



# SEMIANNUAL REPORT TO CONGRESS

SEPTEMBER 2006



**NATIONAL SCIENCE FOUNDATION**

**OFFICE OF INSPECTOR GENERAL**

## **About**

### ***The National Science Foundation...***

The National Science Foundation (NSF) is charged with supporting and strengthening all research disciplines, and providing leadership across the broad and expanding frontiers of science and engineering knowledge. It is governed by the National Science Board which sets agency policies and provides oversight of its activities.

NSF invests approximately \$5 billion per year in a portfolio of approximately 35,000 research and education projects in science and engineering, and is responsible for the establishment of an information base for science and engineering appropriate for development of national and international policy. Over time other responsibilities have been added including fostering and supporting the development and use of computers and other scientific methods and technologies; providing Antarctic research, facilities and logistic support; and addressing issues of equal opportunity in science and engineering.

### ***And The Office of the Inspector General...***

NSF's Office of the Inspector General promotes economy, efficiency, and effectiveness in administering the Foundation's programs; detects and prevents fraud, waste, and abuse within the NSF or by individuals that receive NSF funding; and identifies and helps to resolve cases of misconduct in science. The OIG was established in 1989, in compliance with the Inspector General Act of 1978, as amended. Because the Inspector General reports directly to the National Science Board and Congress, the Office is organizationally independent from the agency.

***About the Cover...*** A July day in Antarctica. Photo by Zee Evans, NSF; selected by Jen Agee.

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## From the Inspector General

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This report highlights the activities of the National Science Foundation (NSF) Office of Inspector General (OIG) for the six months ending September 30, 2006. The past six months have been a very busy time. We issued 21 audit reports and reviews that identified \$25,415,769 in questioned costs, and \$1,900,000 in funds that could be put to better use. In addition, we closed 12 civil/criminal cases, 27 administrative cases, referred 4 cases to the Department of Justice for prosecution, and recovered \$910,097 in NSF funds as a result of our investigative efforts.

Our list of the most serious management challenges facing NSF in FY 2007 appears on page 49. I am pleased to note that NSF continues to make significant progress on several longstanding challenges. However, considerable work remains to be done in six critical areas: award administration; human capital; budget, cost and performance integration; information technology; the U.S. Antarctic Program; and merit review. Within these six areas, we list 10 challenges that remain from last year's list, and one new challenge pertaining to enterprise architecture.

As the American Competitiveness Initiative (ACI) promises to commit significant additional resources to the funding of scientific research over the next ten years, NSF must be prepared to manage these additional investments. To support the agency, OIG will focus resources to help ensure that NSF's increasing investment in basic research is subject to appropriate oversight and sound management controls.

In the past our audits have focused on many of the priorities identified in the ACI. For example, we have issued a number of audit reports that examine NSF's investment in "tools of science", i.e., large scale facilities and instruments that enable discovery and development. Pursuant to our recommendations, NSF is in the process of reengineering its approach to planning, building and managing these projects. Another series of recent audit reports, including one described on page 15, have recommended improvements in the way NSF disseminates research results. These changes should facilitate access to research findings, promote technology transfer, and accelerate the process by which basic research enables the introduction of successful new technologies and products. The ACI notes that the U.S. is operating within a changing global context in which countries are pouring resources into their scientific and technological infrastructure. As NSF attempts to leverage its investments by entering into a growing number of international partnerships, OIG has played a leadership role in establishing a dialogue among international organizations responsible for science research funding to discuss strategies for addressing mutual accountability challenges, as noted on pages 8-9.

Finally, I would like to extend a warm welcome to the new members of the National Science Board: Dr. Mark Abbott, Dr. Camilla Benbow, Dr. John Bruner, Dr. Patricia Galloway, Dr. Jose-Marie Griffiths, Mr. Arthur Reilly, Dr. Thomas Taylor, and Dr. Richard Thompson. The Office of Inspector General looks forward to working with them, along with our returning Board members, and our new Board leadership, to continue NSF's impressive record of accomplishment with strengthened oversight of NSF's stewardship of its resources.

A handwritten signature in black ink, which appears to read "Christine C. Boesz".

Christine C. Boesz, Dr.P.H.  
Inspector General  
November 15, 2006

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# Executive Summary

- An OIG audit report found that NSF constituents have an interest in obtaining more information about NSF-funded research. Organization executives and NSF program officers interviewed expressed an overwhelming interest in having NSF post brief summaries of research results and publication citations on its website. Interest was also indicated in posting conference proceedings, abstracts of journal articles, and final project reports. The report recommends that NSF use its position on various government-wide committees to advocate for the inclusion of brief summaries in project reports, which could be made available to the public. In addition, the agency should consider posting other formats, such as conference proceedings, journal abstracts, and conference proceedings on its website. (See p. 15 )
- DCAA completed four audits of Raytheon Polar Services Company (RPSC) in which it questioned \$22.1 million of RPSC's fiscal year (FY) 2003-2004 final payment claim; placed RPSC on notice that it must immediately file a federally mandated cost accounting practices statement or face administrative penalties; and identified internal control failings in both the Colorado and New Zealand offices that if not corrected, will require costly and extensive oversight by NSF to ensure RPSC is adhering to federal regulations and the NSF contract. In an earlier audit, \$33.4 million, or 9.2 percent of the \$363 million costs claimed by RPSC for the three-year period ended December 31, 2002 were questioned by the auditors. (See p. 18 )
- Weaknesses in the University of Pennsylvania (UPENN) effort reporting system prevented it from adequately supporting a significant portion of labor charged to NSF grants according to an OIG audit. The audit disclosed two major systemic internal control deficiencies that affected UPENN's processes for accounting and charging labor effort costs to NSF awards: 1) UPENN's business managers were certifying labor effort reports, though they were not in a position to know whether work was performed, and 2) effort reports were not certified in a timely manner as specified by UPENN policy. As a result, we estimated that UPENN could not demonstrate that at least \$9.2 million or 37 percent of the \$24.9 million of labor costs charged to NSF in fiscal years 2002 through 2004 actually benefited NSF awards as opposed to other federal or university activities. (See p. 21 )



- An OIG investigation into embezzlement at a university revealed other management control weaknesses that resulted in the recovery or de-obligation of \$3,367,256 in NSF funds over a 3-year period. The investigation involved a university employee who was subsequently convicted of embezzling more than \$487,000 in university funds, including \$415,000 in NSF funds. In addition to finding evidence of embezzlement, investigators discovered that the university certified to inaccurate cost-sharing contributions each year of the award, and could not support a number of expenses charged to the NSF grant. (See p. 31)
- The U.S. Attorney for the Middle District of Tennessee indicted a former professor at a state university on one count of wire fraud and one count of mail fraud. The indictment alleges that the professor used employees funded by NSF grants to conduct work in furtherance of private consulting that she performed through a company organized by one of her subordinates at the university. The professor was the director of a university center that received \$5 million under a Local Systemic Change (LSC) grant from NSF to support the training of local school systems in science instruction and Hands-On Science programs. (See p. 32)
- NSF found that a PI and a co-worker committed research misconduct based on an OIG investigation of plagiarism involving three Small Business Innovation Research (SBIR) proposals. The PI, who worked for a small company, initially admitted plagiarizing materials in all three proposals. However prior to adjudication, and after reviewing a copy of our investigation report, the PI identified a co-worker as the actual author of the third proposal. NSF concluded that both individuals committed research misconduct and required; (1) the PI to certify for a period of three years that NSF proposals he submits do not violate NSF's Research Misconduct regulation, and (2) the co-worker to complete a course in research ethics. (See p. 35)