 477,970	\$ 427,304	\$ 394,144	\$ 355,261	\$ 359,228
Postdoctoral Programs	175,680	163,239	148,334	128,499	117,504
Graduate Students	546,084	475,315	402,620	362,820	315,583
	<b>\$ 1,199,734</b>	<b>\$ 1,065,858</b>	<b>\$ 945,098</b>	<b>\$ 846,580</b>	<b>\$ 792,315</b>

#### Outputs and Outcomes

##### Number of

Awards Actions	23,000	23,000	21,000	20,000	20,000
Senior Researchers	31,000	30,000	28,000	27,000	24,000
Other Professionals	15,000	12,000	11,000	10,000	8,000
Postdoctoral Associates	6,000	6,000	6,000	6,000	5,000
Graduate Students	29,000	27,000	26,000	25,000	22,000
Undergraduate Students	35,000	32,000	32,000	31,000	30,000
K-12 Students	14,000	14,000	11,000	11,000	12,000
K-12 Teachers	86,000	85,000	84,000	83,000	83,000

This statement shows NSF's investment in research and education activities and primary output over the past 5 years. In FY 2004, NSF invested \$5.2 billion in research and human capital at universities, through industry, at other federal agencies, and at small businesses as well as at Federal Research and Development Centers. NSF's FY 2004 portfolio included approximately 23,000 active awards. It is estimated that FY 2004 awards directly involved over 200,000 researchers, postdoctoral associates, teachers, and students from kindergarten to the graduate level.