

# Investigations

## Civil and Criminal Investigations

### ***Scientist Sentenced for Mail Fraud and Tax Evasion, Pays \$1.4 Million Settlement***

Following a multi-agency investigation, a scientist, who was the owner of a small business in Massachusetts, was sentenced to 12 months home confinement, five years probation, and fined \$20,000 for Mail Fraud and Tax Evasion charges related to grants and contracts that the scientist received from SBIR awards made by NSF, the National Aeronautics and Space Administration, the Department of the Air Force, the Department of Energy, and the Department of Agriculture. The scientist previously pled guilty to sending SBIR Phase II progress reports to NSF that included research previously conducted by the company under an Air Force SBIR Phase II contract, and failing to pay income tax on grant funds he converted to his personal use.<sup>9</sup> The scientist also paid \$288,414 for penalties and interest related to tax evasion, and the court prohibited him from participating in federal grants, contracts, or employment for five years.

In addition, the scientist paid \$1,111,586 to the government to settle a False Claims Act case based on investigative findings that the scientist submitted false reports to various agencies related to SBIR awards.

Based on our recommendation, NSF had suspended the scientist after he pled guilty.<sup>10</sup> After the sentencing we recommended that NSF debar the scientist and his company. NSF's response to this recommendation is pending.

### ***University Pays \$2.5 Million to Settle Investigation of Mischarges to Federal Awards***

A New England university entered into a settlement agreement with the federal government to resolve civil allegations that the university violated the False Claims Act by submitting false

<sup>9</sup> September 2004 Semiannual Report, p.25.

<sup>10</sup> March 2005 Semiannual Report, p.29.

#### HIGHLIGHTS

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### ***NSF and OIG Jointly Oversee Compliance Agreements***

*Compliance agreements are frequently a component of settlement agreements entered into to resolve investigations involving institutions. They serve as compacts between the subject institution, NSF management, and OIG, to ensure the subject institution takes affirmative actions to create policies and procedures to ensure compliance with all federal regulations concerning the proper custody, use, and accounting for NSF grant funds. As signatories to the plan, both NSF management and OIG have a strong interest in the success of these actions, and therefore jointly monitor their progress for the term of the compliance agreement.*

*During this semiannual period, we have been actively monitoring two such compliance plans: one from a large school system and the other from a university. Both compliance agreements have five-year terms. In one case, NSF management and OIG representatives traveled together to conduct an on-site inspection and to meet new compliance officials. In both cases, representatives from NSF management and OIG met to review reports submitted pursuant to the compliance plans, assessed the success of the institutions' implementation of policies and procedures, and jointly worked toward a common goal of ensuring NSF grant funds were protected.*

claims on approximately 500 federal grants awarded from July 1997 through October 2004. The grants were made by numerous federal agencies including DOD, EPA, NSF, and NASA, for work to be performed at two of the university's specialized service facilities (SSFs). The National Science Foundation's share of the settlement was \$345,808.

A coordinated multi-agency investigation concluded that the university submitted grant applications containing incorrect or overstated information about anticipated expenses in the SSFs, because the university did not use a proper basis for setting and regularly updating its billing rate structure, as required by OMB Circular A-21. The university's failure to revise and appropriately set its billing rate structure resulted in numerous false claims being submitted for payment to the granting agencies.

The investigation also concluded that the university failed to follow federal law for calculating how extra compensation should be paid to the university faculty members for additional work on grant-supported research activity at the SSFs, resulting in improper excess charges being charged to the federal grants. Finally, the university failed to provide the required cost sharing under certain awards.

As part of the settlement, the university also signed a compliance agreement with the federal government that will require the university to make significant changes in its grant administration program. The changes include the implementation of written policies regarding compliance with all laws and regulations related to the receipt of federal grant money, the implementation of additional training programs for grant administrators, and the submission to the federal government of annual reports detailing the university's compliance efforts.

NSF had significantly more awards implicated in the wrongdoing in this case than any other agency. Currently, the university has approximately 190 active NSF awards totaling more than \$51 million, with more than 120 proposals pending. Accordingly, we recommended that NSF (1) work with the agency overseeing the compliance agreement to ensure that NSF's interests are addressed, and (2) designate the university to be "high risk," resulting in the imposition of appropriate additional conditions on the university's performance under all extant and new NSF awards. NSF agreed with our recommendations. This is the first time that NSF has designated an awardee institution as "high risk."

## ***Small Business Owner Submits Altered Letters of Support***

In a proposal for a Small Business Innovation Research (SBIR) Phase II award sent to NSF, the owner of a Florida company misrepresented the results of the Phase I award by indicating that several previously filed patents were the results of the award. We also determined that the owner altered previous letters of support by changing the dates, in several cases by more than a year, to imply current support for various SBIR proposals. The 10 original letters were altered and resubmitted a total of 27 times within 13 proposals.

We ultimately concluded there was not sufficient evidence to proceed with a referral to the Department of Justice for civil or criminal prosecution, because 1) the misrepresentations were not material to NSF's funding decisions, and 2) several of the authors of the support letters believed it was an acceptable practice to change dates on previously submitted letters of support to resubmit them with additional proposals. However, we recommended that NSF make a finding that the owner committed research misconduct and require him to submit additional certification with any future proposals for a period of 2 years. This certification would assure NSF that all of the information contained in the proposal is true and accurate. NSF's decision is pending.

During this investigation, we discovered that NSF has not established guidance regarding the proper use of letters of support for those seeking grants. The absence of any such guidance makes it difficult to hold potential awardees accountable for the accuracy of their submissions. We recommended that NSF provide appropriate guidance to applicants by implementing the following actions:

- Update current NSF policies and guidelines to identify specific requirements for letters of support that are submitted with proposals.
- Provide additional guidance to PIs and awardees by including a presentation on the requirements for letters of support in the Regional Grants Conferences and professional meetings.
- Independently confirm the authenticity of all letters of support that commit specific support, financial or otherwise, to the proposal.

These recommendations are currently under consideration by NSF.

## ***University Returns Award Funds to NSF***

As a result of an OIG investigation, a California university returned \$29,477.02 in residual award funds to NSF. We received information that the university transferred residual funds from federal awards into surplus holding accounts, and we opened an investigation. The investigation revealed that the university transferred both positive and negative account balances of several local, state, federal, and private closed grant accounts to a single holding account in order

to facilitate the conversion to a new accounting system. The university failed to restore these residual grant funds in a timely manner. In addition to returning the NSF funds, at our request, the university disclosed to five other federal agencies the existence of a total of \$33,388.02 of their federal grant funds that were being held in its holding account.

### **NSF Agrees to Increase Monitoring of Awardee**

NSF agreed with OIG recommendations to declare an active award with a Minnesota institution as high risk and to impose special award conditions on current and future awards. OIG had previously recommended that NSF take action to protect funds awarded to the institution, because DOJ had determined that the institution lacked adequate internal controls to ensure that cost transfers were made in a timely fashion, for appropriate reasons, and with adequate documentation.<sup>11</sup> DOJ entered into a settlement agreement in which the institution agreed to return \$6.5 million to the United States, with approximately \$5,000 being returned to NSF. The Department of Health and Human Services is in the process of working with the institution to bring its accounting systems into compliance with the applicable requirements regarding the request, receipt, and use of federal grant proceeds.

### ***Employee Misuses Government Travel Credit Card***

NSF notified us that within a 5-week period, an employee charged \$1,654.78 to her government travel credit card for transactions that did not appear to coincide with official travel. The employee admitted to OIG investigators that she repeatedly misused her government travel credit card for purchases outside the scope of official business. We referred our findings to NSF, which canceled the employee's government travel credit card account and suspended her from duty without pay for 5 days.

### ***Participant Support Funds Returned***

We previously summarized cases where the grantees were either unfamiliar or non-compliant with the rules regarding participant support costs.<sup>12</sup> In this semiannual period we continued to review cases in which universities recognized they had misspent participant support funds and agreed to return those funds. The cases we resolved this period included instances in which principal investigators used participant support funds to pay for travel and laboratory supplies, and violations of the Fly America Act. The universities returned a total of \$20,710.27 to NSF.

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<sup>11</sup> September 2005 Semiannual Report, p.25.

<sup>12</sup> September 2005 Semiannual Report, p.27, and March 2005 Semiannual Report, p.37.

## Administrative Investigations

### *Actions by the Deputy Director*

#### **NSF Finds That Director of Grants Committed Research Misconduct**

In a previous Semiannual Report, we discussed our recommendation for a finding of research misconduct for a Director of Grants at a New York community college who submitted two NSF proposals with plagiarized text.<sup>13</sup> Based on our investigation and recommendations, NSF: 1) found he committed research misconduct; 2) sent him a letter of reprimand; 3) required him to certify completion of a course in scientific ethics; and 4) required him to certify that any proposals he submits to NSF for 11 months after its finding of research misconduct do not contain plagiarized material.

#### **NSF Proposes Debarment of Visiting Scientist for Plagiarism**

The investigation of a foreign, visiting scientist who committed plagiarism on multiple proposals submitted to, or reviewed by, NSF appeared in our last Semiannual Report.<sup>14</sup> Based on our investigation and recommendations, NSF: made a finding of research misconduct; proposed debarment of the subject for 2 years; and prohibited him from serving as an NSF reviewer, advisor, or consultant for 2-years. The subject has not yet indicated whether he plans to contest the debarment action.

#### **Agency Reprimands Graduate Student for Fabrication of Data**

Based on the investigation discussed in our last Semiannual Report,<sup>15</sup> NSF concluded that a graduate student who fabricated data in her thesis committed research misconduct. NSF issued a letter of reprimand in which it explained that, although fabrication of data is a serious matter, mitigating factors resulted in no further action taken by NSF, as recommended by OIG. These factors included the student 1) taking full responsibility, 2) cooperating fully with the university's and OIG's investigations, 3) expunging fabricated data, which were not published, from the thesis, and 4) apologizing to NSF. Further, NSF acknowledged that the university had already taken substantive actions that protected the federal interest.

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<sup>13</sup> September 2005 Semiannual Report, p.29-30.

<sup>14</sup> September 2005 Semiannual Report, p.30.

<sup>15</sup> September 2005 Semiannual Report, p.30.

## ***Report Forwarded to the Deputy Director***

### **PI Plagiarized Text and Figures in Two Proposals**

An OIG investigation concluded that a PI from New Jersey plagiarized text and figures from multiple source documents into two SBIR Phase I proposals he submitted to NSF. Initially, our investigation included three NSF SBIR proposals submitted by the PI, each of which contained apparently plagiarized text and figures. As part of our procedures, we provided the PI with a copy of the draft investigation report with a request for comments prior to forwarding it for adjudication. In his response the PI disclosed for the first time that he was not the author of one of the proposals (the other proposal). The SBIR firm provided the name of another company scientist who authored the other proposal. The CEO requested the PI submit the other proposal as well as the ones the PI had authored. The PI also told us in his response that all his answers to our inquiry and investigation questions about the other proposal were written by the other scientist and the PI copied them into his response.

We removed the other proposal from our investigation of the PI's plagiarism, and opened an inquiry into the apparent plagiarism by the other scientist. We modified our assessment of this case to reflect these new facts, and determined that the two remaining proposals the PI admitted he wrote contained sufficient plagiarized text and figures to warrant a finding of research misconduct.

We recommended NSF send the PI a letter of reprimand informing him that NSF has made a finding of research misconduct against him, and require that when proposals are submitted by the PI, or on his behalf, to NSF, he be required to submit a certification to OIG for 3 years that, to the best of his knowledge, they contain nothing that violates NSF's research misconduct regulation.

## ***Other Significant Administrative Cases***

### **Sloppy Research Is Not Misconduct**

A New York institution notified us it was conducting an investigation into an allegation of data falsification. After the subject left the institution, some of her former colleagues were unable to replicate her published results, prompting the institution's investigation. The subject's research was primarily supported by the National Institutes of Health, so we coordinated our efforts with the Office of Research Integrity (ORI).

The institute's investigation committee concluded the subject's laboratory notebooks were unacceptably poor and did not meet community standards for recording and archiving data, and were not helpful in resolving the allegation. As part of her defense, the subject hired an independent laboratory to replicate her results. The committee coordinated with the journal that published her research so the three scientists who reviewed her published paper could also

review the replication efforts. The three reviewers disagreed about whether the replicated results supported the original data and interpretation.

The committee concluded that the allegation could not be resolved because there was not enough evidence to reach a definitive conclusion. The adjudicator found that the evidence did not support a finding, and we concurred and closed our case. We admonished the subject for poor record keeping and agreed with the committee's observation that if her records had been better, the allegation might have been avoided or at least resolved more definitively.

### **Appellate Court Opinion Triggers Review of Retaliation Claim**

We received a request to reopen a fifteen-year old case on the basis that a state appellate court had concluded that a Texas institution retaliated against a professor for making protected disclosures. Retaliation is a serious matter, and we had committed to review this case again if new facts came to light.

In 1991, a complainant alleged that, as a result of his disclosures to us regarding possible false statements in a proposal submitted to NSF, his institution retaliated against him by reprimanding him, reducing his pay, and failing to renew his contract. In addition to filing a complaint with us, he pursued redress for this and other alleged wrongs in a variety of forums, including the institution itself, the Equal Employment Opportunity Commission, and state and federal court. In all forums, except the state court, the complainant's claims were not sustained. In 1996, with the state court suit still pending, we closed our case with the proviso that if new facts came to light, we would consider reopening it to determine whether we needed to take action. As a result of this review, and in the exercise of our discretion, we determined that we did not need to take additional action to protect the federal interest.

### **Use of Animals Without IACUC Approval**

A subaward was terminated when a scientist used animals in his research without obtaining official approvals. We received an allegation that a scientist working on an NSF-funded subaward had improperly used vertebrate animals without first submitting and receiving Institutional Animal Care and Use Committee (IACUC) approvals as required by NSF policy and applicable federal regulations. During our review, we determined that the proposal submitted to NSF did not indicate that vertebrate animals were to be used and that the PI did not intend to use animals during this award.

Although both the awardee and subawardee have policies and training on the use and care of animals, we determined that the scientist working on the subaward unilaterally decided to use the animals. He did not seek or obtain permission from his university's IACUC or inform the PI of his intentions. Subawardee officials did not find out about the use of the animals until the scientist sought reimbursement. The subawardee quickly informed both NSF and the primary awardee of the matter. In addition, the subawardee referred the

matter to its IACUC committee. Because the scientist had no prior history of wrongdoing and cooperated fully in the investigation, the subawardee took no action against him. Ultimately, he was not reimbursed for the animals, and no NSF funds were used. The awardee's IACUC terminated the subaward as a result of the scientist's actions.

## Reviews

### *Computer Software Used to Catch Plagiarism*

OIG is currently experimenting with the use of computer software to identify plagiarized text in NSF proposals. There are a number of free or commercially available software packages that have the ability to identify text that is common to multiple documents. Some software packages are designed to perform a side-by-side comparison of two or more documents, while others compare the text of a document to text found on websites.

We obtained one “freeware” package and one commercially available to test their capabilities. Interns with linguistics training ran randomly selected proposals through the software to determine if they contained plagiarism. The interns analyzed over 600 proposals, and found that approximately 2.5% of the proposals contained more than *de minimus* unattributed copied text from other sources. Plagiarism rates were relatively uniform across scientific disciplines, although we noted that the rate of possible plagiarism in NSF CAREER proposals was significantly higher at 15%.

The process of identifying plagiarism using computer software still requires interaction with a professional to be effective, especially with software packages that compare text in proposals to documents available on websites. Nonetheless, the software packages identify common text and a possible source document where that text is located. These features can significantly expedite the process of identifying plagiarized text.

Investigator Anna Amores tests software designed to detect plagiarism.





## ***NSF Responds Rapidly to Failures to Track Human Subjects Research***

During this period we worked closely with a directorate to complete our review of NSF's tracking of human subjects research in one of the directorate's programs. This project is the most recent in a series of reviews we have conducted over the past 10 years in which we have urged NSF to improve its human subjects research tracking systems. These reviews have shown a continuing, significant failure of NSF's processes for ensuring the protection of humans during funded human subjects research, and have included a number of recommendations intended to comprehensively address the systemic problems identified. This particular review was a follow on to a pilot review of the previously referenced program in which we found some instances of noncompliance with NSF human subjects rules.

NSF is a signatory on the federal government's *Common Rule on the Protection of Human Subjects*. NSF requires that the "HUMAN SUBJECTS" box on the proposal cover page be completed for all proposals describing human subjects research. When making an award recommendation, the program officer enters information into a database that enables NSF staff to track this research. Awardees are required to inform NSF that the research has been reviewed and approved by the Institutional Review Board (IRB) before NSF funds the project. In lieu of such notification, NSF may fund the project and stipulate that human subjects research may not be initiated until the IRB approval notification is received.

We determined that for a vast majority of the research projects we reviewed in this NSF program, information was lacking in NSF's internal databases. We noted that, in the absence of fully and accurately recorded data, NSF cannot draw firm conclusions about the amount or extent of the human subjects research it funds. Other instances of problems were also identified, primarily in projects funded in the program's first year of operation. These included: incomplete Cover Pages on proposals prepared by submitting institutions, and funding for human subjects projects prior to receipt of IRB approval or NSF prohibition on conducting the human subjects research. We also noted incomplete training information for NSF program officers.

### ***Humane Care Required***

*NSF awardees are responsible for the humane care and treatment of any vertebrate animal used in projects supported by NSF awards.<sup>16</sup> When vertebrate animals are to be used in an NSF-funded project, the proposal must include sufficient information to enable reviewers to evaluate the choice of species, number of animals to be used, and any necessary exposure of animals to discomfort, pain, or injury. The proposal must have received the approval of the submitting organization's Institutional Animal Care and Use Committee (IACUC). Finally, NSF requires that the "Vertebrate Animal" box on the NSF cover sheet be checked.<sup>17</sup>*

<sup>16</sup> NSF Grant Policy Manual (July 2005) § 713. Awardees must: comply with the Animal Welfare Act and the regulations promulgated thereunder by the Secretary of Agriculture; follow the guidelines described in the National Academy of Science (NAS) Publication, "Guide for the Care and Use of Laboratory Animals"; and comply with the "Public Health Service Policy and Government Principles Regarding the Care and Use of Animals."

<sup>17</sup> Grant Proposal Guide (July 2004), II.D.5

In response to our recommendations, NSF ensured that the affected awards from the program under review were updated with the appropriate information. The Directorate formed a Grants Management Team to review recommended award actions and train its entire staff in post-award grants management. NSF has committed to including language describing an institution's responsibilities regarding human subjects in all future program announcements and solicitations. It also will require all program officers to indicate whether or not human subjects are involved in a project, and to confirm compliance with human subjects regulations. NSF stated that when grants.gov is fully implemented, all applicants will be required to provide human subjects research information, and in the meantime, NSF will include those requirements in FastLane. NSF has also committed to providing enhanced training to its program officers and to ensure that the web-based tutorial on program officers' responsibilities regarding human subjects research is accurate and its internal web links are functional.

Shortly after NSF responded to our recommendations, we encountered an institution that had been conducting human subjects research under a 2003 NSF award in a different program and confirmed that this project was not coded for human subjects research in NSF's database. The institution asked us if it needed to cease the research until the IRB approval was received, and we relayed NSF's prompt affirmative response that it should cease that research until IRB approval was obtained. The institution stopped the research until IRB approval for the nonexempt project was obtained, conducted training sessions for its PIs, and included information about the requirements for conducting human subjects research in its electronic newsletter. NSF has corrected the award information in its databases.