

National Science Foundation
OFFICE OF INSPECTOR GENERAL



SEMIANNUAL
REPORT TO
CONGRESS
SEPTEMBER 2014

About The National Science Foundation...

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

NSF invests approximately \$7 billion per year in a portfolio of more than 49,400 research and education projects in science and engineering, and is responsible for the establishment of an information base for science and engineering appropriate for development of national and international policy. Over time other responsibilities have been added including fostering and supporting the development and use of computers and other scientific methods and technologies; providing Antarctic research, facilities and logistic support; and addressing issues of equal opportunity in science and engineering.

And The Office of Inspector General...

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

About the Cover...

Front Cover: Original photograph by Kenneth Busch, Investigative Scientist.

Table of Contents

From the Inspector General.....	3
Audits and Reviews.....	7
Audits of Proposed Costs for Telescope Construction	7
Audits of NSF Awards	9
Inspection of NSF’s Relocation to New Headquarters Building	12
A-133 Audits	13
Audit Resolution	15
Investigations	17
Administrative Investigations.....	17
Civil and Criminal Investigations	19
Research Misconduct Investigations.....	25
Congressional Testimony	33
FY 2015 Top OIG Management Challenges	35
Statistical Data.....	47

[Blank Page]



From the Inspector General

This Semiannual Report to Congress highlights the activities of the National Science Foundation (NSF), Office of Inspector General for the six-month period ending September 30, 2014. During this reporting period, nine audit reports and reviews were issued, four of which questioned \$4.2 million, and one of which found more than \$11 million of unallowable costs in a proposal for a major construction project. Our investigative staff closed 80 administrative and criminal/civil investigations, had eight research misconduct cases result in findings by NSF, and recovered \$1,133,085 for the government.

The audits, investigations, and other work in this report reflect our attention to areas that present the greatest risk to the millions of dollars in federal funds intended to support scientific research, that are managed by NSF. To that end, for the past four years we have made numerous recommendations for NSF to strengthen accountability over its high-risk, high-dollar, cooperative agreements.

During the past six months, an audit of the \$344 million proposed construction budget for the Daniel K. Inouye Solar Telescope resulted in a disclaimer of opinion due to significant deficiencies in the proposal, including unsupported estimates, outdated vendor quotes, and the inclusion of amounts for an unallowable contingency reserve. Because the proposed costs could not be affirmed as an acceptable basis for a fair and reasonable price, NSF can have no assurance that the proposal is an acceptable basis for funding. Further, the inadequacy of this cost estimate directly impacts the recipient's ability to properly monitor and manage federal funds.

Our alert memo on the \$467.7 million proposed construction cost for the Large Synoptic Survey Telescope raised concerns that NSF lacked sufficient information to establish a reasonable basis for the project's cost. NSF's internal review of the cost of this project could not independently verify costs for any of the 136 proposed expenditures sampled, including approximately \$145 million in direct materials, nearly \$20 million for contingencies and more than \$6 million in direct labor costs.

Our investigative work continues to result in monetary recoveries for the government and in recommendations to safeguard the integrity of NSF operations. For example, during this period a company that filed false financial reports and a PI who used NSF award funds for personal use returned more than \$145,000 to the government. In another case, NSF

withheld a \$75,000 payment under the small business innovation program due to false statements and claims, and withheld a \$74,000 payment under that program when the company could not accurately account for NSF funds.

Finally, our research misconduct investigations findings included a PI who fabricated and falsified research results, an assistant professor who submitted three NSF proposals containing extensive plagiarism, and a PI who plagiarized text and figures.

NSF applies its highest level of attention and scrutiny to determine the scientific merit of the projects it decides to fund. It is imperative that NSF apply the same rigorous attention and scrutiny to its financial management of its programs and operations. Public trust and confidence demand the highest level of accountability, and we look forward to working with NSF management, the National Science Board, and Congress toward this goal.

Allison C. Lerner

Report Highlights

- An effort to audit the cost proposal for construction of the Daniel K. Inouye Solar Telescope resulted in a disclaimer of opinion due to significant deficiencies in the proposal, including unsupported estimates, outdated vendor quotes, and the inclusion of amounts for an unallowable contingency reserve. After over four years of attempting to audit proposed costs for construction of this telescope, there continues to be a lack of adequate documentation to determine if the proposed costs are fair and reasonable.
- Our alert memo expressed strong concern that NSF did not have sufficient information to establish a reasonable basis for the cost of the Large Synoptic Survey Telescope project. We have been urging NSF for the past four years to strengthen accountability of its high-dollar, high-risk cooperative agreements for its large facility construction projects. NSF applies its highest level of attention and scrutiny to determine the scientific merit of the projects it decides to fund. It is imperative that NSF apply the same rigorous attention and scrutiny to its financial management of these projects.
- A rotator, working at NSF as a program officer under the Intergovernmental Personnel Act had conflicts of interests with proposals she handled and issues with COI training and timely filing of her financial disclosure. NSF's Office of General Counsel recommended that NSF terminate the rotator's assignment and that someone outside of the rotator's division review her award recommendations. The rotator's supervisor, who was not outside her division, was charged with having that review conducted. The supervisor and his staff wrote a memo to directorate management falsely stating that the program officer who reviewed the awards had not found any bias. The supervisor sent this memo *before* he received the program officer's assessment. The supervisor first lied to NSF management and then lied to OIG investigators. Finally, the supervisor failed to follow up on concerns raised by the program officer's review; continued to misrepresent that the rotator had no COIs; and urged the Office of General Counsel **not** to terminate the rotator's IPA assignment.

- Two Florida scientists were indicted for wire fraud, conspiracy to commit wire fraud, aggravated identity theft, and falsification of records in a federal investigation. They created two companies as part of a scheme to fraudulently obtain approximately \$10,000,000 in Small Business Innovation Research awards from NSF and other government agencies.
- A PI at a California university fabricated and falsified results that were included in an awarded NSF proposal, a published article, a declined NSF proposal, and a submitted manuscript. We recommended that NSF debar him for five years.

Audits & Reviews

Significant Deficiencies in \$344 Million Cost Proposal for Telescope Construction

An effort to audit the cost proposal for construction of the Daniel K. Inouye Solar Telescope resulted in a disclaimer of opinion due to significant deficiencies in the proposal, including unsupported estimates, outdated vendor quotes, and the inclusion of amounts for an unallowable contingency reserve. The auditors stated, “In summary, AURA did not support the material cost in their proposal using adequate cost or pricing data, they did not use actual costs in the rebaseline of the proposal when actual costs do exist, and they included costs that were explicitly unallowable per the OMB circular regulations.”

For FY 2010 through 2013, the report noted a total overstated difference of nearly \$8.8 million, not including an additional \$2.9 million in contingency costs, between AURA’s rebaselined proposal amount and its A-133 audit report of actual incurred costs. This was despite AURA telling the auditors during the entrance conference that actual costs were included in the rebaselined proposal. However, when the auditors asked AURA to explain the differences found during the audit, an AURA official stated that the numbers in the cost book were budgeted amounts that did not include actual expenses.

For four years, similar deficiencies have been documented in audits of AURA (the entity submitting the proposal to build the DKIST). This report confirms that AURA has not corrected these deficiencies or improved its proposal estimating practices. Because the proposed costs could not be affirmed as an acceptable basis for a fair and reasonable price, NSF can have no assurance that the proposal is an acceptable basis for funding. Further, the inadequacy of this cost estimate directly impacts the recipient’s ability to properly monitor and manage federal funds.

After over four years of attempting to audit AURA’s proposed costs for construction of this telescope, there continues to be a lack of adequate documentation to determine if the costs are fair and reasonable. Also, in one significant instance (proposed contingency), the auditors state that NSF’s Large Facility Manual conflicts with federal requirements. The

repeated estimating deficiencies demonstrate lack of improvement on the part of both AURA and NSF to exercise proper stewardship over the millions of dollars awarded for this project and heighten our concerns about unsupported costs being proposed and included in high-dollar, high-risk awards.

In view of AURA's estimating system and incurred cost deficiencies found in this audit and the more than \$344 million of taxpayer dollars at risk, we recommended that NSF take appropriate action to ensure that the deficiencies are fully addressed and corrected before funding **any additional amounts** for the DKIST project or finalizing the project costs.

Insufficient Information about Proposed Costs for \$467 Million Large Synoptic Survey Telescope

The Large Synoptic Survey Telescope (LSST) project was the first construction project NSF considered since we issued an alert memo on the agency's management of its high-risk, high-dollar cooperative agreements in 2012. In that memo, among other things, we recommended that NSF obtain proposal and accounting systems audits to ensure that cost estimates for such projects were fair and reasonable and that proposers' accounting systems were adequate to bill the government properly.

We found that NSF's initial internal review of the cost of the LSST project could not independently verify costs for any of the 136 proposed expenditures sampled, including approximately \$145 million in direct materials, nearly \$20 million for contingencies, and more than \$6 million in direct labor costs.

After this critical report, independent proposal and accounting system audits were clearly warranted to ensure the adequacy and proper accounting of the proposed costs. Instead of obtaining those audits, NSF had a contractor perform a "sufficiency review," which is a less rigorous assessment than an audit. Subsequently, NSF developed a Cost Proposal Review Document to provide more detail and follow-up on concerns raised by the internal review, but that document did not include a full review of two of the most significant costs in the project's proposed budget—subcontracts/subawards and contingency costs.

In September 2014, we issued an alert memo expressing strong concern that NSF did not have sufficient information to establish a reasonable basis for the cost of the LSST project. As a result, NSF has limited insight into the makeup of the project's costs and little, if any, assurance that they are reasonable.

In addition, NSF will conduct the LSST project under a cooperative agreement with the Association of Universities for Research in Astronomy (AURA). In light of the known and continuing deficiencies with AURA's estimating practices and cost proposals, and the lingering uncertainties about the reasonableness, accuracy, and currency of many of the costs proposed for the LSST project, NSF should take immediate and strong action to ensure that costs proposed for and incurred under the project comply with federal and NSF requirements.

We have been urging NSF for the past four years to strengthen accountability of its high-dollar, high-risk cooperative agreements for its large facility construction projects. NSF applies its highest level of attention and scrutiny to determine the scientific merit of the projects it decides to fund. It is imperative that NSF apply the same rigorous attention and scrutiny to its financial management of these projects, prior to requesting NSF approval for award. The stakes are too high for the Foundation to continue its current practice of requesting NSF approval and making awards before it ensures that project costs are reasonable, are supported by adequate documentation, and will use taxpayer dollars efficiently.

More than \$2.3 Million in Questioned Costs Found at University of California, Los Angeles

An audit of 769 awards valued at more than \$225 million made to the University of California, Los Angeles (UCLA) identified questioned costs of over \$2.3 million. The questioned costs included more than \$2.1 million in overcharged summer salaries and over \$131,000 in unsupported per diem costs for travel, including trips PIs made to Paris and Israel. In addition, the audit questioned over \$73,000 for visa application fees charged to NSF awards. Finally, the auditors questioned nearly \$16,000 for computer equipment, which was purchased within the final 23 days of the award and thus was not available for use during most of the award period, and did not benefit NSF programs.

We recommended that NSF require UCLA to repay the questioned costs and ensure that the university strengthens administrative and management processes and controls that led to the questioned costs. UCLA stated that it would review its current travel policy and enhance its controls over time charged to federal awards, but disagreed with nearly all (\$2.2 million) of the questioned costs. NSF is in the process of resolving UCLA audit findings.

Over \$1.6 Million in Questioned Costs Found at Virginia Polytechnic Institute and State University (Virginia Tech)

An audit of 109 NSF awards totaling \$113 million at Virginia Tech questioned over \$1.6 million in costs claimed by the University. Over \$1.45 million of the questioned costs was for senior personnel salaries that exceeded NSF's two-month limit. The remaining \$147,413 in questioned costs related to unreasonable equipment and materials charges, indirect cost overcharges, unreasonable travel expenses, unallowable moving expenses, and unallocable immigration fees.

Auditors recommended that NSF resolve the questioned costs and ensure that Virginia Tech strengthen its administrative and management controls. The university agreed with the majority of the findings and some of the questioned costs. However, Virginia Tech responded that it believes that NSF policy for the limitation of salary charges for Senior Project Personnel of two months in any given year are unclear, and that the university is developing a new proposal management system, which will be designed to capture the data necessary to assure compliance with the NSF policy on salary limits for Senior Project Personnel rule, once NSF clarifies the rule. Virginia Tech also stated that the university has added two positions to its Office of Sponsored Programs' Compliance Team as a result of the audit. NSF is in the process of resolving Virginia Tech audit findings.

\$173,290 in Questioned Costs Found at the University of Illinois at Urbana-Champaign

An audit of 1,294 NSF awards totaling more than \$435 million of expenditures at the University of Illinois at Urbana-Champaign questioned \$173,290 in costs claimed by the University. The questioned costs included \$52,584 in salaries that exceeded the two months of salary allowable under NSF regulation. The auditors found the university did not have policies to prevent more than two months of salary costs for senior personnel from being charged to NSF, but instead relied on each individual department to monitor its salary allocations. The audit also questioned \$41,734 in expenses incurred at the end of the award that did not benefit NSF programs; and \$39,296 of costs that lacked adequate supporting documentation.

The auditors also reviewed seventy six awards that were funded with Recovery Act funds and concluded those funds had been properly accounted for and segregated, as required. Recommendations included that NSF require that the university repay the questioned costs and ensure that Illinois strengthens administrative and management

processes and controls that led to the questioned costs. The university disagreed with the questioned cost for salaries but agreed to remove the expenditures charged to the NSF awards at the end of the award period.

Over \$75,000 in Questioned Costs at New York University

An audit at New York University (NYU), which covered 394 awards valued at more than \$72 million identified \$75,494 of questioned costs. The costs, which included unallowable indirect charges, foreign travel, equipment purchases, and conference fees, were questioned because they did not comply with federal requirements. For example, NYU used an incorrect indirect cost rate, which contained mathematical errors, and caused more than \$35,000 in unallowable costs to be charged to an NSF award. In another example, a PI charged an NSF award for the cost of numerous trips to foreign countries including Germany, India, and South Korea, although no funding in the award was budgeted for foreign travel.

Recommendations included that NSF require NYU to repay the questioned costs and ensure that the university strengthen processes and controls that led to the questioned costs. In response to the recommendations, NYU agreed with the \$35,000 in questioned costs associated with the indirect cost rate calculation and stated that it has corrected the error that caused the miscalculation. NYU also reported that it has controls and processes in place to address the other recommendations.

Inadequate Controls over the Calculation and Expenditure of Contingency on the Sikuliaq Construction Project

In August 2007, NSF entered into an agreement with the University of Alaska Fairbanks (UAF) for construction and operation of the Alaska Region Research Vessel –*Sikuliaq*. The project consisted of four phases with a total awarded cost of \$199.5 million, \$38.1 of which was contingency funds. Additionally, the \$148 million construction phase of the project (including \$31.7 million in contingency funds) was funded entirely by Recovery Act funds.

We conducted an audit of the Sikuliaq project for two reasons; the large amount of Recovery Act funds awarded to the project and the problems previous audits disclosed with contingency funds in NSF's large construction projects, which placed federal funds at a heightened risk of being misused for non-contingent expenses or to hide cost overruns due to poor management or lack of oversight.

We found that the inclusion of the contingency for each project phase did not comply with the certainty requirement in the OMB cost principles, and that the contingency amounts in the proposed budgets were not supported by adequate cost data. Therefore, since the project's total awarded amount was based on the approved budget, there is a heightened risk that the contingency funds will be misused. Additionally, since the contingency expenditures were not separately tracked in UAF's accounting system, we could not verify how the budgeted contingency funds were ultimately spent. While UAF was not required to track expenditures to budgeted contingency amounts, the lack of visibility over contingency expenditures increases the risk that contingency funds may be misused. We found that NSF generally complied with the Recovery Act requirements we reviewed.

We recommended that NSF require awardees to only include allowable contingencies in an award; to support contingency estimates in budget proposals with adequate, verifiable, supporting data; and to properly account for the funds consistent with their estimates and separately track budgeted versus actual contingency costs.

In its response, NSF asserted that it was already in compliance with the first two recommendations, and that it declined to implement the third recommendation. In response to the third recommendation, NSF disagreed that budgeted versus actual contingency costs should be separately tracked. NSF pointed out that this level of tracking is not required by OMB, and thus views this recommendation as an extra administrative requirement that it declines to administer.

However, by not tracking budgeted versus actual contingency costs and because the contingency budget and change order processes do not tie to the accounting system, there is no way of verifying that contingency funds were actually used in the manner proposed in the associated change orders. If there is no way to ensure that contingency funds were used in the manner proposed, the entire change order process becomes invalidated and meaningless.

Missed Schedule Milestone Dates for its Relocation Could Cause NSF to Incur Significant Costs

Our ongoing inspection of NSF's relocation to its new headquarters in Alexandria, VA has identified concerns about missed schedule milestone dates that have occurred, and could continue to occur, as a result of the ongoing impasse between NSF and AFGE Local 3403 (the Union) with respect to issues related to NSF's new headquarters and the possible financial impact of the schedule slippage.

In June 2013, the U.S. General Services Administration announced that it selected and signed a 15-year lease agreement on behalf of NSF for a new headquarters building to be constructed. NSF is scheduled to occupy the new building by December 30, 2016, and begin paying rent on that building on January 1, 2017; however, depending upon the result of schedule impacts, these dates could change.

The impasse on the outstanding issues between NSF and the Union has caused milestone dates for the interior design of the new building to be missed, which could affect the construction schedule. Any delays caused by NSF (rather than by the builder) to the December 2016 completion date will require NSF to pay delay costs in addition to rent costs at NSF's current headquarters.

Due to the building schedule's milestone dates that NSF has already missed, the potential cost of any delays, and the potential for protracted negotiations with the union, it is imperative that NSF senior management focus the highest level of attention on this issue.

A-133 Audits

Single Audits Continue to Identify Repeat Findings at One-Third of Awardees with Findings

OMB Circular A-133 provides audit requirements for state and local governments, colleges and universities, and non-profit organizations receiving federal awards. Under this Circular, covered entities that expend \$500,000 or more a year in federal awards must obtain an annual organization-wide audit that includes the entity's financial statements and compliance with federal award requirements. Non-federal auditors, such as public accounting firms and state auditors, conduct these single audits. The OIG reviews the resulting audit reports for findings and questioned costs related to NSF awards, and to ensure that the reports comply with the requirements of OMB Circular A-133.

The 220 audit reports reviewed and referred¹ to NSF's Cost Analysis and Audit Resolution (CAAR) Branch this period covered NSF expenditures of \$8.4 billion as reported in the annual Single Audits during audit years 2012 and 2013, and resulted in 157 findings at 93 NSF awardees. The auditors disclaimed an opinion on the financial statements of one awardee. In addition, one awardee received a qualified opinion on its financial statements, and 12 awardees received qualified opinions on their compliance with federal grant requirements.

¹ We also rejected one report based on audit quality deficiencies. The auditors revised the report and resubmitted the report during the period, and the revised report is included in the total number of 220.

Fifty-five of the 157 findings (35 percent), at 33 of the 93 awardees with findings, were repeated from previous audits, calling into question the awardees' ability to adequately manage their NSF awards. Thirty-three of the repeat findings, including one finding which had been repeated for seven consecutive years, were identified as material weaknesses or significant deficiencies. Six findings identified by the auditors, including one material weakness and three significant deficiencies, resulted in \$796,538 in questioned costs to NSF awards.

Awardees' lack of internal controls and noncompliance with federal requirements included: untimely and/or incorrect reporting of time and effort; failure to ensure that property purchased with federal funds was adequately tracked and safeguarded; inadequate monitoring of subrecipients; and late submission of financial and/or progress reports.

Desk Reviews Find Audit Quality and Timeliness Issues in One-Third of Single Audits

The audit findings in A-133 reports are useful to NSF in planning site visits and other post-award monitoring efforts. Because of the importance of A-133 reports to this oversight process, the OIG conducts desk reviews on all reports for which NSF is the cognizant or oversight agency for audit, and provides guidance to awardees and auditors for the improvement of audit quality in future reports. In addition, OIG returns to the awardees reports that are deemed inadequate so that the awardees can work with the audit firms to take corrective action.

During the period, we conducted desk reviews of 112 audit reports² for which NSF was identified as the cognizant or oversight agency for audit, and found that 75 fully met federal reporting requirements. Thirty-seven reports contained audit quality and timeliness issues. The quality issues we identified included 13 reports in which the Schedule of Expenditures of Federal Awards did not provide sufficient information to allow for identification of awards received from non-federal "pass-through" entities or did not adequately describe the significant accounting policies used to prepare the schedule. In addition, 13 reports inadequately presented the elements of the audit findings and/or the elements of the auditee management's plan to correct the deficiencies reported. Seven reports were submitted to the Federal Audit Clearinghouse with an inaccurate Data Collection Form (Form SF-SAC). Finally, two reports were filed after the deadline established in OMB Circular A-133.

² The audits were conducted by 65 independent public accounting firms.

For those errors that potentially impacted the reliability of the audit reports, we contacted the auditors and awardees, as appropriate, for explanations of each of the potential errors. In most cases, the auditors and awardees either provided adequate explanations and/or additional information to demonstrate compliance with federal reporting requirements. However, we rejected one report due to substantial non-compliance with federal reporting requirements. After completion of all 122 reviews, we issued a letter to each auditor and awardee informing them of the results of our review and the specific issues on which to work during future audits to improve the quality and reliability of the report.

Audit Resolution

NSF Disagrees with Questioned Contingency Amounts in Proposed Budgets for Three Large Facility Construction Projects

In May 2014, we escalated recommendations to the agency's Audit Resolution Official, from a large body of audit work conducted over four years pertaining to NSF's management of its large facility construction projects. Audits of the proposed budgets for three high-dollar, high-risk projects, totaling \$1.1 billion identified \$305 million of unallowable and unsupported costs, including \$223 million of unallowable contingency. The contingency amounts included in the proposed budgets were unallowable because they did not comply with federal requirements and were not supported by adequate documentation.

Escalation of OIG recommendations is the final step available to the OIG in an attempt to urge NSF to strengthen accountability and to exercise proper stewardship of federal funds. We escalated the recommendations because the actions NSF had proposed to address them fell short of the standard necessary to adequately safeguard millions in federal funds, leaving those funds at risk of misuse.

NSF disagreed with the recommendations we escalated on contingencies and asserted that its practices properly followed OMB guidance. Thus, NSF informed us that it will not require these awardees to remove unallowable contingency from their budgets, as we recommended. It is important to note that even if contingency amounts in the proposed budgets met the definition in OMB guidance, as NSF asserts, there is a second, serious problem with respect to the adequacy of the supporting documentation for the contingency the three awardees provided. In each of the proposal audits, despite months and in some cases years of effort, auditors were unable to find adequate documentation to support

the amounts identified for contingencies. Therefore, the OIG stands by its recommendation for NSF to require awardees to remove unallowable contingency from proposed budgets, or for NSF to hold the contingency funds until the awardee demonstrates a bona fide need for the funds and provides adequate supporting documentation.

The audits also questioned \$81.7 million of non-contingency funds in one of the proposal budgets. These costs included such things as unsupported costs for labor, materials, and equipment. NSF is continuing to consider its response to recommendations pertaining to these costs, which the OIG has escalated.

Finally, NSF has stated that it will continue to work with the OIG on other escalated recommendations including: obtaining updated cost estimates and audits of awardees' proposed budgets, requiring annual incurred cost submissions and audits, and developing end-to-end cost surveillance procedures for its large cooperative agreements. We look forward to working with NSF to provide better cost surveillance at all stages of the life cycle of the cooperative agreements it uses for its large facility construction projects.

NSF Sustains \$43,551 of \$6.3 million of Questioned Costs at the University of California, Santa Barbara

In response to our recommendations, NSF sustained \$43,551 of the \$6.3 million in questioned costs at the University of California, Santa Barbara (UCSB). The \$43,551 questioned costs related to unallowable equipment purchases, unapproved pre-award costs, and unallowable indirect cost charges claimed by UCSB from January 1, 2008, to December 31, 2010.

We escalated recommendations pertaining to \$2.2 million in cost sharing claimed for which UCSB did not have supporting documentation, \$1.9 million of overcharged summer salaries, and more than \$136,000 of equipment purchased toward the end of a grant. NSF has informed us that it does not intend to sustain any additional costs from the audit stating that the university's treatment of summer salaries complies with its policy and that UCSB maintained adequate supporting documentation for cost share. With respect to equipment purchases, NSF stated that such purchases appeared to be reasonably allocated to NSF grants. OIG disagrees with NSF's decision to allow \$6 million of costs questioned in the audit.

Investigations

Administrative Investigations

Supervisor Lied to NSF Management, Staff, and OIG; Program Officer Released Sensitive Document to Press

A rotator, working at NSF as a program officer under the Intergovernmental Personnel Act (IPA), had conflicts of interests (COIs) with proposals she handled, and issues with COI training and timely filing of financial disclosures. NSF’s Office of General Counsel (OGC) recommended that NSF terminate the rotator’s IPA assignment and that someone outside of the rotator’s division review her award recommendations to determine if the awards were warranted. Directorate management asked the rotator’s supervisor, rather than someone outside her division, to oversee the review of the rotator’s award recommendations. After reviewing the recommendations, the supervisor asked a program officer in a different division to review two grants he had identified as potentially problematic.

The supervisor shared OGC’s recommendations regarding the rotator with his staff and the rotator, and together they wrote a “mitigation memo” to directorate management falsely stating that the program officer who reviewed the awards did not find any bias, and urged the directorate to ignore OGC’s recommendation to terminate the IPA assignment. The supervisor sent this memo to directorate management *before* he received the program officer’s assessment. However, that assessment subsequently highlighted several factors that indicated potential COIs and bias. The supervisor did not inform directorate management, or his staff who helped write the memo, about the conclusions drawn in that assessment. When we asked him about the review, he falsely told us that he had not yet asked any program officer for an assessment. He failed to follow up on the program officer’s concerns and continued to misrepresent to division staff that the rotator had no COIs. In a second interview, the supervisor again lied to us about the review.

We referred the supervisor’s misconduct to the Department of Justice for consideration of prosecution for criminal false statements, but it declined given the adequacy of administrative personnel actions available to NSF management. Accordingly, we addressed the supervisor’s

HIGHLIGHTS

Administrative Investigations	17
Civil and Criminal Investigations	19
Research Misconduct Investigations	25

actions and lies to OIG, to NSF management, and to his staff in a Report of Investigation with recommendations for appropriate administrative action. NSF's decision is pending.

Further, one of the division's program officers told our investigators that he provided a copy of OGC's recommendation to an online science magazine. This act is a violation of NSF's rule regarding release of internal, sensitive information. We addressed this individual's actions in a separate Report of Investigation with recommendations for appropriate management action. NSF's decision is pending.

Debarment Recommended for Researcher Who Used NSF-funded Supercomputers to Mine Bitcoins

We previously reported our investigation³ of a researcher who engaged in the unauthorized mining of bitcoins on two NSF-funded supercomputers. Based on our recommendation, NSF suspended the researcher government-wide while we completed our investigation. After we completed our investigation, while there was not enough evidence to establish criminal intent, we recommended that NSF debar the researcher for three years and recover the costs associated with his mining activity. We also recommended that NSF treat the bitcoins as program income to be recovered after their conversion.

NSF Returns Fraudulently-Obtained ARRA Funds to NSF Employee

We previously reported about an employee who abused approximately \$4,000 of transit subsidy money⁴ by taking more than 900 non-commuting personal trips, requesting and accepting a \$981 ARRA cash reimbursement for transit expenses that she had not incurred, and \$67 for unauthorized parking expenses. At first, NSF required her to repay only the \$67 for parking; then, it required her to repay some of the money used for personal trips (less \$524 she was allowed to keep). NSF also required her to repay the \$981 fraudulent ARRA reimbursement.

In April 2014, NSF returned \$944 of the fraudulent ARRA reimbursement to the employee and informed her that it had received "new information" about her inappropriate use of the transit benefit. When we learned about this payment, NSF stated that it refunded the money because "NSF did not want to hold [her] responsible for the ARRA portion of the case, due to its lack of traceability to specific usage and that it would take much in the way of resources to search down the audit trail." As explained in our report to NSF, the employee admitted to us that she had

³ March 2014 Semiannual Report, pp.29-30.

⁴ September 2013 Semiannual Report, p.25; March 2014 Semiannual Report, p.30.

requested and taken the money for personal use, and this information was documented in the transit records we provided to NSF.

We also recently learned that the employee transferred most of the \$974 left on her old transit subsidy card accounts to new cards. She acknowledged responsibility for this and repaid the \$974.

NSF took the following actions in administrative cases previously reported:

- As described previously,⁵ we recommended that NSF debar the owners of a small business in California, and the business itself, for submitting duplicate proposals, providing false certifications to NSF, misrepresenting the company's research capabilities, improper expenditures, and a lack of consistent financial records. We also recommended that NSF make a finding of research misconduct against one of the owners, a former university professor. NSF concurred and made a finding of research misconduct against the ex-professor and debarred both owners and their company for three years.
- NSF prohibited a former panelist from Texas from serving as a reviewer, advisor, or consultant for NSF for three years.⁶ Based on our investigation, NSF concluded the panelist knowingly breached reviewer confidentiality by sharing six NSF proposals assigned to him with his subordinates at his home institution. As noted previously, NSF also accepted our recommendation to watermark proposals to further emphasize the confidentiality of the review process.
- We previously described⁷ a panelist from Maryland who violated NSF's conflict of interests rules in reviewing a proposal. NSF has prohibited the panelist from serving as a reviewer for two years.

Civil and Criminal Investigations

Two Scientists Indicted for Fraudulently Obtaining SBIR Awards

Two Florida scientists were indicted for wire fraud, conspiracy to commit wire fraud, aggravated identity theft, and falsification of records in a federal investigation. In a joint investigation with the Army Criminal Investigation Command and OIGs for DoD, NASA, DOE, DHS, and EPA, we uncovered evidence that the scientists created two companies as part of a scheme to fraudulently obtain approximately \$10 million in Small Business Innovation Research (SBIR) awards from NSF and other government agencies.

⁵ March 2013 Semiannual Report, p.34.

⁶ March 2014 Semiannual Report, pp.28-29.

⁷ March 2014 Semiannual Report, p.28.

The fifteen-count indictment alleged that the scientists: created false endorsements, emails, and letters of support in order to receive awards; included false information regarding consultants, subcontractors, facilities, and costs in proposals to NSF and others; and responded to our inquiry with backdated and fabricated documents in an attempt to influence our investigation. The scientists were arrested and released on bond during this reporting period.

NSF Withholds \$75,000 in SBIR Funds Due to False Statements and Claims

Our ongoing investigation identified evidence of false statements and false claims submitted by the PI of a small business in Massachusetts. Based on our recommendation, NSF withheld the final payment and reduced the amount of a SBIR Phase II award to the small business, providing NSF with \$74,959 put to better use.

Former Research Institute Employee Sentenced to 19 Months in Prison

A former employee of a research institute that received federal funds, including NSF grant funds, pled guilty and was convicted of embezzlement. She was sentenced to 19 months in prison, three years' probation upon release, and was ordered to pay back \$798,469 to the research institute. We recommended that NSF debar the former employee for five years.

Executive Director of Non-Profit Debarred for Five Years for False Certification

Our investigation determined that the executive director of a Massachusetts non-profit received federal funds from an NSF-funded subaward while currently debarred for serious misconduct associated with a prior NSF award. The executive director, on behalf of the organization, falsely certified on both the contract and the subaward agreement that neither the organization nor its principals, including himself, were debarred. Based on our recommendation, NSF debarred the executive director and the organization for five years.

NSF Withholds \$74,000 in SBIR Funds

In response to our recommendation, NSF withheld the final payment of \$74,944 remaining on a company's active award after our investigation found that the company misrepresented its timekeeping and accounting systems and could not accurately account for NSF funds it received.

NSF Withholds \$67,000 in SBIR Funds

Our investigation revealed that a company that received NSF SBIR awards misrepresented its ability to accurately track its time and effort and did not have systems to account for expenditure of federal grant funds. Based on our recommendation, NSF permanently withheld the final payment of \$67,221 remaining on the company's award.

University to Repay \$54,000 to NSF for Unauthorized Equipment Purchase

As part of a settlement agreement, a Michigan university agreed to repay \$54,076 for equipment it purchased under an STTR subaward. Prior to making the award, NSF told company and university personnel that they could not pay for equipment purchases under the subaward.

Actions Taken as a Result of Previously-Reported OIG Investigations***PI for Small Business Award Sentenced to 3 Years Imprisonment***

A PI on two grants awarded to a small business under the Small Business Technology Transfer (STTR) Program was convicted of wire fraud, mail fraud, falsification of records, and theft, following a two-week trial.⁸ The PI was sentenced to three years in prison followed by three years of supervised release, and ordered to pay \$105,726 in restitution.

PI Enters Into Pre-Trial Diversion Agreement following Indictment for SBIR Fraud

A company owner and PI of an NSF SBIR awardee company were indicted based upon proposals, reports, and payment requests they submitted which contained false information.⁹ The PI entered into a

⁸ March 2014 Semiannual Report, p.15.

⁹ March 2013 Semiannual Report, p.23.

pre-trial diversion agreement with DOJ, under which, for 18 months, he will be required to report regularly to a pretrial services officer, complete 50 hours of community service, and not apply for, or serve as PI on, any grant funded by the federal government. The case against the company owner is pending.

Small Business Returns Funds to NSF and Forfeits Final Payment Under SBIR Phase II Award

In response to our recommendations, NSF suspended and then revoked the final \$75,000 payment of an SBIR Phase II award to a Massachusetts small business, for failing to maintain adequate timekeeping records.¹⁰ In a settlement with the Department of Justice, the business agreed to return an additional \$120,000 to NSF.

Debarment Recommended for Michigan Business Owner, His Wife, and Three Businesses

A Michigan business owner and his wife, through one of his three companies, used the NSF seal fraudulently for commercial gain and shipped products to customers through the mail.¹¹ The husband pled guilty to mail fraud and misuse of the NSF logo, and his wife pled guilty to one count of concealment of a felony. We recommended that the owner, his wife, and his three companies be debarred for three years.

Civil Settlements Result in Return of \$145,000 Voluntary Exclusions, and Compliance Plans

A Connecticut for-profit company filed false financial reports and cash requests with NSF, and the PI misused NSF award funds.¹² The PI: (1) made bonus payments to a family member; (2) rented property from himself, without disclosing the self-dealing to NSF; (3) paid a consultant for a personal conversation; and (4) retained over \$19,000 of unexpended grant funds in his account when he closed out the award. Throughout the period of the misconduct, the PI also had sole control of an affiliated non-profit organization's bank account, and was transferring money between the organizations, implicating NSF award funds. The U.S. Attorney's Office entered into civil settlements under the False Claims Act, one with the for-profit company and the PI, and the second with the non-profit company. Both settlements require a mandatory five-year compliance plan to begin on the date that either company submits

¹⁰ March 2014 Semiannual Report, p.20.

¹¹ March 2013 Semiannual Report, p.22.

¹² March 2013 Semiannual Report, p.25.

an NSF proposal. In addition, the for-profit company and the PI returned \$145,531 to the government, and agreed to a one-year voluntary exclusion from receiving federal funds.

University Professor / Company Owner Sentenced

A university professor in Iowa pled guilty to false statements in connection with SBIR awards to his outside company as well as awards to his university, which resulted in personal gain to the professor and his relatives.¹³ The court sentenced him to one year probation, a \$5,000 fine, \$1,200 in restitution, and a \$200 assessment.

Joint Investigation Results in Indictment of SBIR PI and Company Employee on 29 Counts

In response to our recommendation, NSF retained the final payment on an SBIR Phase II award and suspended government-wide the PI and the Texas small business as a result of false information submitted to NSF.¹⁴ As a result of our joint investigation with NASA OIG, DOE OIG, and DCIS, a grand jury indicted the PI and a company employee on 29 counts of conspiracy, false statements, and wire fraud.

NSF Employee Pleads Guilty to Embezzlement

An NSF employee, who was in charge of a program that provides tuition assistance for NSF employees, was indicted on three counts of embezzlement relating to abuse of her position because she authorized NSF payment of her own graduate level classes, which is prohibited under the program.¹⁵ NSF issued a notice of proposed termination from employment, and she subsequently resigned from her position at NSF. The former employee pled guilty in the local county circuit court and sentencing is scheduled in November 2014.

NSF Employee Indicted for Using Government Purchase Card to Buy Electronics for Personal Use

An NSF employee used a government purchase card to buy electronic equipment and other items for personal use.¹⁶ The employee was indicted on two counts of embezzlement in the local county circuit court and NSF suspended her indefinitely without pay.

¹³ March 2014 Semiannual Report, p.16.

¹⁴ March 2013 Semiannual Report, p.23; September 2013 Semiannual Report, p.16.

¹⁵ March 2014 Semiannual Report, p.17.

¹⁶ March 2014 Semiannual Report, pp.17-18.

Proposed Debarment for Former Program Officer

An NSF program officer resigned following an investigation into conflicts of interests and bribery.¹⁷ Based on our recommendation, NSF issued a notice of a proposed three-year debarment to the former program officer.

NSF Debars Former Research Facility Employee Convicted of Theft

A former employee at an NSF-supported research facility in Louisiana was convicted of theft of equipment and sentenced to five years' probation and ordered to pay restitution of \$14,925.¹⁸ Based on our recommendation, NSF debarred the individual for three years.

PI Debarred for Improperly Spending NSF Funds

The PI and an Alaskan non-profit organization misspent NSF funds.¹⁹ Based on our recommendation, NSF debarred the PI for three years, and proposed debarment for the non-profit organization. Because the organization sufficiently demonstrated its intent to dissolve within the debarment period, NSF entered into an administrative agreement with the organization in lieu of debarment.

NSF Debars PI and NSF Center Director for Diversion of Program Income

A former PI on multiple NSF awards and a former NSF center director diverted program income earned as a result of sales of curriculum products developed under NSF awards, without the awardee institution's knowledge.²⁰ Based on our recommendation, NSF debarred the former PI, the former center director, and three companies for five years.

University Returns over \$548,000 to NSF for Unallowable Charges

An employee at a university in Delaware charged significant travel expenses, which were not related to an NSF award, and other unallowable costs to an NSF award.²¹ The university returned \$548,413 and implemented new policies and procedures to avoid future issues.

17 March 2014 Semiannual Report, p.16.

18 September 2013 Semiannual Report, p.17

19 September 2013 Semiannual Report, p.19.

20 September 2013 Semiannual Report, p.18.

21 September 2011 Semiannual Report, p.9.

Research Misconduct Investigations

Research misconduct damages the scientific enterprise, is a potential 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 (plagiarism, data fabrication, and data falsification) 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.

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 termination of employment. NSF's actions in research misconduct cases ranged from letters of reprimand to a proposed five-year debarment. In every case, we recommended that NSF make a finding of research misconduct, issue a letter of reprimand, and require the subject to complete a Responsible Conduct of Research (RCR) training program. We also recommended additional significant actions as summarized below.

PI Fabricates and Falsifies Research Results

A PI at a California university fabricated and falsified results that were included in an awarded NSF proposal, a published article, a declined NSF proposal, and a submitted manuscript. The university's investigation determined the PI committed fabrication and falsification in numerous data figures, and issued a research misconduct finding. The PI left the university, the journal retracted the published article, and the submitted manuscript was declined for publication.

We concurred with the university's finding that the PI inappropriately manipulated the research images, and concluded that the PI intentionally committed fabrication and falsification. We recommended that NSF debar him for five years, and for the five years after the debarment period: require certifications and assurances; require submission of a detailed data management plan with annual certifications of adherence for any resulting awards; and bar him from participating as a peer reviewer, advisor, or consultant for NSF.

Graduate Student Falsifies Data to Support Favored Hypothesis

A student entered into a voluntary settlement agreement with another federal agency for three years, based on an admission of data falsification in his graduate work that resulted in the retraction of three research publications. The individual was supported by an NSF graduate fellowship as well as other federal funding. The university expelled the student under its academic integrity policy, based on his admission of wrongdoing, and then completed an investigation under its research misconduct policy, concluding that the student intentionally falsified data. The university failed to notify NSF of the investigation, as required.

We obtained the university's investigation report, and the student declined to provide any comments or additional information to us. We concluded that the student intentionally falsified the data, and we recommended that NSF debar the student for five years, and require certifications and assurances for three years thereafter.

Professor's Proposals Routinely Prepared by Graduate Students and Postdocs

Our investigation determined that a professor at a Florida university submitted multiple proposals to NSF over a period of four years that contained plagiarism. The university investigation established that the professor had minimal involvement in the preparation of the proposals. He asked his graduate students and postdocs to write the proposals, and he then submitted them without review or evaluation. The university concluded that the professor plagiarized from his students and postdocs in six proposals. The university investigation also established that the proposals inaccurately listed research publications as "in press" and inaccurately listed the professor's current and pending support. The university removed the professor from sole supervision of graduate students, prohibited him from submitting proposals to external funding agencies for a specified period, and mandated RCR training.

Our further investigation established the professor was the PI on four additional NSF proposals that contained copied text. We concluded that the professor's plagiarism in a total of ten proposals established a pattern of research misconduct. We recommended that NSF impose a one-year debarment and for the following five years require certifications and assurances, and prohibit service to NSF as a reviewer, consultant, or advisor.

One of the postdocs identified as an author of the plagiarized proposals was the focus of a previous case in which NSF made a finding of research misconduct based on plagiarism in multiple NSF proposals. Our investigation established that in this case the postdoc was the primary author of the four additional proposals considered in our further investigation. We recommended that NSF impose a one-year debarment and a subsequent five-year period of certifications and assurances, and prohibit service to NSF as a reviewer, consultant, or advisor.

Assistant Professor Resigns From University During Investigation

An assistant professor at a Florida institution submitted three NSF proposals containing extensive plagiarism. The copied text comprised the majority of the proposals' introduction, background, and proposed research sections. He acknowledged the material was inappropriately cited and attributed the act to "miscommunications, fatigue and time constraints."

The university conducted an investigation, but the assistant professor resigned prior to his scheduled interview, accepted a teaching position outside the country, and did not respond to requests for information. Based on the evidence we provided and student interviews, the university concluded the assistant professor committed repeated acts of plagiarism, which constituted a pattern of plagiarism.

The assistant professor also did not respond to our request for additional information. Our investigation concluded that he knowingly committed repeated acts of plagiarism. We recommended that NSF debar the assistant professor for one year, require he provide certifications and assurances for three years following the debarment, and bar him from participating as a peer reviewer, advisor, or consultant for NSF for four years.

PI Submits Inaccurate Annual and Final Reports

Our investigation determined that a Missouri PI's annual reports were inaccurate because most of the publications listed in the reports were either inaccurate or were not related to his NSF-funded research. The first annual report we reviewed cited fifty papers, but only eight of those had appropriate attribution. We referred the matter to the PI's university, which concluded that the PI's misrepresentations constituted falsification in his annual reports and made a finding of research misconduct. It required the PI to complete RCR training, and to provide quarterly

progress reports for all externally-funded projects for one year. In addition, for three years he must provide all annual reports he plans to submit to any funding agency for advance review by the university.

We concurred with the university's finding of research misconduct. For one grant, more than 90% of the publications listed in his first annual report and 80% of the publications in his second annual report were falsified, in that they were inaccurate or not attributable to his NSF-funded research. Furthermore, approximately 90% of the publications listed in the annual and final reports for a second NSF grant were also falsified, establishing a pattern of misrepresentations in his publications. We recommended that NSF require the PI to provide certifications and assurances for three years.

PI Plagiarized Text and Figures; \$79,000 Put to Better Use

Our proactive review identified a funded proposal, authored by a PI in New York, that contained text copied without appropriate attribution. Our investigation identified additional proposals with unattributed copying. Based on our recommendation, NSF suspended the grant, and we referred the allegation to the awardee institution for investigation. The PI subsequently withdrew all pending proposals from all funding agencies.

The awardee found the PI plagiarized a total of 444 lines and five figures into four proposals. It made a finding of research misconduct and required the PI to: receive formal supervision for two years, which includes reviewing her proposals or manuscripts prior to submission; watch a training video on plagiarism and certify she understood it; and take a writing course. We concurred with the awardee's finding and recommended that NSF require the PI to provide certifications and assurances for three years and prohibit the PI from serving as a peer reviewer, advisor, or consultant for three years. The suspended award has since expired, resulting in \$79,050 put to better use.

Assistant Professor Intentionally Plagiarized in Five Proposals

An assistant professor at a Maine university plagiarized text into an NSF proposal for a collaboration between him and a researcher at another university. The copied text comprised two-thirds of the professor's technical portion and half of his broader-impacts section. The university determined that he intentionally plagiarized in the proposal to convey a false sense of his capabilities to reviewers. The university recommended that the assistant professor repay the money, but he resigned his

position and returned to his home country. As discussed previously,²² the university terminated the grant, resulting in \$40,000 of funds put to better use, and the university repaid the \$26,000 already spent.

During our investigation, we found that the professor also copied text into four additional NSF proposals. We recommended NSF impose three years of certifications and assurances, and a ban on serving as an NSF peer reviewer, advisor, or consultant.

California Professor Plagiarized in Four NSF Proposals

An associate professor at a California university copied text into four proposals submitted to NSF, one of which was awarded. During the university investigation, the professor acknowledged copying without attribution. The university found that the professor recklessly plagiarized in four proposals to NSF and required the professor to participate in training and provide internal assurances for three years. The professor was also issued a formal reprimand.

We concurred with the university that the professor committed research misconduct. We recommended that NSF require two years of certifications and assurances, and bar the professor from serving NSF as a reviewer, advisor, or consultant.

Adjunct Faculty Plagiarizes in Proposal

An adjunct professor in Massachusetts copied portions of a literature review without attribution in a funded NSF proposal. The NSF program officer stated she had used the literature review as an indication that the professor was qualified to perform the work on the award. As reported previously,²³ the institution terminated the grant early, resulting in more than \$162,000 of federal funds put to better use. We recommended that NSF require two years of certifications and assurances, and bar the professor from serving NSF as a reviewer, advisor, or consultant.

Professor Plagiarizes in Research Reviews

Our investigation determined that a Kansas university professor committed plagiarism in two research publications supported by NSF. The professor copied large sections of text verbatim from publications of others, and did not use quotation marks around the copied text, although he usually cited the source. The professor claimed that he provided

²² March 2014 Semiannual Report, p.29.

²³ March 2014 Semiannual Report, p.29.

adequate attribution. The university investigation committee did not agree; the publications were subsequently retracted, and the university issued a public censure. We recommended that NSF require two years of certifications and assurances, and bar the subject from acting as a reviewer, advisor, or consultant for NSF.

Actions by NSF Management on Previously Reported Research Misconduct Investigations

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

In the case of a former graduate student at a Michigan university who intentionally fabricated and falsified data and research materials,²⁴ NSF finalized a three-year debarment. NSF also barred her from participating as a peer reviewer, advisor, or consultant for three years, and required three years of certifications and assurances as well as certifications of adherence to a detailed data management plan for any new proposals.

In the case of a PI at an Illinois university who committed plagiarism by copying ideas and text from an awarded proposal,²⁵ NSF proposed to debar the PI for one year. It also required three years of certifications and assurances, and banned the PI from serving as an NSF reviewer for three years.

In the case of a Tennessee professor who copied text in three NSF proposals and received duplicate reimbursements from his university for his service as an NSF review panelist,²⁶ NSF debarred the professor for two years; he filed an appeal which is pending.

In the case of an Illinois graduate student who falsified microscope images,²⁷ NSF imposed a one-year debarment followed by two years of certifications and assurances, and prohibition from service as an NSF reviewer, advisor, or consultant.

24 March 2014 Semiannual Report, pp.22-23.

25 March 2014 Semiannual Report, pp.23-24.

26 March 2014 Semiannual Report, p.23.

27 September 2013 Semiannual Report, p.20.

In the case of a Kentucky graduate student who fabricated data,²⁸ NSF debarred the student for one year, followed by one year of certifications and assurances, and prohibition from serving as a reviewer, advisor, or consultant.

NSF finalized the one-year debarment proposed of a former post-doctoral fellow at a Washington university who intentionally falsified data.²⁹

In the case of a professor at a Texas university who plagiarized in his NSF proposal,³⁰ NSF required that he provide certifications and assurances for three years.

In the case of a student in Pennsylvania who plagiarized text into his NSF-funded dissertation,³¹ NSF required two years of certifications and assurances, and submission of a corrected dissertation to his own university's library as well as the national repository. NSF also required the student to take RCR training.

In the case of a North Carolina professor who plagiarized a modest amount of text from multiple sources into his NSF proposal,³² NSF required him to submit certifications for one year.

In the case of a team leader in Illinois who recklessly plagiarized,³³ NSF required RCR training.

28 September 2013 Semiannual Report, pp.20-21.

29 March 2014 Semiannual Report, p.26.

30 March 2014 Semiannual Report, p.24.

31 March 2014 Semiannual Report, p.25.

32 March 2014 Semiannual Report, p.26.

33 March 2014 Semiannual Report, p.26.

Congressional Testimony

In June 2014, the Inspector General testified before the House Science, Space, and Technology Committee's Subcommittees on Oversight and Research and Technology at a hearing titled, "Reducing the Administrative Workload for Federally Funded Research." The Inspector General's testimony discussed the OIG's perspective on the National Science Board (NSB) report, "Reducing Investigators' Administrative Workload for Federally Funded Research"; our audits of Federal Demonstration Project pilots of effort reporting systems; and the comments our office provided the Office of Management and Budget during its creation of uniform guidance on administrative requirements, cost principles, and audit requirements for federal awards.

Both the NSB report and the Uniform Guidance addressed the need for changes to the effort reporting process. Every year, billions of dollars in federal funds are spent for salary costs of individuals who work on federal grants. Labor effort reports are essential documents for ensuring accountability over grant funds, as they represent the main support for salaries and wages charged under those awards.

Over the years, OIG auditors and investigators have repeatedly found that not all such charges are appropriate—and some are even fraudulent. We have had numerous investigations involving university grantees that have failed to adequately track time and effort. For example, we have had multiple investigations in which university personnel have simultaneously held full-time positions at U.S. institutions and abroad without disclosing the dual employment to either university or to the Federal agencies funding their research. The cases that have been resolved, to date, have resulted in criminal convictions, civil settlements under the Civil False Claims Act, and government-wide suspensions and debarments. In many cases, those outcomes would not have been possible without effort reports.

As part of the Federal Demonstration Project, labor effort pilots using universities' payroll distribution systems are underway at four universities. Our office and the HHS OIG are auditing these pilots, and we hope to complete our work by the end of the calendar year. The NSB report identified

effort reporting as a top area of concern and recommended that OMB identify a way for the piloted approaches to be used by universities and accepted by OIGs.

NSB's report also urged universities to consider requiring receipts only for large purchases. The lack of such receipts would have an immediate and detrimental impact on both an institution's and an OIG's ability to detect and prosecute fraudulent purchases. Requiring receipts only for large purchases would not provide protection for situations where individuals make many small fraudulent purchases with grant funds that eventually add up to a large amount of money.

Finally, to put the burden imposed by audits in perspective it is important to realize that most institutions are not audited by an OIG on a regular basis. NSF funds approximately 2000 colleges, universities and other institutions annually; due to size and resource constraints OIG typically audits fewer than 20 of such recipients in a year.

With respect to the Uniform Guidance, our office led an IG community working group that carefully followed and communicated with OMB as the guidance was being created. The working group supported OMB's efforts to tailor its regulations to impose the least burden and worked diligently to ensure that the right balance between reducing burden and maintaining accountability was struck. The circulars include many tools essential to combating fraud, waste, and abuse. Using those tools, OIGs have identified situations where recipients have misused grant dollars and been able to pursue criminal, civil, and administrative actions to recover those funds.

Unlike contracts, the federal government has little insight as to how grant funds are used by awardees. It is therefore essential that tools like IG audits and Single Audits, which are used to ensure accountability over Federal funds, remain robust and provide sufficient oversight.

While there is a need for a reasonable amount of flexibility to limit administrative burden, acceptance of public money brings with it a responsibility to uphold the public trust. NSF awardees must never forget that they are spending the public's money and that they will be held accountable for using that money for its intended purpose.

FY 2015 Top OIG Management Challenges

CHALLENGE: Establishing Accountability over Large Cooperative Agreements

Overview: As of August 2013, NSF had 23 cooperative agreements worth over \$50 million each and totaling over \$4.2 billion. Over the last four years, audits of the proposed construction budgets for three of these non-competitive proposals valued at \$1.1 billion found that they contained approximately \$305 million (almost 28 percent), in unallowable or unsupported costs.

It is essential that NSF exercise strong cost surveillance controls throughout the lifecycle of its high-risk, high-dollar large facility projects. At the pre-award stage, proposed costs by awardees should be supported by current, accurate, and complete documentation and awardees' accounting systems must be capable of properly managing federal funds. After an award has been made, NSF and the OIG should have access to information needed for adequate oversight of these projects.

After four years of audit effort, NSF's proposed actions in this area remain short of the standard necessary to adequately safeguard federal funds and leave millions of dollars at risk. Therefore, in May 2014 the OIG escalated a series of recommendations made to address these concerns to the Deputy Director, who is NSF's Audit Follow-up Official. Escalation of recommendations is the final step available to the OIG in an attempt to urge NSF to strengthen accountability and to exercise proper stewardship of federal funds.

Challenge for the Agency: It is an ongoing challenge for NSF to establish accountability for the billions of federal funds in its large cooperative agreements at the pre- and post-award stages and throughout the lifecycle of the projects.

The Large Synoptic Survey Telescope (LSST) project was the first construction project NSF considered since our 2012 alert memo on the agency's management of its high-risk, high-dollar cooperative agreements. Among other things, that memo recommended that NSF obtain proposal and

accounting systems audits to ensure that cost estimates for such projects were fair and reasonable and that proposers' accounting systems were adequate to bill the government properly.

We found that NSF's internal review of the cost of the LSST project could not independently verify costs for any of the 136 proposed expenditures sampled, including approximately \$145 million in direct materials, nearly \$20 million for contingencies and more than \$6 million in direct labor costs.

In September 2014, we issued an alert memo expressing our strong concern that NSF did not have sufficient information to establish a reasonable basis for the cost of the LSST project. As a result, NSF has limited insight into the makeup of the project's cost, and little if any, assurance that they are reasonable.

In addition, NSF is conducting the LSST project under a cooperative agreement with the Association of Universities for Research in Astronomy (AURA). For four years, audits have repeatedly documented significant estimating deficiencies with AURA and concluded that AURA does not have an effective process for preparing adequate proposals. In light of the known and continuing deficiencies with AURA's estimating practices and cost proposals and the lingering uncertainties about the reasonableness, accuracy, and currency of many of the costs proposed for the LSST project, NSF should take immediate and strong action to ensure that costs proposed for and incurred under the project comply with federal and NSF requirements.

In addition to the problems with the LSST proposal, an effort to audit the cost proposal for construction of the Daniel K. Inouye Solar Telescope (DKIST formerly ATST) resulted in a disclaimer of opinion due to significant deficiencies in the proposal, including unsupported estimates, outdated vendor quotes, and the inclusion of amounts for an unallowable contingency reserve. The auditors stated, "In summary, AURA did not support the material cost in their proposal using adequate cost or pricing data, they did not use actual costs in the rebaseline of the proposal when actual costs do exist, and they included costs that were explicitly unallowable per the OMB circular regulations."

For four years, similar deficiencies have been documented in audits of AURA (the entity submitting the proposal to build the DKIST). This report confirms that AURA has not corrected these deficiencies or improved its proposal estimating practices. Because the proposed costs could not be affirmed as an acceptable basis for a fair and reasonable price, NSF can have no assurance that the proposal is an acceptable basis for funding. Further, the inadequacy of this cost estimate directly impacts the recipient's ability to properly monitor and manage federal

funds. The repeated estimating deficiencies demonstrate lack of improvement on the part of both AURA and NSF to exercise proper stewardship over the millions of dollars awarded for this project and heighten our concerns about unsupported costs being proposed and included in high-dollar, high-risk awards.

We have been urging NSF for the past four years to strengthen accountability of its high-dollar, high-risk cooperative agreements for its large facility construction projects. NSF applies its highest level of attention and scrutiny to determine the scientific merit of the projects it decides to fund. It is imperative that NSF apply the same rigorous attention and scrutiny to its financial management of these projects, prior to requesting NSB approval for award. The stakes are too high for the Foundation to continue its current practice of requesting NSB approval and making awards before it ensures that project costs are reasonable, are supported by adequate documentation, and will use taxpayer dollars efficiently.

OIG's Assessment of the Agency's Progress: NSF stated that it has published guidance on cost analysis of construction cost estimates and has drafted guidance on the use and management of contingency in large facility cooperative agreements. NSF also reported that it continues to review the risk management process for large facilities and that in FY 2014 it conducted four business system reviews of large facility awardees.

CHALLENGE: Improving Grant Administration

Overview: NSF's mission of "promoting the progress of science" is accomplished largely through the making of grants in support of promising scientific research. In FY 2013, NSF competitively reviewed approximately 49,000 proposals for research, education and training projects, and funded close to 11,000 new awards. As of September 30, 2014, NSF had a portfolio of over 41,000 active awards totaling approximately \$36.6 billion. Since most of these awards are grants, it is vital that NSF's grant management processes ensure that grantees spend their funds appropriately.

Challenge for the Agency: Ensuring that grant funds are spent as intended has always been challenging because grant recipients are not required to present supporting documentation, such as invoices and receipts, in order to receive payment from the agency. In addition, while recent efforts to reduce the administrative impact on grantees are worthwhile, care must be taken to ensure that accountability for public funds is not compromised in the process. Therefore, the challenge

for NSF is implementing controls over the spending of grant funds that ensure transparency and accountability, while not creating undue administrative impacts on awardees and federal program officers.

One step federal agencies have taken to reduce such impacts on researchers is to streamline the written guidance for administering grants. While a reduction in extraneous guidance is welcome, we are concerned that some useful guidance has also been eliminated and will increase the risk that inconsistent interpretations and direction will be given to awardees. With scores of program officers overseeing thousands of awards and fielding questions from numerous awardees on a daily basis, NSF will be challenged to provide consistent messages across the spectrum of awardees and ensure its replies do not contradict each other or its written policies. OIG has observed several recent situations in which awardees individually have requested NSF's interpretation and direction on a particular issue, but the direction provided conflicted with NSF's published policy and/or prior informal guidance received from NSF personnel.

Recent changes to government-wide grants policy also presents challenges for NSF. On December 26, 2013, OMB issued its final rule, 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards" (Uniform Grant Guidance or UGG). The UGG streamlined eight OMB administrative, cost, and audit circulars into one circular that covers all types of non-Federal entities that receive Federal awards. However, as part of this initiative OMB raised the single audit threshold from \$500,000 to \$750,000. Using data for single audits of entity fiscal year 2012 (the most recent year with complete data), NSF will lose single audit visibility for approximately \$11.8 million in NSF funds provided directly to awardees, and will need to take additional steps to oversee the awardees who expend these funds.

In addition, OMB changed requirements related to documentation of labor effort, making it more challenging to assess the allowability of salaries and related costs on an ongoing basis. Under the UGG, colleges and universities are permitted to charge awards for salary costs based on budget estimates, rather than on the basis of actual work performed, provided only that "significant changes" are entered "in a timely manner" and that the final amount charged to the Federal award is accurate, allowable, and properly allocated. NSF faces the challenge of implementing OMB guidance over awardee spending for research salaries—generally the largest item of expense in research awards—that only requires awardees to ensure salary costs are reasonable at the end of an award.

Finally, OMB significantly shortened the audit resolution timeframe. Prior to the UGG, Federal agencies had 6 months to issue management decision letters on findings affecting the agency from the time they received an audit report. The new OMB requirement allows 6 months from the date that *the report is submitted to the Federal Audit Clearinghouse*. For NSF, this change would effectively shorten the audit resolution timeframe by 30 days, unless the agency can establish a new accelerated process for identifying and tracking reports that require resolution.

OIG's assessment of the Agency's Progress: NSF recently issued a draft of the December 2014 "Proposal and Award Policies and Procedures Guide" (PAPPG), which, in conjunction with NSF's "Grant General Conditions" (GC-1), will serve as the agency's implementation of the UGG. Also, OIG and NSF have entered into discussions about possibly transferring responsibility for identifying single audit findings that require NSF resolution to NSF in FY 2015. Finally, NSF continues to use its Award Monitoring and Business Assistance Program (AMBAP) to provide advanced internal control monitoring of awardee institutions. During FY 2014, NSF planned and completed 30 AMBAP reviews.

CHALLENGE: Management of the U.S. Antarctic Program

Overview: Antarctica is the coldest, driest, windiest, most remote continent on earth. The weather changes frequently and abruptly; temperature drops of as much as 65 degrees F in twelve minutes have been recorded.

NSF, through the United States Antarctic Program (USAP), manages U.S. scientific research in Antarctica. The program's goals are: to understand the Antarctica and its associated ecosystems; to understand the region's effects on, and responses to global processes such as climate; and to use Antarctica's unique features for scientific research that cannot be done as well elsewhere. The USAP supports research in virtually every area of science funded not only through NSF, but also through other federal agencies such as the U.S. Geological Survey, the National Oceanic and Atmospheric Administration, and the National Aeronautics and Space Administration. The Antarctic Support Contract, which was awarded to Lockheed Martin in December 2011 is NSF's largest contract, valued at nearly \$2 billion over 13 years.

Challenge for the Agency: Establishing and maintaining a world-class scientific research program in Antarctica's remote and harsh environment is a formidable logistical challenge. The July 2012 report by the Blue Ribbon Panel, commissioned by NSF and the Office of Science and Technology Policy, found that U.S. activities in Antarctica

were well-managed, but suffered from an aging infrastructure, lack of a capital budget, and the effects of operating in an extremely unforgiving environment. To address these pressing challenges, the Panel made recommendations pertaining to ten topic areas and provided 84 implementing actions to support these overarching recommendations.

In March 2013, NSF responded to the recommendations with a summary report and a working matrix describing the status of the 84 implementing actions. In June 2013, we issued a memorandum to NSF making several suggestions to improve the usefulness of its working matrix, such as including timelines for action and identifying a responsible person for each action. NSF has been tracking progress in its working matrix and has improved that document.

In May 2014, we began an audit to assess the effectiveness of NSF's oversight and the contractor's performance to ensure the overall health and safety of USAP participants. The audit will include an assessment of health and safety programs and related policy, procedures and training, the adequacy of incident reporting, and NSF's progress toward implementing Blue Ribbon Panel recommendations related to health and safety. It is noteworthy, however, that more than three years after the Panel's report, NSF has not provided a public, point-by-point response to the Panel's recommendations.

Another challenge for NSF is to control the cost of the USAP and to ensure adequate oversight of payments to the USAP contractor. Our 2013 audit of the medical screening process for travelers to Antarctica found that NSF's medical review panel has made recommendations that could reduce the cost of this process, but NSF has not implemented many of these recommendations. For example, for the last five years the panel recommended that NSF base required medical tests on factors such as how long an individual will be in Antarctica, and what their duty station and job responsibilities will be. Revising the number of medical tests performed to reflect these criteria could lower costs of the screening process, which currently totals approximately \$860 per person.

Finally, cost containment issues are also a challenge for NSF. The Antarctic Support Contract, which was awarded to Lockheed Martin in December 2011, is the agency's largest contract, valued at approximately \$1.925 billion over 13 years, and is a cost reimbursement contract. Such contracts are inherently risky because the government assumes much of the risk that poor performance on the part of the contractor will result in cost overruns. In addition, the contract includes a provision for the contractor to receive an award fee based on an assessment of its performance. An NSF official in the Division of Polar Programs makes the final decision about whether the contractor

receives an award fee and then also determines the amount of the award fee based on a panel recommendation. Absent input from an external, independent entity, it may be a challenge for NSF to objectively evaluate the contractor's performance.

OIG's Assessment of the Agency's Progress: NSF's has improved its internal tracking matrix for the 84 implementing actions, by adding target dates and identifying a responsible person for each action, among other things.

In response to our audit on reducing costs of the medical screening process, NSF concurred with the OIG's recommendations and has formalized its process for addressing and tracking medical panel recommendations.

CHALLENGE: Moving NSF Headquarters to a New Building

Overview: In June 2013, the U.S. General Services Administration (GSA) announced that it signed a 15-year lease agreement on behalf of NSF for a new headquarters building to be constructed in Alexandria, VA. The new building will be approximately the same size as NSF's current location. NSF is scheduled to occupy the new building by December 30, 2016, and begin paying rent on it on January 1, 2017. Any delays in the occupancy date caused by NSF could have a significant cost to NSF.

Challenge for the Agency: The OIG issued an Alert Memo in September 2014, which expressed strong concern about missed schedule milestone dates that have occurred already and which could continue as a result of an ongoing impasse between NSF and its union. NSF received the Union's written opposition to certain issues in September 2013, but these issues have not been resolved despite multiple mediation sessions and other attempts to address concerns.

The Union filed a Request for Assistance with the Federal Labor Relations Authority's Federal Service Impasses Panel (FSIP) in June 2014. Depending on the FSIP's decision, (which is binding) NSF could incur additional schedule delays. If delays like this continue and cannot be mitigated, they could result in significant charges to the agency because NSF may have to pay certain costs (which have yet to be negotiated) for every day it causes the occupancy date to be delayed. Due to the significant risks of continued impasse, it is imperative that NSF senior management focus the highest level of attention on this issue.

Continued missed milestone dates are likely to impact other schedule milestones, such as the interior construction and occupancy date. While NSF has told us that it may be able to make up lost time, it is difficult to know how much continued schedule slippage can be mitigated.

Another challenge is planning the logistics of the actual move. NSF stated that computers, chairs, and tables will be moved to the new building and that its primary cost will be for workstation furniture that cannot be moved. NSF will need to procure new workstation furniture in a timely manner and tightly control moving expenses for the items it moves from Arlington. NSF is considering different options and there may be a period of time when it is operating in both buildings, which could be a challenge for holding merit review panels, which are essential to NSF's mission of awarding grants for scientific research.

OIG's Assessment of the Agency's Progress: NSF has been planning for a possible move since 2008, when it hired a project director. NSF created the Future NSF Headquarters Office (FNSF) to coordinate and manage the move. The FNSF's project director assisted with NSF's last move in 1993 from Washington, DC to Arlington. NSF reported that it has held more than 80 staff design review meetings to ensure the timely response to design submittals, in accordance with the lease requirement. In addition, NSF informed us that it plans to negotiate a construction delivery schedule that minimizes the financial risk to NSF.

CHALLENGE: Managing Programs and Resources in Times of Budget Austerity

Overview: Given the limitations placed on future federal budgets by the Budget Control Act of 2011, NSF's efforts to maintain and possibly increase its funding will be subject to great scrutiny. Lean budget times like these require management to pay even closer attention to how money is spent in order to ensure that the agency's expenditures are cost-effective, investments in programs provide a strong return on the taxpayer's dollars, and that those investments align directly with national priorities.

There are numerous discretionary purchases that occur on a weekly or monthly basis within an organization as large as NSF that offer real opportunities for savings. For example, OIG completed an audit of purchase cards and found that NSF's controls over the purchase card program needed to be strengthened to prevent and detect inappropriate purchases. Prompted by suspicious purchases identified by its auditors, OIG conducted an investigation which led to the cardholder pleading guilty to stealing more than \$94,000 from NSF. In response to the

audit's recommendations, NSF issued a revised purchase card policy, implemented improved training for cardholders, and improved its review and monitoring of purchase card transactions.

OIG's audit of the United States Antarctic Program's Medical Screening Process determined that NSF should consider opportunities that exist for cost savings on medical screenings. OIG found that nearly 20 percent of applicants withdraw each year before completing the medical screening process, representing a significant amount of time and effort for staff as well as incurring medical examination costs. This OIG audit also found that NSF needs to improve oversight of Antarctic support contract medical processing payments, due to a risk that applicants may submit claims for expenses that are not eligible for reimbursement, and that the contractor may submit inaccurate invoices for medical costs to NSF. The OIG will continue to perform reviews or audits to identify possible cost savings of NSF operations and programs.

Challenge for the Agency: There are many opportunities to conserve money within a \$7 billion organization like NSF without compromising the accomplishment of the agency's core mission. The agency is therefore challenged to identify opportunities to streamline administrative processes and cut costs where it can to send a clear message to its employees and stakeholders that strong, sound management controls are being applied; reasonable ideas to reduce spending are welcome and will be implemented; and that NSF is a responsible steward of the public's funds.

OIG's Assessment of the Agency's Progress: NSF continues to make progress in identifying ways to reduce administrative costs during FYs 2013 and 2014. To instill an agency-wide culture of cost-saving, NSF encouraged staff to submit ideas for cost savings. NSF management concurred with OIG's audit recommendations to improve controls over purchase cards and consider opportunities for cost saving for United States Antarctic Program's Medical Screening Process. The agency has also introduced or continues to implement specific cost cutting initiatives for travel, conferences, printing, mobile devices, and telecommunications. NSF has been reducing travel costs by further increasing the use of virtual merit review panels and encouraging the use of non-refundable tickets for staff travel.

CHALLENGE: Encouraging the Ethical Conduct of Research

Overview: Congress passed the America COMPETES Act in 2007 to increase innovation through research and development, and to improve the competitiveness of the United States in the world economy. NSF responded to the Act by mandating mentoring plans for all postdoctoral

positions, and directing that grantees provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.

However, information collected during investigations, from site visits, and from reviews of institutional RCR plans suggests that some institutions are not taking these requirements seriously. Furthermore, the findings of research funded by NSF's Ethics Education in Science and Engineering Program suggests that many of the ethics training programs currently available provide limited positive effect on the perspectives of students and postdocs regarding the ethical conduct of research. This potentially compromises the public's confidence in the research enterprise and affects the safety of NSF funds. NSF is challenged to provide more oversight on institutional implementation of these requirements and to provide meaningful guidance regarding RCR training.

Challenge for the agency: NSF's primary challenge is to ensure that awardees implement effective RCR programs. RCR is just one component necessary to create a culture of academic integrity that extends to all levels of the university. At a time when opinion surveys indicate that more Americans are becoming distrustful of science, it is important that the conduct of scientific research not be tainted by instances of misrepresentation or cheating. Affirmative steps are necessary to counter the trends of increasing integrity-related violations. Recent surveys suggest that cheating is endemic at various levels of education, with 30% of researchers admitting to engaging in questionable research practices. Consistent with these survey results, OIG has seen a dramatic increase in substantive allegations of plagiarism and data fabrication, especially as it relates to junior faculty members and graduate students. Over the past 10 years, the number of allegations received by our office has more than doubled, as have the number of findings of research misconduct NSF has made based on OIG investigation reports. In addition, OIG has seen a substantial increase of allegations related to: peer-review based confidentiality violations, false representations in CVs, false representations of publications in annual/final reports, failure to list all affiliations and current support (especially at overseas institutions), and fraudulent or otherwise improper use of grant funds. The number and variety of ethical issues identified in our investigative activities strongly suggest that the general ethical fabric of the research enterprise may be at risk—not only at the student level but at the faculty level as well.

Only 10% of the science and engineering workforce hold PhDs. For this reason, the NSF Act places responsibility on NSF to “strengthen scientific [and engineering] research potential at all levels in ... various fields.” NSF's research and training programs reach individuals who

are ultimately employed by academia, industry, and government; these individuals could have a broad and positive impact on the US science, engineering and education workforce. NSF has been responsive to recommended actions contained in our individual research misconduct investigation reports. However, such agency actions only address incidents after the fact. Extrapolation of the number of allegations OIG has received across the 45,000 proposals NSF receives annually, suggests that 1,300 proposals could contain plagiarism and 450-900 proposals could contain falsified data. Since NSF funds research in virtually every non-medical research discipline, the agency is in a unique position to lead the government response to these disturbing trends at all levels of education.

OIG's Assessment of the Agency's Progress: The agency responded to the America COMPETES Act by creating a requirement that grantees submit mentoring plans for all NSF-supported postdoctoral positions and provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.

The NSF guidance is very limited compared with those instituted at NIH in 2010. OIG has observed a wide disparity among grantee RCR programs, ranging from high quality mentoring programs to programs that simply refer students to web-based or computer-based training. Early intervention remains critical to any effort to ensure that students understand proper professional practices and the implications of misconduct. We continue to receive substantive data fabrication/falsification allegations involving students, post-docs, and faculty. We currently have 24 active investigations regarding such allegations. Therefore, we believe that more needs to be done and NSF should expand its influence with institutions regarding this important issue. OIG has developed a plan to systematically review RCR plans that were initiated as a result of the America COMPETES Act. We have requested RCR plan details from 50 random grantee institutions and hope to complete that review in the near future.

Other actions the agency has taken include the development of a new ethics research program called Cultivating Cultures for Ethical STEM (CCE STEM). The CCE STEM research effort is focused on identifying the factors that create climates that foster and encourage research integrity rather than focusing on curriculum development on integrity issues. The Agency is also working with the National Academies to develop and make available ethics materials that will be applicable across all scientific fields that NSF supports.

Statistical Data

Audit Data

Audit Reports Issued with Recommendations for Better Use of Funds

		Dollar Value
A.	For which no management decision has been made by the commencement of the reporting period	\$304,895,499
B.	Recommendations that were issued during the reporting period	\$11,714,680
C.	Adjustments related to prior recommendations ³⁴ 11-1-021 NEON construction proposal 12-1-008 NEON proposal audit Total	\$(75,780,354) \$75,780,354 \$0
Subtotal of A+B+C		\$316,610,179
D.	For which a management decision was made during the reporting period	\$223,140,768
	i) Dollar value of management decisions that were consistent with OIG recommendations	\$0
	ii) Dollar value of recommendations that were not agreed to by management	\$223,140,768
E.	For which no management decision had been made by the end of the reporting period	\$93,469,411
For which no management decision was made within 6 months of issuance		\$81,754,731

³⁴ Report No. 11-1-021 was an inadequacy memorandum related to NEON's construction proposal. NEON submitted a revised proposal; and the audit of the revision was issued as Report No. 12-1-008. That report found \$154,437,748 total unallowable and unsupported costs, of which \$72,683,017 was unallowable contingencies. Both reports related to the same NEON project, but Report No. 12-1-008 was a later picture of the proposal. To clarify that the entire \$154,437,748 of funds put to better use pertained to the same project (and thus to both reports), the prior period adjustment above removes \$75,780,354 of funds put to better use from the first report, No. 11-1-021, and adds them to the \$78,657,394 previously reported in the second report, No. 12-1-008 ($75,780,354 + 78,657,394 = 154,437,748$). As a result, Report No. 11-1-021 no longer has any reported funds put to better use and is omitted from the total reported in Section D. That Section also shows that a management decision was made during the reporting period for \$223,140,768, and that this amount was not agreed to by management. The \$223,140,768 represents funds put to better use related to contingency amounts on proposals for three large facility projects, one of which is NEON. Specifically, the \$223,140,768 includes \$72,683,017 of contingency funds on NEON Report No. 12-1-008. Thus, at the end of this reporting period, \$81,754,731 (of non-contingency funds) remain unresolved on Report No. 12-1-008. ($72,683,017 + 81,754,731 = 154,437,748$).

Audit Reports Issued with Questioned Costs

		Number of Reports	Questioned Costs	Unsupported Costs
A.	For which no management decision has been made by the commencement of the reporting period	12	\$14,320,526	\$2,337,228
B.	That were issued during the reporting period	11	\$5,007,831	\$195,654
C.	Adjustment related to prior recommendations	1	-\$496,466 ³⁵	\$0
Subtotal of A+B+C			\$18,831,891	\$2,532,882
D.	For which a management decision was made during the reporting period	8	\$6,278,204	\$15,568
	Dollar value of disallowed costs	N/A	\$435,301	N/A
	Dollar value of costs not disallowed	N/A	\$5,842,903	N/A
E.	For which no management decision had been made by the end of the reporting period	15	\$12,553,687	\$2,517,314
	For which no management decision was made within 6 months of issuance	8	\$7,574,636	\$2,335,646

³⁵ Questioned costs of \$496,466 have been removed from audit resolution of OIG Report No. 12-1-005.

Status of Recommendations that Involve Internal NSF Management Operations

Open Recommendations (as of 03/31/2014)	
Recommendations Open at the Beginning of the Reporting Period	98
New Recommendations Made During Reporting Period	3
Total Recommendations to be Addressed	101
Management Resolution of Recommendations³⁶	
Awaiting Resolution	23
Resolved Consistent With OIG Recommendations	78
Management Decision That No Action is Required	0
Final Action on OIG Recommendations³⁷	
Final Action Completed	3
Recommendations Open at End of Period (09/30/2014)	98

Aging of Open Recommendations

Aging of Open Recommendations	
Awaiting Management Resolution:	
0 through 6 months	3
7 through 12 months	11
More than 12 months	9
Awaiting Final Action After Resolution	
0 through 6 months	0
7 through 12 months	39
More than 12 months	36

³⁶ "Management Resolution" occurs when the OIG and NSF management agree on the corrective action plan that will be implemented in response to the audit recommendation.

³⁷ "Final Action" occurs when management has completed all actions it agreed to in the corrective action plan.

List of Reports

OIG and CPA-Performed Reviews³⁸

Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds
14-1-001	New York University	\$75,494	\$0	\$0
14-1-002	Virginia Polytechnic Institute & State University	\$1,604,129	\$0	\$0
14-1-003	Southwest Research Institute	\$0	\$0	\$0
14-1-004	UCLA	\$2,358,380	\$131,139	\$0
14-1-005	Audit of AURA Cost Book Evaluation for the Rebaselined ATST / DKIST Project	\$0	\$0	\$11,714,680
14-1-006	University of Illinois at Urbana - Champaign	\$173,290	\$50,529	\$0
14-2-008	(Sikuliaq) NSF's Management and Oversight of the R /V Sikuliaq Construction Project	\$0	\$0	\$0
14-3-002	LSST (Alert Memo) NSF's Management of Costs Proposed for the Large Synoptic Survey Telescope Construction Project	\$0	\$0	\$0
14-3-003	NSF's Relocation to its New Headquarters Location (Alert Memo)	\$0	\$0	\$0
14-7-002	IQCR of #14-2-006 (Purchase Card Audit)	\$0	\$0	\$0
14-7-00	IQCR of #13-1-004 (ARRA Cornell University)	\$0	\$0	\$0
	Total: 11	\$4,211,293	\$181,668	\$11,714,680

³⁸ The Office issued 11 reports this semiannual period.

NSF-Cognizant Reports

Report Number	Subject	Questioned Costs	Unsupported Costs
14-4-012	3-13 Association of Science-Technology Centers - DC	\$0	\$0
14-4-013	6-13 Balboa Park Cultural Partnership - CA	\$0	\$0
14-4-014	6-13 Cal Poly Corporation - CA	\$0	\$0
14-4-015	6-13 Carnegie Institution of Washington - DC	\$0	\$0
14-4-016	6-13 Cary Institute of Ecosystem Studies - NY	\$0	\$0
14-4-017	6-13 CBIA Education Foundation - CT	\$0	\$0
14-4-018	6-13 CENIC Corporation for Education Network Initiatives California - CA	\$0	\$0
14-4-019	6-13 Exploratorium - CA	\$0	\$0
14-4-020	REVISED 12-12 Field Museum of Natural History - IL	\$0	\$0
14-4-021	6-13 IRIS Incorporated Research Institutions for Seismology - DC	\$0	\$0
14-4-022	6-13 Institute for Advanced Study - NJ	\$0	\$0
14-4-023	6-13 Kennesaw State University Research and Service Foundation - GA	\$0	\$0
14-4-024	9-13 KQED, Inc. - CA	\$0	\$0
14-4-025	6-13 Maine Mathematics and Science Alliance - ME	\$0	\$0
14-4-026	6-13 Museum of Science - MA	\$0	\$0
14-4-027	6-13 National Alliance for Partnership in Equity Education - PA	\$0	\$0
14-4-028	6-13 National Collegiate Inventors and Innovators Alliance - MA	\$0	\$0
14-4-029	9-13 NEON National Ecological Observatory Network, Inc. - CO	\$0	\$0
14-4-030	6-13 NISS National Institute of Statistical Sciences - NC	\$0	\$0
14-4-031	6-13 Oakland Museum of California - CA	\$0	\$0
14-4-032	5-13 Oregon Museum of Science and Industry - OR	\$0	\$0
14-4-033	6-13 Oregon Public Broadcasting - OR	\$0	\$0
14-4-034	6-13 Quality Education for Minorities Network - DC	\$0	\$0
14-4-035	REJECTED 6-13 Soundvision Productions - CA	\$0	\$0
14-4-036	6-13 The Adler Planetarium - IL	\$0	\$0
14-4-037	6-13 The Computing Research Association - DC	\$0	\$0
14-4-038	9-13 The Concord Consortium - MA	\$0	\$0
14-4-039	6-13 The New Mexico Consortium - NM	\$0	\$0
14-4-040	6-13 The Science Museum of Minnesota - MN	\$0	\$0
14-4-041	6-13 University of Tulsa - OK	\$0	\$0
14-4-042	6-13 Woods Hole Research Center - MA	\$0	\$0
14-4-043	6-13 University Enterprises Corporation CSUSB - CA	\$0	\$0
14-4-044	7-13 MSRI Mathematical Science Research Institute - CA	\$0	\$0

14-4-045	9-13 ARCUS Arctic Research Consortium of the United States - AK	\$0	\$0
14-4-046	6-13 Association of American Colleges & Universities - DC	\$0	\$0
14-4-047	8-13 Association of American Geographers - DC	\$0	\$0
14-4-048	6-13 California Academy of Sciences - CA	\$0	\$0
14-4-049	6-13 Island Institute - ME	\$0	\$0
14-4-050	6-13 Los Angeles County Museum of Natural History Foundation - CA	\$0	\$0
14-4-051	9-13 The Algebra Project - MA	\$0	\$0
14-4-052	9-13 UCAR University Corporation for Atmospheric Research - CO	\$0	\$0
14-4-053	3-13 Berkeley Geochronology Center - CA	\$0	\$0
14-4-054	6-13 Bishop Museum - HI	\$0	\$0
14-4-055	9-13 Fermi Research Alliance - IL	\$0	\$0
14-4-056	6-13 Friends of the North Carolina State Museum of Natural Sciences - NC	\$0	\$0
14-4-057	6-13 IUP Research Institute - PA	\$0	\$0
14-4-058	6-13 New York Hall of Science - NY	\$0	\$0
14-4-059	6-13 Old Dominion University Research Foundation - VA	\$0	\$0
14-4-060	6-13 The Ecological Society of America - DC	\$0	\$0
14-4-061	8-13 Twin Cities Public Television - MN	\$0	\$0
14-4-062	6-13 WGBH Educational Foundation 10-month audit - MA	\$0	\$0
14-4-063	6-13 New York Public Radio FKA WTNC Radio - NY	\$0	\$0
14-4-064	6-13 Rancho Santa Ana Botanic Garden - CA	\$0	\$0
14-4-065	9-13 Virtual Astronomical Observatory LLC - DC	\$0	\$0
14-4-066	9-13 AUI Associated Universities, Inc. - DC	\$0	\$0
14-4-067	6-13 Toyota Technological Institute at Chicago - IL	\$0	\$0
14-4-068	Intentionally left blank	\$0	\$0
14-4-069	9-13 Consortium for Ocean Leadership - DC	\$0	\$0
14-4-070	12-13 Council of Graduate Schools - DC	\$0	\$0
14-4-071	6-13 New Jersey Academy for Aquatic Sciences - NJ	\$0	\$0
14-4-072	8-13 Open Networking Laboratory - CA	\$0	\$0
14-4-073	6-13 American Museum of Natural History - NY	\$0	\$0
14-4-074	12-13 American Physical Society - MD	\$0	\$0
14-4-075	6-13 Five Colleges, Inc. - MA	\$0	\$0
14-4-076	6-13 MPC Corporation - PA	\$0	\$0
14-4-077	6-13 New York Botanical Garden - NY	\$0	\$0
14-4-078	REVISED 3-12 Berkeley Geochronology Center - CA	\$0	\$0
14-4-079	12-13 Missouri Botanical Garden - MO	\$0	\$0
14-4-080	12-13 Santa Fe Institute - NM	\$0	\$0

14-4-081	3-13 Decision Science Research Institute dba Decision Research - CA	\$0	\$0
14-4-082	9-13 IODP Management International - VA	\$0	\$0
14-4-083	12-13 The Chicago Zoological Society - IL	\$0	\$0
14-4-084	9-13 California Institute of Technology - CA	\$0	\$0
14-4-085	12-13 Bay Area Video Coalition - CA	\$0	\$0
14-4-086	6-13 BIOS Bermuda Institute of Ocean Sciences - NY	\$0	\$0
14-4-087	12-13 Institute of Global Environment & Society - MD	\$0	\$0
14-4-088	12-13 ICSI International Computer Science Institute - CA	\$0	\$0
14-4-089	12-13 American Association of Community Colleges - DC	\$0	\$0
14-4-090	12-13 American Mathematical Society - RI	\$0	\$0
14-4-091	Intentionally left blank	\$0	\$0
14-4-092	12-13 Horizon Research, Inc. - NC	\$0	\$0
14-4-093	12-13 Institute for Broadening Participation - ME	\$0	\$0
14-4-094	12-13 Mobile Area Education Foundation, Inc. - AL	\$0	\$0
14-4-095	12-13 Mote Marine Laboratory, Inc. & Subsidiaries - FL	\$0	\$0
14-4-096	12-13 The Samuel Roberts Noble Foundation - OK	\$0	\$0
14-4-097	12-12 Openairboston.net, Incorporated - MA	\$0	\$0
14-4-098	REVISED 6-13 SoundVision Productions - CA	\$0	\$0
14-4-099	12-13 TERC Technical Education Research Center, Inc. - MA	\$0	\$0
14-4-100	12-13 Rocky Mountain Biological Laboratory - CO	\$0	\$0
14-4-101	12-13 American Geophysical Union - DC	\$0	\$0
14-4-102	12-13 Biological Sciences Curriculum Study - CO	\$0	\$0
14-4-103	12-13The American Society for Cell Biology - MD	\$0	\$0
14-4-104	12-13 AAAS American Association for the Advancement of Science - DC	\$0	\$0
14-4-105	12-13 Carnegie Institute - PA	\$0	\$0
14-4-106	12-13 American Association of Physics Teachers - MD	\$0	\$0
14-4-107	12-13 Scientific Committee on Ocean Research - DE	\$0	\$0
14-4-108	12-13 Mathematical Association of America - DC	\$0	\$0
14-4-109	12-13 Marine Biological Laboratory - MA	\$751,581	\$0
14-4-110	12-13 Association for Institutional Research, Inc. - FL	\$0	\$0
14-4-111	9-13 Pacific Resources for Education and Learning - HI	\$0	\$0
14-4-112	12-13 REVISED American Geophysical Union - DC	\$0	\$0
14-4-113	12-13 American Educational Research Association - DC	\$0	\$0
14-4-114	12-13 Center for Severe Weather Research - CO	\$0	\$0
14-4-115	12-13 Field Museum of Natural History - IL	\$0	\$0
14-4-116	12-13 Connor Prairie Museum Inc. & Connor Prairie Foundation - IN	\$0	\$0
14-4-117	12-13 National Geographic Society - DC	\$0	\$0
14-4-118	12-13 American Chemical Society - DC	\$0	\$0

14-4-119	12-13 UNAVCO, Inc. CO	\$0	\$0
14-4-120	12-13 Start International, Inc. - DC	\$0	\$0
14-4-121	9-13 Teachers Development Group - OR	\$0	\$0
14-4-122	6-13 University Enterprises, Inc. - CA	\$0	\$0
14-4-123	12-13 The Franklin Institute - PA	\$0	\$0
14-4-124	12-13 Las Cumbres Observatory Global Telescope Network, Inc. - CA	\$0	\$0
TOTAL:		\$751,581	\$0

Other Federal Reports

Report Number	Subject	Questioned Costs	Unsupported Costs
14-5-024	8-13 Amarillo College - TX	\$2,221	\$0
14-5-037	6-13 Connecticut College	\$12,427	\$0
14-5-052	8-13 State of Texas	\$13,986	\$13,986
14-5-054	6-13 University of Hawaii	\$564	\$0
14-5-067	6-13 State of Arizona	\$12,009	\$0
14-5-119	6-13 Fisk University - TN	\$3,750	\$0
Total:		\$44,957	\$13,986

Audit Reports With Outstanding Management Decisions

This section identifies audit reports involving questioned costs, and funds put to better use where management had not made a final decision on the corrective action necessary for report resolution with six months of the report's issue date. At the end of the reporting period there were 9 reports remaining that met this condition. The status of recommendations that involve internal NSF management is described on page 49.

Report Number	Subject	Questioned Costs	Unsupported Costs	Better Use of Funds
05-1-005	RPSC Costs Claimed FY2000 to 2002	\$1,933,722	\$0	\$0
09-1-014	University of Michigan	\$1,604,713	\$1,418,889	\$0
09-5-048*	8-07 College of the Mainland - TX	\$110,629	\$0	\$0
12-1-008	NEON Proposal Audit ³⁹			\$81,754,731
12-5-143*	9-11 Fort Berthold Community College - ND	\$25,343	\$24,659	\$0
13-1-001	REVISED University of Wisconsin - Ice Cube	\$2,134,379	\$0	\$0
13-1-002	Jackson State University	\$943,475	\$844,241	\$0
13-1-004	ARRA Cornell University	\$794,221	\$19,703	\$0
13-5-094*	6-12 Fort Berthold Community College - ND	\$28,154	\$28,154	\$0
	Total:	\$7,574,636	\$2,335,646	\$81,754,731

*This report was on hold at the request of OIG.

³⁹ Resolution is on hold pending the final results of the OIG escalation memorandum of May 22, 2014.

Investigative Activities

Referrals to Prosecutors	8
Criminal Convictions/Pleas	3
Arrests	3
Civil Settlements	5
Indictments/Information	6
Investigative Recoveries	\$1,133,085.60
Referrals to NSF Management for Action	29
Research Misconduct Findings	8
Suspensions/Debarments/Exclusions	15
Administrative Actions	55
Certifications and Assurances Received ⁴⁰	19

Investigative Case Statistics

	<u>Preliminary</u>	<u>Civil/Criminal</u>	<u>Administrative</u>
Active at Beginning of Period	5	131	116
Opened	14	31	36
Closed	11	38	42
Active at End of Period	8	124	110

Freedom of Information Act and Privacy Act Requests

Our office responds to requests for information contained in our files under the freedom of Information Act (“FOIA,” 5 U.S.C. § 552) and the Privacy Act (5 U.S.C. § 552a). During this reporting period:

Requests Received	10
Requests Processed	9
Appeals Received	0
Appeals Upheld	0

Response times ranged between 2 days and 80 days, with the median around 15 days and the average around 20 days.

⁴⁰ NSF accompanies some actions with a certification and/or assurance requirement. For example, for a specified period, the subject may be required to confidentially submit to OIG a personal certification and/or institutional assurance that any newly submitted NSF proposal does not contain anything that violates NSF regulations.

*National Science Foundation
Office of Inspector General
4201 Wilson Blvd., Suite 1135
Arlington, Va 22230
703.292.710*

*<http://www.nsf.gov/oig>
To report fraud, waste,
of abuse, call our hotline
1.800.428.2189*