

Investigations

The Office of Investigations handles allegations of fraud, waste, abuse, and mismanagement in NSF programs and operations, as well as allegations of research misconduct associated with NSF proposals and awards. We work in partnership with NSF, other agencies, and awardee institutions to resolve issues whenever possible. As appropriate, we refer our investigations to the Department of Justice (DOJ) or other prosecutorial authorities for criminal prosecution or civil litigation, recommend administrative action in research misconduct cases to NSF’s adjudicator, the Deputy Director, and in some cases recommend debarment to NSF’s Director.

In this Semiannual Report, we present an overview of investigative activities, including civil and criminal investigations, significant administrative cases, and focused reviews. We also report on the significant increase in verbatim plagiarism cases, explain how allegations of plagiarism are evaluated in this office, and discuss our review of NSF’s SmartPay purchase cards.

Summary Of Case Activity

Allegations of wrongdoing are classified according to the issues raised. Where there is insufficient evidence for initial classification, the matter may be handled as a preliminary file. During this semiannual period we received 149 allegations: 121 that were initially classified as preliminary files; 18 administrative cases; and 10 civil/criminal cases. We closed 110 of the preliminary files during this period: 106 after determining there was no justification for opening either an administrative or civil/criminal case; 3 became civil/criminal cases; 1 was classified as an administrative case. In addition, we received and closed 3 computer incident cases. We generated a sufficient number of preliminary files involving SmartPay charges, to check for a broad range of possible fraud schemes.

We closed 18 civil/criminal cases that involved allegations of violations of Federal laws, such as false statements, embezzlement, or theft. When we find evidence that suggests wrongdoing, we refer the case to the DOJ for prosecution. We referred two cases this period to DOJ. Investigative actions this period resulted in the return of \$327,973 to the government.

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We closed a total of 29 administrative cases: 24 prior to an investigation, and 5 after an investigation. The majority of our closed administrative cases involved allegations of research misconduct. Under our research misconduct regulation, these cases begin with an inquiry to determine whether the allegation has sufficient substance to warrant an investigation. If it appears that research misconduct has occurred, we send a report to NSF's Deputy Director for adjudication.

Civil and Criminal Investigations

NSF Enhances Security of Social Security Numbers

In our September 1997 Semiannual Report (pp. 30-31), we discussed a case in which an NSF employee used another employee's social security number (SSN) to obtain multiple fraudulent credit card accounts. The case prompted us to recommend that NSF minimize its use of SSNs as identifiers. In response, NSF issued a policy to NSF staff on the appropriate use and confidential handling of SSNs. However, in our March 2002 Semiannual Report (pp. 40-41), we reported that the SSNs of Principal Investigators (PIs) submitted to NSF, and then provided by NSF to a contractor as part of a registration process for a NSF program, were stolen.

As a result of these thefts, we sent a memorandum to the NSF Deputy Director highlighting the need to implement controls and policies to avoid theft of SSNs in the future. Since that time, a GAO Report (GAO-02-352) and pending legislation (S. 2629) have raised the profile of the issue of SSN security and identity theft. The legislation introduced in the Senate would require assessment, independent third-party review, and Inspector General reporting on privacy and data protection policies of Federal agencies.

In response, the Deputy Director described steps NSF has undertaken to enhance the internal security and confidentiality of SSNs, limit NSF employees' access to SSNs, and increase security and oversight of contractor use of SSNs. All of these actions have been implemented except for a change to the FastLane system, which will be implemented in the first quarter of 2003. These actions should result in greater awareness of the risk of theft of SSNs and other personally identifiable information, while also limiting access to this information.



Dr. Boesz congratulates Joe Pinto on receiving the PCIE/ECIE Award for Excellence in Investigations.

SmartPay Purchase Card Review

As discussed in our March 2002 Semiannual Report (page 41), we reviewed a large number of NSF SmartPay purchase card transactions for indications of fraudulent purchases. This initiative was prompted by several recent cases of NSF purchase card and travel card fraud (Semiannual March 2000, page 22; Semiannual March 2001, page 33). During the course of our review, several reports issued by GAO (GAO: 02-676T; 02-732; 02-1041) about misuse and fraud in the SmartPay system increased Congressional interest in the issue.

Our review focused on transactions seemingly unrelated to NSF business (e.g., purchases at toy stores, clothing stores, sports stores, local shopping malls, and credit card telephone calls). Using a database of all transactions, we screened all purchases made between October 2000 and October 2001. We also reviewed selected transactions involving entertainment and travel that could potentially violate Federal regulations. Finally, we reviewed purchases of \$1,500 or more from computer vendors to capture transactions involving complete computer systems.

Although we discovered no instances of fraud, we found potential internal control weaknesses involving card security, cardholder and approving-official training, proper recording of current cardholders, and split or otherwise improper purchases. In addition, although NSF has a policy requiring the attachment of identification tags to all computers, not all computers purchased with SmartPay cards were tagged. Also, the agency has no formal policy regarding the control tagging of Palm Pilots and Blackberries, which because of their size are particularly susceptible to theft. We referred these findings to our audit staff for follow-up.

Scientist Convicted for False Statements and Fraud

In our September 2001 (pp. 41-42) and March 2002 (p. 43) Semiannual Reports, we discussed a case in which a bioengineering professor at a South Carolina university submitted a fraudulent final report for an NSF Small Business Innovation Research (SBIR) Phase I grant to his wife's private company. In fact, no work was done under the award, and the final report was copied verbatim from a Master's thesis written by one of the professor's students before the grant was awarded. On the basis of the Phase I final report, NSF had funded a Phase II award for the same project.

We referred the case to the DOJ for criminal prosecution. The Phase II grant was terminated, and the professor repaid all of the grant funds (\$198,975) to NSF and made an unrestricted donation to NSF of \$27,500. The professor pled guilty in U.S. District Court to one count of violation of 18 U.S.C. § 1001 for submission of false information to the Federal government, and on June 20, 2002, he was sentenced to 5 years probation, a \$15,000 fine, and a \$100 special assessment fee. Pursuant to an administrative settlement with NSF, the professor is voluntarily excluded from participating in grants or contracts with the Federal Government until October 1, 2004.

Participants In Two Fraud Schemes Are Debarred

In our March 2002 Semiannual Report (page. 42-43), we discussed a case involving a university that reported an allegation that an employee of an NSF-funded research center had submitted fraudulent travel reimbursements. After a joint OIG-FBI investigation, the employee admitted to the offense and pled guilty to violation of 18 U.S.C. § 666 for theft/embezzlement from a program receiving Federal funds. As part of the plea agreement, the employee paid restitution in the amount of \$19,871.63. On August 23, 2002, the employee was sentenced to three years probation and 150 hours of community service. NSF's Deputy Director informed the subject of a proposed debarment for a period of three years based on the criminal conviction and offenses determined to be an extremely serious breach of the public trust.

In the March Semiannual Report (pp. 42-43), we also discussed a case in which a laboratory technician/administrative assistant fraudulently endorsed and cashed 40 payroll checks payable to former temporary employees. Four Federal agencies lost a total of \$50,484.61 over a 16-month period as a result of this scheme. The university calculated the charges, corrected the payroll records, and removed all associated charges from the grant accounts. According to the university's report, the subject fraudulently diverted \$14,599.20 of NSF grant funds. Because the employee resigned, acknowledged responsibility for the fraud, and arranged to pay restitution, the Assistant U.S. Attorney declined to prosecute the case in lieu of administrative action.

Consistent with our recommendation, the NSF Deputy Director debarred the subject for a period of two years. The Deputy Director explained that the theft reflects adversely on the university employee's integrity, honesty and responsibility. Debarment is effective throughout the Executive Branch of the Federal government, precluding the individual from having any substantive control or critical influence regarding Federal funding.

Scientist's Use of NSF Logo Falsely Implies Affiliation with NSF

A former biology professor contacted OIG offering information about fraud in NSF's peer review system. We received many, lengthy e-mails from the professor, before he finally referred us to his website for a full explanation of the evidence of fraud. In both the e-mails to our office and on his website, the professor expanded upon his allegations of fraud and claimed that NSF had asked him to submit a proposal to receive funding to investigate his fraud allegations. We carefully reviewed all of the information provided by the professor and concluded there was no credible evidence to support any of his allegations or claims.

However, the professor's use of the NSF name and logo on his website raised concerns. The domain name included "NSF", and the NSF logo was prominently displayed at the top of every page in a manner clearly intended to convey the impression that his site was affiliated with NSF. NSF provides logo graphics on its website "for

use by members of the public who wish to provide a link to an NSF website or to acknowledge NSF assistance,” but the professor’s use of the logo was not consistent with this permission.

The professor also used the logos of the Department of Justice (DOJ) and Department of the Treasury. He asserted that he had entered into a contract with Treasury to represent them in carrying out his investigation at NSF’s request, and in coordination with the NSF OIG as well as DOJ. We advised the professor that there are Federal statutes prohibiting the use of government seals/logos to misrepresent government affiliation. Although he was prohibited from using NSF’s seal/logo to falsely present himself as affiliated with NSF, he was otherwise free to use the seal/logo if it was made clear that he was not affiliated with NSF and otherwise complied with applicable law.

When the professor made no substantive change to the misrepresentations on his website, we referred the matter to the DOJ which contacted the company that hosted the professor’s website. After reviewing the misrepresentations on the website and consulting its own content policy, the company closed it down

Administrative Investigations

Plagiarism Allegations

NSF’s regulation on Research Misconduct, 45 C.F.R. part 689, states that plagiarism is “the appropriation of another person’s ideas, processes, results or words without giving appropriate credit.” Allegations of plagiarism (both verbatim plagiarism and intellectual theft) consistently appear as the category of administrative allegations we most frequently receive. Approximately 40 percent of the allegations of research misconduct received by our office involve plagiarism³/₄ 17 percent verbatim plagiarism and 23 percent intellectual theft. Verbatim plagiarism refers to the unattributed use of another person’s words, while intellectual theft relates to appropriation of another person’s *ideas* and/or *processes*, without giving credit.

Significant Verbatim Plagiarism Allegations on the Rise

In verbatim plagiarism cases, subjects have inappropriately used text originally appearing in textbooks, journal articles, conference proceedings, scientific proposals, electronic media or other sources. Using text authored by others is appropriate when it is quoted, indented or otherwise highlighted and attributed to the original author. However, when a writer fails to properly attribute the original author’s text, s/he violates a basic tenet of the research community by passing the words and composition off as his/her own.

We receive these allegations from numerous sources, most frequently from NSF’s merit reviewers. Peers who review proposals occasionally recognize unattributed text

as belonging to another author. Sometimes they recognize the plagiarized text as their own. When the copied text originates from a previously submitted proposal, the plagiarism violation is compounded by a possible breach of the confidential merit peer review process.

The seriousness of the case depends upon the amount of text copied. Less serious cases involve the copying of small amounts of text, and after receiving an adequate explanation from the subject, generally culminate with a letter reminding them that NSF expects all aspects of a proposal to maintain the highest scholarly standards. In more serious cases, if the subject is unable to adequately explain the copied text, the allegation is referred to the subject's institution for investigation.

During this semiannual period, our office received several substantive verbatim plagiarism allegations. In addition to the cases discussed elsewhere in this report, our office referred verbatim plagiarism allegations to four institutions for investigation. We received an investigation report from one of those institutions and expect the rest to be completed, during the next semiannual period.

Once we receive an institution's report, we review it for fairness and accuracy and determine whether additional investigative work is required to ascertain whether research misconduct (RM) occurred. If the evidence shows that the subject's actions met the definition of RM, we assess whether those actions represent a significant departure from the accepted practice of the subject's research community, and whether they were committed with the requisite level of intent. If these last two criteria are met by a preponderance of the evidence, then our office recommends a finding of research misconduct to NSF and suggests appropriate action.

Evaluation of Allegations of Intellectual Theft

Most scientists are rigorously honest about what really matters to them, like the accurate reporting of procedures or data. In other areas, however, such as disputes over priority or credit, they tend to behave like the ordinary mortals they are. Scientists are not disinterested truth seekers; they are more like players in an intense, winner-take-all competition for scientific prestige and the resources that follow from that prestige.

*David Goodstein, "Scientific Misconduct"
Academe, January-February 2002*

Understandably, scientists take umbrage when their ideas are unfairly appropriated. Ideas are the currency of progress and evolution in scientific research, and their theft can seem as serious to the author as financial theft. Intellectual theft allegations are significantly more difficult to substantiate than verbatim plagiarism, it is unusual to find that an idea has been copied exactly as it originally appeared.

Intellectual theft allegations often originate from scientists who feel they did not receive appropriate attribution for their ideas in the publications of others or

whose collaborations have dissolved. In these cases, we have found that the prevalent view in the research community is that, once scientists share their ideas publicly, others are free to use them as long as they provide proper attribution. Resolving allegations of intellectual theft from broken collaborations can be particularly problematic because the dispute among the participants involves shared nonpublic ideas. It can be extremely difficult, if not impossible to determine from whom the idea originated.

In our initial evaluation of alleged intellectual theft, we assess the originality of the allegedly copied idea in any source documents, compare the idea as presented in the source and destination documents to determine similarity, and assess the likelihood that the idea was taken from the source documents. To date we have encountered only two cases of proven intellectual theft, as discussed in our March 1992 (pp. 19-20), September 2000 (pp. 24-25), and March 2001 (pg. 26) Semiannual Reports. However, we have encountered numerous cases that range from simple misunderstandings to questionable or unprofessional conduct. We encourage scientists to craft intellectual property rights agreements at the outset of their collaborative efforts. These agreements are most effective when they allocate existing intellectual property ownership among the collaborators and create clear understandings among them about the use of joint intellectual property arising during their collaboration.

With the rise of electronic information dissemination, including the publication of papers (as both preprints and in final published form) on the web, cyber-conferences, and the ephemeral nature of many electronic information resources, the opportunities for plagiarism have increased dramatically. The expanding nature of information sharing and the modes for sharing have not dulled the offense people feel when they believe their words or ideas have been misappropriated. As the national publicity afforded to high-profile cases of scientific misconduct raises the public's awareness of the problem, it also highlights the importance of having carefully crafted collaboration agreements in place, and the value of initiating thorough and objective inquiries into allegations.

Plagiarism in Collaborative Proposals Submitted to Joint Agency Program

We investigated two plagiarism cases that we determined were substantive but could not be referred for investigation. In both cases, our initial inquiry revealed that the proposals in question were the product of U.S.-foreign collaborations submitted to a multi-agency program administered by the Department of State. For those proposals assigned to NSF for review, the U.S. collaborators resubmitted the proposals through their universities using NSF's FastLane electronic system. As a result, each proposal initially appeared to have been submitted and primarily authored by a U.S. researcher. Both U.S. researchers told us that their foreign collaborators had authored the proposals. In each case, the foreign collaborators admitted to us that they had

copied the material in question without attribution or distinction.

We met with NSF and Department of State officials to discuss preventive measures for such U.S.-foreign collaborative programs. Because the announcement for the joint agency program failed to articulate any scholarly or scientific standards for proposals, we suggested that the announcement be enhanced along the lines of NSF's Grant Proposal Guide. The interagency board issued a new announcement that incorporates specific language about plagiarism.

Actions by the Deputy Director

Scientist Fails to Observe NSF Requirements Imposed Following Misconduct Finding. In our September 1997 (pp. 36-37) and March 1999 (p. 19) Semiannual Reports, we described a case in which the Deputy Director found that the subject committed misconduct in science when he seriously misrepresented his research progress and capabilities in proposals submitted to NSF. The Deputy Director required the subject to provide detailed certifications and assurances to OIG for two years starting in April 1999, in connection with any proposal or report submitted to NSF. However in our September 2001 Semiannual Report (pp. 35-36) we reported that the subject repeatedly failed to provide the certifications or assurances that he was required to submit, and that the omissions were knowing and deliberate. Because administrative actions less than debarment in serious misconduct cases can only be effective if they are enforced by significant adverse consequences when they are breached, we recommended that NSF debar the professor for a period of two years.

NSF's Deputy Director issued a Notice of Proposed Debarment to the professor, and counsel for the professor submitted a response objecting to the proposed debarment. The professor and NSF resolved the matter with a settlement agreement that required the professor to provide detailed certifications and assurances in connection with any research proposals or reports he submits to NSF until October 25, 2003. The settlement agreement also stipulated that any breach of the certification and assurance requirements will constitute a material breach of the agreement, warranting debarment under NSF's debarment regulation.

Significant Administrative Cases

Verbatim Use of Project Management Text from Others' Proposals. Two cases were closed involving Research Experiences for Undergraduates (REU) proposals, each of which included about three pages of material allegedly copied, verbatim, from an earlier successful REU proposal written by other authors. The allegedly copied materials described procedures to track student progress and success with the project.

Neither proposal distinguished the allegedly copied materials, included citations to the source document, nor contained an acknowledgement for permission to use the materials. At the same time, the biographical sketches in the proposals suggested

that each PI had some prior working relationship with the source document's authors. The PIs provided information to us showing their participation in the development of the source document, which we independently confirmed.

Although these two cases were resolved quickly and confidentially, the question of the appropriate use of common (boilerplate) text has come to our attention before. In three other cases (SA citations) the PIs did not have permission for their extensive unattributed use of text authored by others. In each of these cases, NSF concluded that the PIs committed research misconduct. NSF debarred two and imposed certification and assurance requirements on the third. In resolving these cases we learned that either the institution or the original authors had a practice of sharing these sections with other PIs at their own, or other institutions. This practice raises issues, such as when, if ever, is it appropriate for PIs to use these types of materials without citation; what role should grantees play in overseeing the management sections of proposals; and what, if anything, should NSF do to change the expectations in the project management section of these types of proposals. Institutional or departmental policies that articulate acceptable practices for using and sharing "boilerplate" text would ensure that authors understand the authorized uses of boilerplate text they authored and may therefore reduce the number of allegations.

University Violates Cost Sharing Requirements. We received an allegation that a northeastern university committed fraud by repeatedly using Federal money as a source for matching funds under a Young Investigator grant. This Young Investigator grant consists of an annual base award of \$25,000 plus up to \$37,000 of additional funds per year on a dollar-for-dollar match of funds from eligible sources. Under the requirements applicable to this grant, funds from other federal agencies were not eligible as a source for matching. We conducted an investigation into the fraud allegations and concluded that although Federal funds were used as a match, there was sufficient evidence to suggest that the institution did not act with fraudulent intent. A concurrent audit report confirmed our conclusion concerning cost sharing. We referred the matter to the Cost Analysis and Audit Resolution Branch of NSF's Contracts, Policy and Oversight (CPO) Division for review and resolution. CPO concluded that the university should repay \$53,900, and CPO is in the process of recovering these funds.

Other Investigative Activities

Concerns Regarding NSF Grantees and the New Bioterrorism Laws

Congress recently enacted two statutes designed to improve the ability of the United States to prevent, prepare for, and respond to bioterrorism and other public health emergencies: the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 and the Agricultural Bioterrorism Protection Act of 2002.

Although the Acts are extensive, of relevance to NSF grantees are provisions requiring: (1) registration of possession, use, or transfer of agents/toxins deemed a threat to public health or a threat to animal or plant health, including recombinant organisms and genetic elements; (2) safety procedures for the transfer of selected agents/toxins; and (3) security requirements for registered facilities to ensure limited access to selected agents/toxins.

Responsibility for administration of the Acts rests on the Department of Health and Human Services (HHS) and the Department of Agriculture (USDA). HHS and USDA must establish a list of “selected agents/toxins,” and persons possessing, using, or transferring those agents/toxins must notify HHS or USDA, depending upon the agent/toxin at issue. HHS and USDA must also establish regulations regarding safety procedures for the transfer of selected agents/toxins and security requirements for registered facilities to ensure limited access to the selected agents/toxins. Failure to register and the transfer of agents/toxins to persons not registered are criminal offenses punishable by a fine of up to \$500,000, imprisonment up to five years, or both.

According to NSF’s FastLane database, there are 28 current grantees that are conducting research using selected agents/toxins. To comply with the Acts, these grantees may be required to notify HHS or USDA and comply with the transfer, safety, and security regulations. We were especially concerned because four of these grantees are small entities or individuals, who may receive no other Federal funding, and may be unaware of these new requirements. We raised our concerns with NSF and recommended that the agency develop mechanisms for determining that awardees are in compliance with the Acts—and particularly to ensure that NSF’s smaller grantees are aware of the requirements.

NSF informed us that it would rely on the procedures implemented by HHS and USDA to notify grantees. Although NSF stated that it would contact the particular small grantees we identified, it stated that it would not take any action to ensure knowledge of these new requirements by future NSF grantees, because it believes it is “neither necessary nor appropriate to interfere with or duplicate the notice and enforcement role of HHS and USDA.” The Center for Disease Control is also mailing guidance and notification forms to institutions identified as potential users of these toxic agents. We encourage NSF to reconsider this decision, because adding a condition instructing grantees to comply with HHS and USDA bioterrorism requirements could not in any way interfere with or duplicate those requirements, but would provide important information to small entities and individuals that receive Federal funding from no agency other than NSF.

Referral of NSF Patent Disclosure Oversight Review to Office of Audit

We resolved two cases involving disputes over patents and patent disclosures required by the Bayh-Dole Act of 1980 (the Act). Prompted by these cases and reports indicating a sharp rise in the numbers of patent disclosures to the government,

we undertook a limited review of NSF's system for handling patent disclosures. The Act is designed to promote science and technology and to aid the U.S. economy by allowing grantees or inventors to retain the patent rights to inventions developed under Federal funding. Funding agencies are charged with oversight of grantees' disclosures of these inventions and providing notice of confirmatory licenses to the Patent and Trademark Office (PTO). Previous GAO reports have commented on the inefficiencies in the Federal agencies' systems and contained recommendations for improvements.

NSF's regulation implementing the Act designates the Office of General Counsel (OGC) as responsible for administering invention disclosures related to NSF grants. We found that OGC is now making progress towards effectively managing disclosures under the Act. For example, OGC is in the process of reducing a backlog of invention disclosures and is hiring new personnel to ensure that its filings with the PTO are timely. In the absence of such filings, PTO cannot ensure that the information is available to Federal agencies to enable them to exercise the Government's rights. OGC is also now looking for effective ways to work with the National Institutes of Health (NIH) to establish a fully electronic reporting system.

