

National
Science
Foundation



Office of
Inspector
General



Semiannual Report to Congress

March 2008

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 over \$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...

Under the Antarctic Ice -- A jellyfish, species *Diplulmaris Antarctica*, floats with the current just offshore of McMurdo Station, Ross Island. This species is generally found in Antarctica and the Antarctic Peninsula near the surface in continental shelf waters. The Antarctic waters are teeming with species of fish and other sea creatures like urchins, brittle stars and sea stars, jellyfish and sponges, worms and spiders, krill and shrimp, as well as marine mammals and penguins, to name a few. Credit: Steve Clabuesch, National Science Foundation

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From the Inspector General

This Semiannual Report to Congress highlights the activities of the National Science Foundation (NSF) Office of Inspector General (OIG) over the six months ending March 31, 2008. During this period, we issued 14 audit reports with questioned costs of \$840,490. Our investigators closed 30 civil/criminal cases, 31 administrative cases, and recovered \$1,513,135 while making 11 referrals for prosecution. As always, we are grateful to our agency colleagues for their assistance and cooperation in attaining these results. More about OIG's accomplishments over the past year can be found in our annual performance report on page 47.

Among the significant findings that appear in this report are the results of three new audits of labor-effort reporting systems at large universities, part of a series of audits planned to examine this important grant management issue. Our auditors continue to find that the systems they review lack effective controls for certifying labor effort and may fail to account for the actual time worked on the grants. This is a significant cause for concern because in FY 2006, charges to salaries and wages for NSF grants totaled \$62 million. The auditors' specific findings and recommendations are presented on pages 15-17. At another university, our investigators found two unrelated instances of credit card abuse and worked with the FBI and federal and state prosecutors to indict the two individuals responsible. In total, the two are alleged to have improperly charged \$489,000, most of it to NSF awards. The facts uncovered by these investigations are described on pages 27-28.

Lastly, I appreciate the cooperation that the OIG is given by NSF management, staff and the many awardees that benefit from NSF funding. They too share the responsibility of safeguarding public resources that are invested in science and engineering research and education. I would also like to acknowledge the contributions of eight key members of the National Science Board whose terms expired in May 2008. I thank those members for their service to the Board and their support for my office in our efforts to promote efficiency and strengthen the integrity of NSF programs. The members are: Dr. Barry Barish, Dr. Ray Bowen, Dr. Kenneth Ford, Dr. Daniel Hastings, Dr. Karl Hess, Dr. Elizabeth Hoffman, Dr. Douglas Randall, and Dr. Jo Anne Vasquez.

A handwritten signature in black ink, reading "Christine C. Boesz".

Christine C. Boesz, Dr.P.H.
Inspector General
March 2008

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Report Highlights

- An audit of NSF's FY 2007 financial statements resulted in an unqualified opinion but repeated the prior-year significant deficiency on contract monitoring and also identified a significant deficiency related to property, plant, and equipment. Separately, the FY 2007 Management Letter used to communicate issues of concern arising from the financial statement audit identified nine findings. **(See pp. 11-13)**
- A recent audit of NSF's controls over its eight research center programs found that NSF could enhance its management and oversight by developing and issuing written policies and establishing a forum for its program officers to share best practices. The eight center programs, engaged in fields of research such as nanoscale technology, engineering, and the science of learning, funded 99 individual research centers for a total of approximately \$250 million in fiscal year 2005. **(See p. 13)**
- Reviews of labor effort reporting systems at three universities found that they each lacked effective and timely controls for certifying labor effort, resulting in decreased assurance that \$62 million of salary and wages charged to NSF in FY 2006 reasonably reflected actual time worked on NSF sponsored projects. **(See pp. 15-17)**
- In two unrelated cases at the same university, an accountant and a program coordinator were each indicted for using purchase cards (P cards) to pay for personal purchases. Combined, the two are alleged to have improperly charged \$489,000, most of it to NSF awards. **(See pp. 27-29)**
- NSF terminated an education award and debarred the PI for making false statements in his proposal claiming the participation of a particular collaborator who had declined to be involved. The termination of the award enabled NSF to put \$1.25 million to better use. **(See p. 28)**
- OIG and university investigations concluded that a student, who was receiving funds through an NSF award to her advisor, fabricated the underlying data for graphs presented to her thesis committee at a Washington university. The student was found to have improperly used "correction factors" to achieve the results she desired in an effort to demonstrate their validity. **(See p. 33)**
- The 2007 OIG Performance Report summarizes the progress made over the past year in achieving our three goals: 1) to promote NSF efficiency and effectiveness; 2) safeguard the integrity of NSF programs and resources; and 3) utilize OIG resources effectively and efficiently. **(See p. 47)**

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OIG Management Activities

Legal Review

Program Fraud Civil Remedies Act of 1986

As we reported in our last Semiannual Report, the 2007 NSF Reauthorization Act, which passed in August 2007, amended the Program Fraud Civil Remedies Act (PFCRA) to bring the National Science Foundation (NSF) within the statute's coverage. With this amendment, the agency now has authority to administratively recover losses resulting from fraud cases under \$150,000 when DOJ declines to prosecute. We understand that NSF is currently drafting regulations to implement PFCRA and OIG expects that final regulations will be published by early August. Once implemented, PFCRA will provide the Foundation with a valuable and important opportunity to protect appropriated dollars and to ensure such funds serve their intended purposes.

Outreach

During this semiannual period, we sought to maintain essential outreach contacts with major institutions, national and international research organizations, and other federal agencies and their OIGs. Challenged by budget constraints, we managed to achieve greater economies in our outreach efforts while making it easier for the communities we serve to interact with OIG. We updated our website to include significant outreach presentations, and created new informational material for distribution throughout NSF and the research community.

Our efforts to encourage the research community to adopt compliance-based programs¹ at every research institution continued throughout this semiannual period. We presented at outreach events attended by university officials, research administrators, PIs, students, post-doctoral students, and international funding agencies, in an effort to explain the significant value of such programs and the needless risks that are assumed when universities and other members of the research community fail to develop and implement appropriate compliance programs. For this reason, interest in compliance programs continues to increase throughout the research community. In addition, the definition of responsible conduct in research is expanding to include elements of professional development necessary to produce a well-rounded

¹ Compliance programs are a set of policies or actions taken by an institution to enhance operational integrity and ensure that federal research funds are properly handled.

professional researcher. These positive developments provide encouragement to those interested in the establishment and maintenance of a research environment where compliance and ethical conduct are the norm.

During this semiannual period, an article written by OIG staff members was published in *The Journal of Public Inquiry*, a publication read widely within the community. The article described the positive impact compliance programs can have on research institutions and organizations. It also highlighted the benefits to the institution of taking the initiative to develop such programs tailored to its particular risks, rather than taking a chance of having a more comprehensive compliance program imposed on it in the aftermath of a civil/criminal investigation.

Working with Other Nations

The Inspector General continued to participate in international forums addressing the identification, prevention, and handling of instances of research misconduct. Dr. Boesz hosted a meeting of the Global Science Forum (GSF) at the National Science Foundation on December 3 and 4. Ongoing efforts to develop common principles for investigation and resolution of research misconduct allegations with international implications remained an important focus of these meetings. Representatives of 18 countries, the European Commission, and the Organization for Economic Cooperation and Development (the GSF's sponsoring organization) attended the meetings.

In addition, OIG staff made presentations to or held discussions with delegations from the European Science Foundation, the U.S.-Israeli Bi-National Science Foundation, the Irish Health Research Board, the Korean Board of Audit and Inspection, and the Chinese Ministry of Science and Technology, to provide their expert opinions and personal insights concerning the oversight of scientific research and science funding.

Working with the Research Community

OIG personnel sought out the most valuable opportunities from among the wide range of workshops, conferences, and other events sponsored by institutions and associations of research and university professionals, such as the Society of Research Administrators, the Rutland Institute for Ethics, and the National Council of University Research Administrators. We also visited with faculty, students, and administrators at eight universities. Through these presentations we sought to educate the community on best practices and to encourage the development of systems and tools to identify, resolve, and prevent the occurrence of misconduct or mismanagement within the research enterprise. In addition, in recognition of the fact that 50% of all undergraduates attend community colleges, we crafted and provided a presentation directed at community colleges to encourage them to incorporate ethics and compliance training into their curricula.

Working with the Federal Community

During this semiannual period, NSF OIG personnel interacted with their counterparts in the federal community, including federal agency OIGs, in a number of capacities. We hosted a very successful Grant Fraud Training Program, in which more than thirty agencies were represented by over 125 investigators who attended. Our expertise in the area of investigations of grant fraud and research misconduct enabled us to continue to make significant contributions toward federal efforts to limit fraud and misconduct. We participated in numerous events and initiatives established to coordinate the efforts of those fighting against grant fraud and research misconduct, including:

- *The Grant Fraud Subcommittee of the Department of Justice National Procurement Fraud Task Force*
- *The Federal Law Enforcement Training Center*
- *The Eastern District of Virginia Regional Procurement Fraud Working Group*
- *The PCIE/ECIE Misconduct in Research Working Group, chaired by the NSF IG*
- *The Investigations Subcommittee of the PCIE Information Technology Committee*

In addition, we met with representatives from Office of Management and Budget to provide comments on best practices for coordinating federal financial statement audits, and on revisions to OMB Circular 136 *Financial Reporting Requirements* and discussed actions NSF has taken in response to Single Audit (OMB Circular A-133) findings. We also actively participated in the GAO/President's Council on Integrity and Efficiency (PCIE) workgroup to update the *Financial Audit Manual* and continued to participate in the PCIE Inspections and Evaluation Committee, the PCIE GPRA Roundtable, the Federal Audit Executive Council, the Single Audit Roundtable, and the Financial Statement Audit Network.

Working with NSF

A surprising finding in the 2007 National Government Ethics Survey reported that only two percent of federal government employees made use of whistleblower hotlines. In order to increase awareness of our hotline within NSF, we created an electronic advertisement to provide information to potential whistleblowers. Shown in all common areas throughout the agency on a repeating basis, the advertisement highlights the value and availability of our hotline and reminds employees of the confidentiality and anonymity it provides.



Assistant Attorney General Alice Fischer addresses the Grant Fraud Training Program sponsored by NSF OIG.

Through regular presentations to the National Science Board and senior NSF officials, OIG keeps the leadership of NSF informed of audit and investigative matters of importance for the oversight of agency operations. In addition, we have provided input to NSF on important new initiatives. For example, in January 2008 audit staff met with the coordinator of NSF's draft Human Capital Strategic Plan to discuss NSF's human capital goals and its workforce and succession plans. We have also continued our extensive liaison outreach to NSF staff and programs.

We continue to participate in NSF's Regional Grant Conferences and its Program Management Seminars, which provide new NSF staff with detailed information about the Foundation and its activities. The Seminars provide OIG staff an opportunity to develop personal and professional relationships with their NSF colleagues, while educating them about the mission and responsibilities of NSF OIG. Our staff serve on various NSF committees such as the NSF Student Loan Repayment Working Group, and remain active in NSF-sponsored activities.

We recently began participating in NSF's New Employee Orientation Program, presenting to every "class" of new employees coming into NSF. These twice-monthly orientations provide us an opportunity to introduce employees to the OIG, to communicate to them how we can work together to enhance NSF programs and operations, and to ensure that they understand the channels through which NSF employees can bring matters to our attention. We thank NSF's Human Resources Office for the opportunity to participate, and look forward to a fruitful relationship between our offices.