

Investigations

Research Misconduct Investigations

Research misconduct damages the scientific enterprise, is a misuse of public funds, and undermines the trust of citizens in government-funded research. It is imperative to the integrity of research funded with taxpayer dollars that NSF-funded researchers carry out their projects with the highest ethical standards. For these reasons, pursuing allegations of research misconduct by NSF-funded researchers continues to be a focus of our investigative work. In recent years, we have seen a significant rise in the number of substantive allegations of research misconduct associated with NSF proposals and awards. The NSF definition of research misconduct encompasses fabrication, falsification, and plagiarism.

NSF takes research misconduct seriously, as do NSF's awardee institutions. During this reporting period, institutions took actions against individuals found to have committed research misconduct, ranging from letters of reprimand to delayed promotions and loss of salary. During this period, NSF's actions in research misconduct cases ranged from letters of reprimand to three years of debarment.

We referred eight cases to NSF, which are summarized below. In every case, we recommended that NSF make a finding of research misconduct, send the subject a letter of reprimand, require the subject to complete a Responsible Conduct of Research training program, and other actions as described below. NSF's decisions are pending in all eight cases.

Principal Investigator Plagiarized Text and Figures in Multiple Proposals

A California Principal Investigator's (PI's) documentation practice was so poor that it resulted in a pattern of plagiarism. The PI was the Authorized Organizational Representative and President of a small company without the resources to complete an independent investigation; therefore, we conducted our own investigation. We found substantial copying of text and figures without appropriate attribution, as well as numerous embedded references. The PI told us the practice among the company employees was to use material from any "company documents." The PI considered all documents in his company's possession, as well as any past or current employee's notes from conferences and conversations, to

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be company documents. Indeed, the PI marked material in his proposal as proprietary that had been copied from publicly available papers, because it was in the company's possession and he was unaware of the true source of the text.

The PI's methodology for obtaining and maintaining reference materials is the sloppiest we recall seeing in the history of this office. The PI admitted he is unable to determine the source of much of the plagiarized text we identified. We concluded the PI's practices, coupled with the amount of plagiarism, warrants a one-year debarment to protect the government until the PI can improve the process by which written materials are produced at the company. Additionally, we recommended NSF: require the PI to certify that proposals he submits to NSF, for three years after his debarment ends, contain no plagiarized, falsified, or fabricated material; and bar the PI from serving as a reviewer, advisor, or consultant on an NSF proposal for three years after his debarment ends.

PI Presents Material from a Previously Awarded NSF Proposal as His Own

A New Jersey PI plagiarized text into his proposal from a previously awarded NSF proposal. The PI had received the source proposal from his colleague and co-PI, who had received the proposal from NSF for merit review and gave it to him as an example of a successful proposal. The PI's institution investigated and concluded that the PI knowingly committed plagiarism and placed a formal letter of reprimand in the PI's personnel file; made him ineligible to apply for full professorship until January 2015; and required that he serve on the institution's academic integrity committee for two years.

We concurred with the institution's assessment and recommended that NSF: debar the PI for one year; require that he provide certifications and assurances for three years following the debarment period; and bar him from participating as an NSF reviewer for four years.

NSF Suspends Award After Intentional Plagiarism Found in One Funded and Two Declined Proposals

An assistant professor at an Illinois institution plagiarized text into three proposals. The professor acknowledged copying material without citation, but she argued that: the text included basic, common information in her field; she acted in "honest error;" she misunderstood the rules of plagiarism as they apply to proposals; and she was under time pressure. She also "state[d] unequivocally" that the proposals did not contain any additional inadequately cited text.

The institution's investigation found a number of contradictions in the assistant professor's statements and identified additional plagiarized material in her NSF proposals. The assistant professor plagiarized text and misrepresented data in a written statement she submitted to the institution's investigation committee – and in that statement she asserted that she now has "a clear understanding of the definition of research misconduct as well as the consequence of any deviation from the applicable standards."

The institution concluded that the professor intentionally committed plagiarism and required her to: inform her co-PI of the investigatory findings; complete a course on Responsible Conduct of Research and ensure each of her graduate students also completes a course; submit to a university administrator for review all publication manuscripts and proposals she intends to submit to external entities; and encourage the use of plagiarism detection software for both her work and the work of her students. We concurred with the institution's assessment.

The NSF program officer who recommended one of the plagiarized proposals for funding told us the plagiarized text in the section was material to his decision to recommend the proposal for funding, which meant the plagiarism amounted to fraud. We referred the violation to an Assistant United States Attorney, who declined prosecution in lieu of administrative action.

Based on our recommendation, NSF immediately suspended the award. We subsequently issued our report of investigation and recommended that NSF require the professor to provide certifications and assurances for three years, and terminate her NSF award, which will make \$11,000 available to NSF to put to better use.

University Terminates Two Faculty Members for Plagiarism

Our office concluded that a PI and co-PI at a Georgia university committed research misconduct when they plagiarized into two NSF proposals. Their university's investigation found that the PI and co-PI intentionally plagiarized. They were recommended for termination, but both chose to retire instead.

We concurred with the university's assessment and recommended that NSF, for three years: require both the PI and co-PI to: provide certifications stating all documents submitted to NSF are free from plagiarism, falsification, and fabrication; require both to obtain assurances from an appropriate official that documents they submit to NSF are free from plagiarism, falsification, and fabrication; and bar both from serving as a reviewer, advisor, or consultant on an NSF proposal.

Assistant Professor Plagiarizes in Two NSF Proposals

An assistant professor at a Mississippi university plagiarized a substantial amount of text and a figure from 19 sources into two NSF proposals. The professor admitted to the copying, but said he believed the embedded references in the copied text were sufficient to attribute the original source of the intellectual content. His university's investigation found that the professor committed plagiarism intentionally that was part of a pattern that started as early as his doctoral dissertation. The university declined renewal of the professor's contract and placed limitations on his access to research funding in the interim. The professor subsequently resigned.

We concurred with the university's assessment and recommended that NSF, for three years, require certifications and assurances, and ban the subject from serving NSF as a reviewer, advisor, or consultant.

Faculty Member Accepts Responsibility for Plagiarizing from an Awarded Proposal

An assistant professor at a New York university submitted a proposal to NSF that contained a large amount of material plagiarized from a previously awarded NSF proposal authored by a PI at another university. The university's investigation determined that the professor received a copy of the awarded NSF proposal from the PI, which he gave to a graduate student who was drafting the professor's NSF proposal. The professor said that he told the student merely to use the awarded proposal as guidance, and although he said the student did the actual copying, the professor accepted full responsibility. The university concluded that he was guilty of reckless plagiarism due to improper oversight of the graduate student and insufficient care with the content of the draft proposal. We concurred and recommended that NSF, for two years, require certifications and assurances, and ban the PI from serving NSF as a reviewer, advisor, or consultant.

University Identifies a Pattern of Plagiarism by PI

A PI at an Illinois university plagiarized in an NSF proposal, which he attributed to his writing style, computer problems, and physical illness. During the university's investigation, the PI provided the committee with what he claimed was the "final" proposal he had intended to submit to NSF. While there was no copied text within the final proposal, the committee could not determine with confidence when that document had been created and, most significantly, noted that the only editorial changes that document contained were in the paragraphs our office had flagged.

The university concluded that the PI recklessly committed plagiarism in his NSF proposal. It also found instances of plagiarism in nine non-NSF proposals prepared by the PI, which constituted "a clear and ongoing pattern of plagiarism." The university reduced the assistant professor's salary by one-ninth; prohibited him from applying or receiving a university-level grant for one year; required him to take an academic integrity course; and required him to develop resource material related to academic integrity.

We concurred and recommended that NSF, for two years, require certifications and assurances, and bar him from participating as an NSF reviewer, advisor, or consultant.

Co-PI Confuses Public Domain with Common Knowledge

A Puerto Rico university co-PI committed research misconduct when she plagiarized from multiple documents in an NSF proposal. The co-PI argued that much of the text she copied did not require attribution because it was found on government web pages. The committee explained the difference between information that is common knowledge, which does not require citation, and information that is in the public domain, such as on a government web site, which requires citation.

The university concluded the co-PI committed research misconduct and reprimanded her, required monitoring of her proposals and publications for three years, and required her to take a research ethics course. We agreed and recommended that NSF, for two years, require her to provide certifications and assurances, and bar her from serving as a reviewer, advisor, or consultant on NSF proposals.

PI Plagiarized Text and Figures in Multiple Proposals

A PI from an Ohio university plagiarized text and figures into multiple NSF proposals. The PI's university's investigation concluded that the PI intentionally plagiarized and required the PI to withdraw all pending grant applications from NSF and will prohibit the PI from submitting proposals to NSF for three years; allowed the PI to submit proposals to other funding agencies only under the supervision of a dean following a one-year suspension; and prohibited the PI from taking on additional graduate students and participating in graduate student committees. The PI is required to review the progress of her current graduate students with a dean and it is up to the dean's discretion as to whether the PI can continue to mentor students.

We concurred with the university and recommended that NSF, for two years, bar the PI from serving as a reviewer, advisor, or consultant on an NSF proposal, and require certifications and assurances.

Actions by NSF Management on Previously Reported Research Misconduct Investigations

NSF has taken administrative action to address our recommendations on nine research misconduct cases reported in previous semiannual reports. In each case, NSF made a finding of research misconduct and issued a letter of reprimand. NSF also took additional significant actions in response to our recommendations as summarized below.

NSF debarred for one year a Louisiana university administrator who knowingly copied from a funded NSF proposal into his own proposal.⁶ The one-year debarment will be followed by certifications, assurances, and a ban from serving as a reviewer, advisor, or consultant for three years following the debarment period.

In the case of a faculty member at an Illinois university who plagiarized text into six NSF proposals,⁷ NSF required certifications and assurances for four years, barred service as an NSF reviewer for four years, and required that the faculty member complete a course in the Responsible Conduct of Research. The faculty member appealed all of these actions to the NSF Director, whose decision is pending.

6. March 2011 Semiannual Report, pp.25-26; September 2011 Semiannual Report, p.16.

7. September 2011 Semiannual Report, p.12.

In the case of a researcher at a small research firm who copied hundreds of lines of text into six proposals submitted to NSF's Small Business Innovation Research (SBIR) program,⁸ NSF required three years of certifications and assurances, barred service as an NSF reviewer for three years, and required the researcher to complete a course in the Responsible Conduct of Research. The researcher appealed the imposition of assurances to the NSF Director, who rescinded the requirement.

In the case of a faculty member at an Illinois university who plagiarized text into seven NSF proposals,⁹ NSF required certifications and assurances for three years, barred service as an NSF reviewer for three years, and required the faculty member to complete a course in the Responsible Conduct of Research.

In the case of a professor at a South Dakota university who plagiarized from a proposal he received from his mentor, who had been asked to review the proposal for NSF,¹⁰ NSF required certifications and assurances for two years, required completion of a Responsible Conduct of Research course, and barred him from serving NSF as a reviewer, advisor, or consultant for two years.

In the case of a new research faculty member at a New York university who plagiarized in an NSF proposal,¹¹ NSF required certifications and assurances for two years, required completion of a Responsible Conduct of Research course, and barred him from serving NSF as a reviewer, advisor, or consultant for two years.

In the case of a department chair at a Michigan university who plagiarized text and figures into three NSF proposals,¹² NSF required two years of certifications, banned service as an NSF reviewer for two years, and required the chair to complete a course in the Responsible Conduct of Research. The chair member appealed the training requirement to the NSF Director, who upheld it.

In the case of a CEO/PI of a small business who submitted an SBIR proposal containing a significant amount of plagiarized text,¹³ NSF required certifications for two years, and required certification of attending an ethics class within one year.

In the case of a researcher in Texas who plagiarized text into a paper provided to NSF,¹⁴ NSF required him to attend a Responsible Conduct of Research course, and required him to provide certifications for one year. The researcher appealed NSF's finding, arguing he did not physically copy the text (his consultant did) and he was more of an editor than author of the paper. NSF's Director denied his appeal, concluding that, as author, he is responsible for the content of the paper.

8. September 2011 Semiannual Report, pp.12-13.

9. September 2011 Semiannual Report, pp.11-12.

10. September 2011 Semiannual Report, p.14.

11. September 2011 Semiannual Report, p.13.

12. September 2011 Semiannual Report, p.14.

13. September 2011 Semiannual Report, p.13.

14. September 2011 Semiannual Report, pp.14-15.

Missing Laboratory Notebooks Result in Hawaii University Receiving Questionable Administrative Practices Letter

We received multiple complaints about possible research misconduct and misuse of NSF funds by a PI at a Hawaii university. Based on our request, the university conducted an inquiry and found that the research misconduct allegations were not substantiated. However, the laboratory notebooks were missing, and the university stated that it would address this questionable practice of post-production data storage.

We reviewed the financial documents for all expenditures incurred by the grant, and concluded that the misuse of funds allegation was also unsubstantiated. We issued a questionable administrative practices letter to the university to emphasize the importance of maintaining proper data storage, asking it to ensure its faculty are aware of the requirement to keep all grant records, including original data, for three years after the close of the NSF grant.

Maintaining Laboratory Records

Research laboratory records can vary widely between scientific disciplines and even between laboratories within the same discipline. Publications exist that describe methods for maintaining accurate and detailed laboratory records. Absent adequate records, the validity of any subsequently presented or published data can be called into question. In the course of our investigations into allegations of research misconduct, we typically assess the quality of laboratory records by considering the following:

Completeness: The record should describe all the activities of the researcher, not just the successful experiments. Corrections to the record are to be expected, and should be fully documented. A laboratory notebook can contain anything, and should contain everything related to the research effort.

Linkage: A written laboratory notebook should reference electronic records by name and location in sufficient detail to enable the electronic records to be located. A clear link between the electronic data files and the lab notebook, along with the experimental methods used, should be adequately documented. Notebooks should also reference the appropriate instrument logs and billing records if appropriate.

Accuracy: Records should display a contemporaneous chronology of laboratory activity and results. The record must facilitate the reconstruction of activities by another competent researcher.

In addition, we believe the following should be considered best practices in the maintenance of research notebooks:

Review: A regular (weekly or monthly) documented review of laboratory notebooks by a supervisor or a faculty advisor ensures consistency and quality.

Safekeeping: All laboratory records should be backed up with copies stored in an alternate location. Sensitive records should be access-restricted, or in read-only form.

Several recent investigations of alleged data falsification and/or data fabrication have been complicated by the poor quality or absence of laboratory notebooks and original data, both hardcopy and digital. In addition to being contrary to accepted research practices, failure to maintain data is a violation of NSF's award conditions, which state that awardees "must retain financial and programmatic records for a period of 3 years from the date the [final financial report] is submitted."¹⁵ Data acquired during experiments and the subsequent analyses are part of these programmatic records, and it is the awardee's legal obligation to retain these records even if the researcher leaves the institution. Failure to maintain data is considered a departure from accepted research practices and is an indicator of possible research misconduct. Furthermore, failure to retain data also prevents sharing of data with the research community, which is also expected under NSF's award conditions.¹⁶

Civil and Criminal Investigations

Texas University Returns Over \$477,160 to NSF

As previously reported,¹⁷ a PI at a Texas university improperly subcontracted work on his NSF grant to a company in which he had 25 percent ownership, in violation of conflict of interests restrictions. The university cancelled the subcontract and credited the \$30,000 that had been charged to the grant, and the PI agreed to resign from the university. After the PI submitted a progress report that reflected no work attributable to the funded project, the university reviewed the PI's work on the grant and concluded that it did not justify the funds that had been expended. The university decided it should return the full grant amount totaling \$386,200 to NSF, as well as \$90,960 remaining on the PI's other NSF grant.

NSF to Recover \$164,000 from North Carolina Small Business Owner

A North Carolina small business owner reached a settlement agreement with the United States Attorney's Office to repay \$164,000 to NSF, in addition to the \$225,000 that was retained by NSF upon termination of the award. The small business received four NSF SBIR awards totaling \$653,500, of which \$362,500 had been distributed. During our investigation, NSF suspended a Phase II SBIR award to the company and ultimately terminated the award, retaining \$225,000 of the remaining funding.

15. Research Terms and Conditions § 53(a).

16. NSF Agency-Specific Requirements § 30.

17. September 2011 Semiannual Report, p.9.

Our investigation concluded that the owner misrepresented company personnel in proposals and reports he submitted to NSF, requested more NSF funds than necessary to complete the proposed projects, and retained profit beyond what is permissible under the SBIR program. While the settlement agreement requires the company to pay \$164,000, neither the company nor the owner admitted to any wrongdoing.

PI Pleads Guilty to Wire Fraud, False Statements, and Money Laundering

We previously reported¹⁸ on the termination of a duplicative NSF award, resulting in \$261,509 put to better use. The PI has now pled guilty to wire fraud, false statements, and money laundering in our joint investigation with the Department of Energy, the Department of Health and Human Services, and the Internal Revenue Service. The charges relate to fraud involving a National Institutes of Health SBIR award to the PI's company, as well as duplicative funding between the Department of Energy and NSF at his former university. The PI is scheduled to be sentenced in July 2012.

Former School Superintendent Pleads Guilty to Mail Fraud Charges Related to NSF and Department of Education Grants

We previously reported the indictment of a former superintendent of an elementary school district and two former university professors in California for fraud related to NSF and Department of Education grants to support elementary school science and math education.¹⁹ On March 12, 2012, the former superintendent pled guilty to one count of mail fraud for seeking and obtaining multiple duplicate travel reimbursements totaling \$59,882.

With this plea, he admitted that he presented inaccurate and unreliable data to show the results of standardized science testing of students validated his teaching methods. He also pled guilty to one count of mail fraud related to a scheme involving the two former university professors that diverted NSF and Department of Education grant funds to their personal benefit. The former superintendent is scheduled to be sentenced in June 2012.

Conviction for Small Business Technology Transfer Fraud Leads to More than \$56,000 in Restitution to NSF

We previously reported²⁰ on the indictment and arrest of the owner of a South Dakota company for false claims involving a Small Business Technology Transfer (STTR) award, which were uncovered in the course of investigating an allegation of plagiarism in the award proposal. The false claims involved false statements about the employment of the PI by the company, and about the use of the initial \$100,000 payment of award funds, most of which was spent to pay balances on personal credit cards.

18. September 2011 Semiannual Report, p.9.

19. March 2011 Semiannual Report, pp.20-21.

20. September 2011 Semiannual Report, p.8.

The owner pled guilty to one count of making false claims and agreed to pay restitution of \$56,700 to NSF and \$32,485 to the South Dakota university that performed subcontract work under the award. The owner will be sentenced in June 2012.

Former NSF Senior Executive Service Employee Debarred For 10 Years

As previously reported,²¹ a former NSF employee pled guilty to felony charges for filing a false financial disclosure to NSF and a false federal tax return and was sentenced to six months home detention, \$15,393 restitution, and a \$100,000 fine. Based on our recommendation, NSF debarred the former employee for ten years, and proposed to debar for ten years the Maryland nonprofit organization that facilitated his crime.

Former University Employee Debarred

We previously reported²² on the conviction of a former employee at an Arizona university who charged nearly \$17,000 for personal items to an NSF award. Subsequent to the conviction, NSF accepted our recommendation and debarred the former employee for three years.

School District Repays NSF Over \$79,000

An investigation of a Missouri public school district's financial administration of an NSF award indicated that the school district submitted false certifications in violation of the civil False Claims Act. The school district entered into a settlement agreement with the Department of Justice, under which it agreed to repay NSF \$79,486, as well as abide by a five-year compliance plan.

PI and His Company Suspended Government-Wide

Our investigation substantiated that a company improperly received funding based upon false effort information in project reports submitted to NSF by the PI. During the investigation, the PI formed a new company and sought additional NSF funding. Based on our recommendations, NSF terminated the award and suspended the PI and his new company government-wide pending the conclusion of our investigation.

Company Returns \$7,300 to NSF

Our investigation of a company that obtained an SBIR grant from NSF found that the company failed to comply with NSF SBIR grant conditions regarding use of the funds. As a result, the company refunded \$7,300 to NSF.

Two Companies and Individuals Suspended Government-Wide and \$75,000 of Funds to Better Use

An investigation identified two related companies that may have improperly received federal funding based upon misrepresentations of PI eligibility and overlapping funding. Based on our recommendation, NSF suspended the

21. March 2011 Semiannual Report, p.20; September 2011 Semiannual Report, p.10.

22. September 2010 Semiannual Report, p.8.

companies and two associated individuals government-wide pending the conclusion of our investigation. NSF also terminated a current award to one of the companies, leaving \$75,000 of funds put to better use.

Florida Businessman Pleads Guilty to Misuse of NSF Logo

We previously reported on the indictment and arrest of the owner of a company in Florida who used the NSF name and logo fraudulently for commercial gain.²³ The company owner has since pled guilty to falsely making, forging, and using the NSF seal and he is scheduled to be sentenced in May 2012.

Administrative Investigations

Former Program Officer Shares Confidential Documents with Colleagues

Our investigation concluded a former NSF program officer and Intergovernmental Personnel Act employee shared confidential NSF proposals, reviews, a panel summary, and annual reports with a colleague upon her return to her home institution. We received an allegation that the program officer had provided the documents to her colleague to use in their research. We were particularly concerned about documents that would not have been publically available, even through a Freedom of Information Act request. When interviewed, the program officer offered different accounts of the circumstances through which her colleague could have obtained the documents, none of which was consistent with the evidence. During our investigation, we also learned that NSF was considering bringing the program officer back to NSF as a permanent program officer.

Based on our investigation we recommended that NSF consider appropriate actions to protect the integrity of its operations, and consider under what conditions, if any, it would permit the program officer to return to NSF in a trusted position such as program officer, reviewer or panelist. We also recommend that NSF bar the program officer from serving as a reviewer or advisor for three years. NSF agreed with our recommendations and said it had no plans to hire the program officer, it would not use her as a reviewer for three years, and it would emphasize the importance of confidential documents to program staff.

More than \$310,000 Recovered by NSF Due to Human Subjects Research Concerns

As previously reported,²⁴ NSF suspended awards for a PI at a Texas university due to concerns about violations of human subjects regulations and management of grant funds. The PI's noncompliance included poor record keeping, unapproved protocol or consent form modifications and the over-enrollment of human subjects in research studies. Following our evaluation, the university instituted a revision of its Institutional Review Board (IRB) review processes and additional oversight and education regarding occurrences of IRB noncompli-

23. September 2011 Semiannual Report, p.8.

24. September 2011 Semiannual Report, p.20.

ance. The university imposed several corrective measures upon the PI, and the PI subsequently left the institution. The suspended NSF grants were terminated and the remaining obligations cancelled with \$310,454 recovered by NSF.

Researcher Changed Research Activities Without NSF Approval, Resulting in More than \$170,000 Recovered by NSF

As previously reported,²⁵ a PI at a California university performed human subjects research activities which, although within IRB approval, were outside the scope of the NSF award and were conducted without NSF's prior approval. NSF suspended the award and required the PI to submit an erratum for a recent publication, removing the acknowledgement of NSF funding for studies related to the out-of-scope activities.

The university identified \$50,309 to be returned to NSF for the costs related to the out-of-scope research activities. In addition, following completion of the work, NSF will deobligate \$120,847 of unexpended award funds to be put to better use. Several remedial training sessions were imposed on the PI and faculty on responsible grants management topics such as effort reporting, scientific/methodological scope changes, multiple award administration, IRB protocol documentation, annual progress reporting and appropriate citation practices in research publications.

Management Implication Reports

Review of NSF Employee Use of Transit Subsidy Program Finds Significant Abuse

Our review of NSF's Transit Subsidy Benefit Program, which provides a tax-free subsidy to be used solely for commuting, found that almost half of the participants in the sample misused the subsidy by using it to pay for parking or for apparent personal trips. Two-thirds of the misuse involved paying for parking, while the remaining third involved travel that was not related to commuting.

We issued a subpoena to the Washington Metropolitan Area Transit Authority (WMATA) for records of use of the subsidy by 750 NSF employees participating in the program. Because retrieving records from its system is burdensome, WMATA provided records for a fourth of the employee participants covering a period of just eight months. We found that the amount misused ranged from \$111 to \$658 over eight months, and was more than \$100 for approximately a third of the employees in the sample. We estimated that a review of all records of subsidy users would reveal misuse totaling nearly \$120,000 annually if the findings from this random sample were representative of all NSF subsidy users.

While our review was underway, the subsidy program was modified and, as of October 2011, employees are not able to use the subsidy for parking, and employees cannot build up large balances of unused subsidy funds (which

25. September 2011 Semiannual Report, pp.19-20.

facilitated misuse). As a result, misuse of the subsidy for parking will no longer be an issue, and the potential for misuse for non-commuting travel is greatly reduced.

We also found that some NSF employees in our sample misused the Pre-Tax Parking Benefit program. Under this program, employees do not have to pay taxes on the portion of their income they use for parking when they commute to work. Our review revealed that sixteen of the employees who used \$3,600 of their transit subsidy to pay for parking appear to have also received almost \$12,000 in pre-tax parking benefit over eight months.

When employees apply for the transit subsidy, they certify to knowledge of the program's restrictions, and that making a false certification may make them ineligible for the program, but they are not warned that making false statements or using subsidy funds for personal use is a federal crime. When they apply for the Pre-Tax Parking Benefit program, NSF employees do not have to certify that they will use the tax-exempt money for parking, and they are not warned that failure to use the benefit properly constitutes tax evasion.

We referred the employees who appeared to be misusing the Transit Subsidy Program and/or Pre-Tax Parking Benefit program to NSF for appropriate action (including recovery of the misused funds), and encouraged NSF to evaluate other employee participants' usage as well. Prospectively, we recommended that NSF:

- Require annual certifications of participants in the Public Transportation Subsidy Program that they: will comply with all the requirements of the program; understand that providing false information to obtain benefits and using benefits for personal travel are crimes.
- Require annual certifications of participants in the Pre-Tax Parking Benefit Program that they: will use the tax-exempt funds for work parking only; will adjust the amount of tax-free income they receive according to actual parking costs incurred; understand that providing false information to obtain benefits is a crime; and understand that failing to report as income withheld funds that were not used for parking constitutes tax evasion.

NSF Implements Recommended Changes to Improve Oversight Plans for Projects Involving International Subawardees

We reviewed Oversight Plans for institutions collaborating with international subawardees in an NSF program.²⁶ The lead institutions were required to submit and implement Oversight Plans to ensure subawardee compliance with a variety of requirements, and our review determined that the Plans generally did not substantively address all of the requirements.

Based on our recommendations, NSF modified its solicitation for the next round of proposals for the program to clearly require Oversight Plans that address all of the program's requirements, and it asked the current grantees to describe

26. September 2011 Semiannual Report, p.21; March 2011 Semiannual Report, p.30; September 2010 Semiannual Report, p.14.

how they would address RCR training and research misconduct enforcement. Because most of the awardees did not substantively improve their Plans in this regard, we conducted a follow-up review.

We found that the majority of the original awardees' Plans, as well as three of the four new awardees' Plans, were deficient regarding RCR training and research misconduct. In response to our recommendations, NSF agreed to:

- Determine how to bring the current program awardees' Oversight Plans in line with the requirements for RCR training and research misconduct reporting and enforcement; and
- Make no future awards for proposals that do not provide comprehensive Oversight Plans that were demonstrably developed in collaboration with the international subawardees, including strong plans for RCR training and research misconduct reporting and enforcement.

NSF and NSB Improve Special Handling of National Science Board Member and Nominee Proposals

Our office received information that two proposals submitted by current National Science Board (NSB) members did not undergo the special handling process detailed in NSF's Proposal and Award Manual. We reviewed these proposals as well as other proposals submitted by NSB members. We determined that, while no misconduct occurred, there were procedural lapses in implementing the Manual's stated process. NSF and NSB were receptive to our recommendations for improvement and have outlined a plan to implement our recommendations.

NSF Implements Recommended Changes to the SBIR/STTR Programs

We previously discussed our review of recent investigations related to SBIR/STTR programs, and our recommendations to help NSF reduce the risk of fraud by requesting additional information from awardees.²⁷ NSF agreed to all of our recommendations and now requires awardees to provide additional documentation to support use of outside facilities, a list of all company owners and officers and their current employers, and disclosure of relationships between the PI and any subcontractor, consultant, lessor, owner or other position in the awardee company prior to the award.

27. September 2011 Semiannual Report, p.18.