

Semiannual Report to Congress

April 1 – September 30, 2024



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From the Inspector General



I am pleased to present our semiannual report, which summarizes our work and accomplishments during the second half of fiscal year 2024. In this reporting period, our work led to nearly \$1.7 million in potential savings to taxpayers, including \$1,530,591 in investigative recoveries and \$130,688 in questioned costs. Additionally, we worked with NSF to resolve 264 recommendations on 16 previous audits of award recipients, and NSF sustained more than \$2 million in questioned costs resulting from these audits.

Our audits of NSF programs and operations continued to promote effectiveness, efficiency, and integrity. During this period, we reported on NSF's information security program, including vulnerabilities identified in NSF and U.S. Antarctic Program (USAP) networks. We also assessed NSF's and its contractor's actions to prevent and respond to sexual harassment in the USAP and recommended that NSF expand contract requirements for sexual harassment prevention programs, reporting, and investigation. Additionally, in response to a congressional request, we reviewed NSF's compliance with requirements to protect whistleblowers and reported that NSF included statements informing federal employees of their right to report wrongdoing in applicable nondisclosure policies, forms, and associated agreements, as required.

We continued to address internal and external threats to the integrity of NSF-funded research by investigating wrongdoing involving organizations and individuals that receive awards from NSF. Notably, during this period, a university agreed to pay \$500,000 as part of a *False Claims Act* settlement agreement to resolve allegations that it failed to disclose foreign research support. As part of a proactive review, we found the university failed to disclose current and pending support from foreign sources for faculty members who were PIs or co-PIs in proposals submitted to NSF and another agency.

Investigating criminal sexual assaults and other crimes in Antarctica under the Special Maritime and Territorial Jurisdiction of the United States remains a top priority. During this period, our special agents investigated allegations of sexual assault and sexual harassment from a contract employee against another contract employee at McMurdo Station in Antarctica. In another case, as a result of our investigation, a contract employee hired to serve as a firefighter at McMurdo Station was sentenced to a year of probation for making false statements and providing forged documentation to NSF during the medical screening process. We continue to work toward having an on-site presence during the austral summer seasons and plan to deploy two 2-person teams of investigators for 30 days each in October– November 2024 and January – February 2025. We will continue to work with NSF to address this challenging new mission.

Finally, I am happy to announce our office's inclusion in the "[2023 Best Places to Work in the Federal Government: Top Workplaces Edition](#)" in partnership with *The Washington Post*. Our office ranked seventh in the subcomponent category as an exemplary government organization. The "best places to work" rankings are based on the annual Federal Employee Viewpoint Survey (FEVS).

As always, we remain committed to protecting taxpayer funds and safeguarding the integrity of NSF's operations and investments in science. Our partnership with NSF management and staff, the National Science Board, and Congress is critical to fulfilling this mission, and we appreciate their support for our work.

Allison C. Arnes



Audits and Reviews

The Office of Audits, Inspections, and Evaluations provides independent and objective assessments of NSF's programs and operations. We also audit grants, contracts, and cooperative agreements funded by NSF. Our oversight work helps NSF improve its business policies and practices to better support its mission.

Audits and Reviews of NSF Programs and Operations

Review of NSF's U.S. Antarctic Program Sexual Harassment Prevention and Response

NSF facilitates U.S. scientific research efforts in Antarctica through the U.S. Antarctic Program (USAP) and operates three stations in Antarctica. Logistical support for these stations is accomplished through the Antarctic Support Contract. In August 2022, NSF publicly released the [Sexual Assault/Harassment Prevention and Response Report](#) (SAHPR Report), which it commissioned to examine the extent of sexual harassment and sexual assault in the U.S. Antarctic Program community and identify corrective actions. We assessed NSF's and its contractor's actions to prevent and respond to sexual harassment in the USAP.¹

Before the release of the 2022 SAHPR Report, NSF primarily relied on the Antarctic Support Contractor (ASC) to manage its harassment reporting and response efforts. Since then, NSF has gradually assumed a greater leadership role and has taken steps to help prevent and respond to sexual harassment. However, NSF could consider additional measures to help prevent and respond to sexual harassment through the next Antarctic Support Contract. For example, the current Antarctic Support Contract does not include standards for the ASC and its subcontractors related to sexual harassment prevention, reporting, and investigation. We found that the lack of standards for investigations may have led to inconsistency in how investigations were conducted and contributed to a lack of trust in the USAP employers' ability to properly investigate sexual harassment allegations and prevent retaliation. We also reported on the ASC's and its subcontractors' policies related to harassment prevention, reporting, and investigations. NSF agreed with our recommendations to expand contract requirements for sexual harassment prevention programs, reporting, and investigation.

Review of Protected Disclosure Provisions in NSF's Agreements with Federal Employees

Federal employee whistleblowers — individuals who report allegations of wrongdoing such as a violation of law, abuse of authority, or gross mismanagement — help safeguard the government from fraud, waste, and abuse. However, federal employees may risk reprisals from their agencies

¹ Sexual assaults and stalking are criminal offenses. Our Office of Investigations is taking action to address sexual assaults and stalking.

for their disclosures, and federal laws are in place to help protect them from workplace retaliation for whistleblowing. The *Whistleblower Protection Enhancement Act* requires nondisclosure agreements and policies to contain language informing employees that their statutory right to disclose wrongdoing supersedes the terms and conditions of the agreement or policy. In response to a request from Ranking Member Grassley of the U.S. Senate Committee on the Budget, we reviewed the extent to which NSF included the required protected disclosure language in its nondisclosure policies, forms, and related agreements.

We found that NSF included statements informing federal employees of their right to report wrongdoing in applicable nondisclosure policies, forms, and associated agreements, as required. We also identified two documents in which NSF could include more information, although it is not required, to ensure employees fully understand their rights to report wrongdoing when signing nondisclosure agreements. NSF agreed with our recommendation to consider including such information in the two non-required documents.

Internal Penetration Testing of the NSF and U.S. Antarctic Program Networks

NSF depends on computerized information systems to process, maintain, and report essential information. The *Federal Information Security Modernization Act of 2014* (FISMA, Pub. L. No. 113-283) requires us to evaluate NSF's information security program and practices. As part of this evaluation, OIG contractors performed internal penetration testing of the NSF and USAP applications. The contractors sought to demonstrate the security controls' effectiveness and each network's susceptibility to exploitation and data breaches. The contractors determined NSF and USAP networks presented a medium-risk attack surface.² The contractors identified multiple vulnerabilities that may pose a significant risk to NSF's and USAP's information systems. NSF agreed with the contractor's recommendation to remediate the vulnerabilities identified using NSF's vulnerability management procedure.

Audits of NSF Award Recipients

Audits of Industry-University Cooperative Research Center Awards

We audited [North Carolina State's](#) (NC State) and the [University of Pittsburgh's](#) (Pitt) Industry-University Cooperative Research Center (IUCRC) awards. These audits sought to determine if the award recipients mitigated potential conflicts of interest; properly managed and accounted for program income; and claimed costs that were allowable, allocable, reasonable, and consistent with NSF award terms and conditions and applicable federal requirements.

Our audit of NC State's management of its NSF IUCRC Center for Advanced Forestry Systems award — which aims to address challenges facing the wood products industry, landowners, and forestland managers — found NC State did not fully comply with award terms and conditions. NC

² An attack surface is the sum of vulnerabilities, pathways, or methods that hackers can use to gain unauthorized access to the network or sensitive data, or to carry out a cyberattack.

State did not execute membership agreements with its industry members; properly track receipt of membership dues and expenditures; or report its program income and expenditures to NSF, as required. NC State agreed with our recommendations to strengthen controls to ensure compliance with IUCRC award requirements.

We also audited Pitt’s management of its NSF IUCRC Center for Space, High-Performance, and Resilient Computing award, which assists industrial partners, government agencies, and research organizations in mission-critical computing research. We found that Pitt generally complied with award requirements. Pitt properly tracked and reported its membership dues and program income expenditures. It also had a conflicts of interest policy that met all the award requirements, and it followed that policy for the award. We found one unallowable cost related to the purchase of promotional items and questioned \$1,350. Pitt agreed with our recommendation to resolve the questioned costs and removed the \$1,350 from the project.

Audits of Award Recipients Resulted in Recommendations to Strengthen Controls and Recover \$130,000 in Questioned Costs

OIG staff and contractors completed audits of five NSF award recipients (including the two audits of IUCRC award recipients previously described) that expended nearly \$130 million of NSF funds during the respective audit periods. The audits assessed the allowability, allocability, and reasonableness of costs charged to NSF and resulted in more than \$130,000 in questioned costs. The findings included unallowable costs, inadequately supported costs, and inappropriately allocated costs. The auditors recommended that the award recipients strengthen controls over the areas that led to the questioned costs and that NSF recover the questioned costs.

Reports of Award Recipients this Semiannual Period

Report No.	Award Recipient	Questioned Costs
24-1-010	University of Pittsburgh	\$1,350
24-1-011	University of Alabama	\$41,311
24-1-012	Iowa State University	\$9,709
24-1-013	Brown University	\$78,318
24-1-014	North Carolina State University	\$0
Total		\$130,688

Source: NSF OIG

Reviews of Single Audits

Quality of Single Audits Decreased from Prior Period

Uniform Guidance³ requires colleges, universities, and non-profit organizations that expend \$750,000 or more a year in federal awards to obtain an annual independent financial audit,

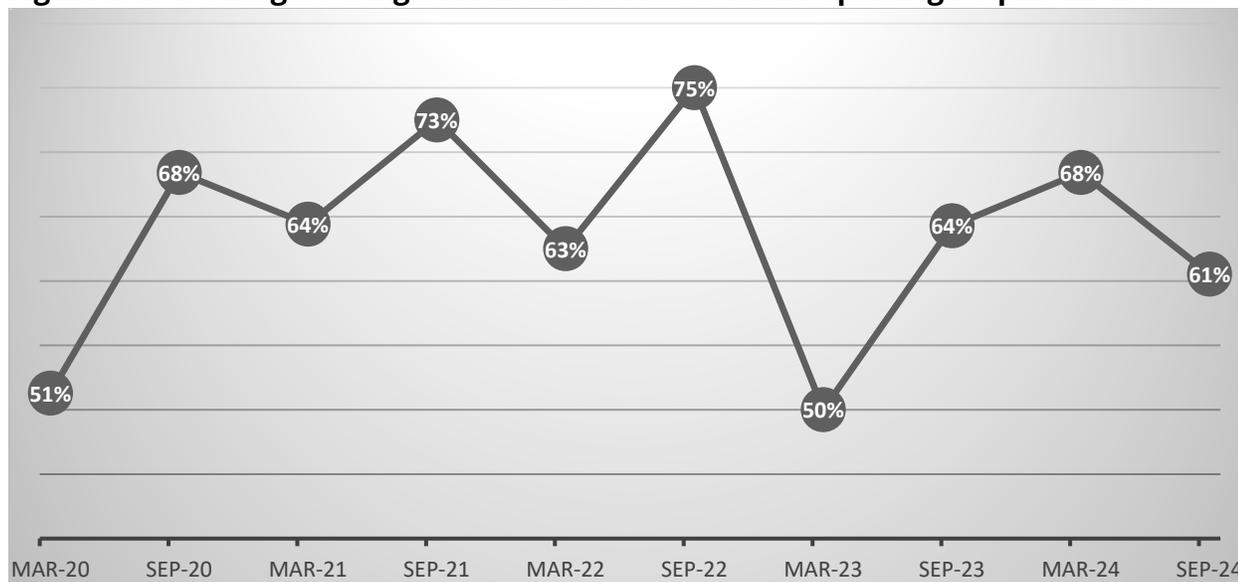
³ 2 C.F.R. Pt. 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*



referred to as a "single audit." NSF relies on single audit report results to plan its oversight efforts, including site visits and other post-award monitoring. We conduct desk reviews on all single audit reporting packages for which NSF is the cognizant or oversight agency.⁴ During a desk review, we examine the audit reporting package, which includes financial statements, a schedule of federal award expenditures, and the auditors' reports, but not the underlying auditors' audit documentation, to determine whether it meets Uniform Guidance, Generally Accepted Government Auditing Standards (GAGAS), and American Institute of Certified Public Accountants (AICPA) audit standards.

During this period, we conducted desk reviews of 38 single audit reporting packages. The audits were conducted by 27 different independent public accounting firms and covered more than \$1.1 billion in total federal expenditures, including approximately \$448 million in NSF direct expenditures. There was a decrease (7 percent) from the prior period in audit reporting packages that fully met federal reporting requirements. Also, the percentage of audit reporting packages that fully met federal reporting requirements during the period was slightly lower than the 5-year average of 64 percent. As shown in Figure 1, 23 audit reporting packages (61 percent) fully met federal reporting requirements.

Figure 1. Percentage of Single Audits That Met Federal Reporting Requirements



Source: NSF OIG Semiannual Reports

We identified deficiencies in 15 audit reporting packages, including reporting packages submitted after required deadlines; audit reports missing required language; inaccurate financial statements; incomplete identification of awards within the major programs; inaccurate Schedules of Expenditures of Federal Awards; audit report findings with missing elements and insufficient information to support audit resolution; incomplete and inaccurate reporting on the Data Collection Form; incomplete Corrective Action Plans; and missing and inaccurate Summary Schedule of Prior Audit Findings.

⁴ Generally defined as an awardee's predominant federal funding agency.

For errors that potentially impacted an audit reporting package's reliability, we obtained explanations or additional information from the auditors and awardees to ensure federal agencies could ultimately rely on the audit reporting package. However, in three instances, we rejected the audit reporting package because it was unreliable due to significant errors. For all reviews, we sent the auditor and awardee a memorandum describing the results of our review and the actions needed to improve the quality and reliability of future audits. We also provided a copy of the memorandum to the awardee's other federal funding agencies for their use in monitoring and oversight. In the instances where we rejected the audit, we separately referred the auditor to the AICPA Professional Ethics Division and Peer Review Program for additional review.

American Institute of Certified Public Accountants Admonishes Auditors in Response to Referral

We previously reported on a referral of the auditors for the Center for Severe Weather Research, Inc.⁵ In May 2024, the AICPA's Professional Ethics Executive Committee sustained our referral and entered a settlement agreement with the auditors under the Joint Ethics Enforcement Program. The settlement agreement included a public admonishment of the auditors on the AICPA website and imposed significant remedial action. Specifically, the auditors are required to attest every 6 months for a period of 3 years that they are not performing audits (including audits subject to GAGAS), reviews, or compilations with note disclosures. If the auditors return to this work, they must take additional training; hire outside firms to conduct pre-issuance and post-issuance reviews of their work; enroll in the AICPA's Peer Review program and join the AICPA's Governmental Audit Quality Center; and refrain from performing peer reviews, serving on AICPA or state CPA societies, and teaching continuing professional education courses until all remedial actions are satisfactorily completed.

Quality Control Review of CohnReznick LLP

Quality Control Reviews (QCR) consist of in-depth reviews of auditor documentation in support of single audits. QCRs are an important tool for determining whether single audits meet relevant auditing standards and reporting requirements, and for helping to improve future audit quality. Firms can receive a QCR rating of Pass, Pass with Deficiencies, or Fail. During this period, we issued one report on our QCR of CohnReznick LLP's Single Audit of Cal State L.A. University Auxiliary Services, Inc. (UAS) for the year ended June 30, 2022. We issued a rating of Pass. We determined that CohnReznick met all relevant audit standards and the requirements of 2 C.F.R. 200. They adequately planned, performed, and documented their FY 2022 audit of UAS, rendering it reliable for federal agencies and pass-through entities to use in their management of awards to UAS.

⁵ March 2020 SAR, p. 5

Audit Resolution

We work with NSF to resolve recommendations concerning NSF programs and operations, as well as recommendations to improve controls and recover questioned costs pertaining to award recipients, such as universities.

To resolve recommendations pertaining to NSF programs and operations, NSF sends a corrective action plan to our office with proposed actions and milestone dates. We review the plan and work with NSF to ensure the proposed corrective actions are timely and responsive to the report's recommendations. When we accept the corrective action plan, the recommendations are resolved. Once NSF provides evidence that it has implemented the corrective action and we confirm the work is done, we close the recommendation.

Our audit reports involving external organizations generally contain recommendations to improve internal controls and/or recover questioned costs claimed by the award recipients. In such cases, NSF formally issues our report to the auditee and reviews the auditee's response to the report's recommendations. NSF then provides us with a draft management decision record, which details its reasons for sustaining or not sustaining recommendations and questioned costs. Once we agree with NSF's management decision, the recommendations are resolved. NSF notifies our office when it confirms that the auditee has completed corrective actions and repaid questioned costs. We close the recommendations once we receive this notification.

NSF Resolved Remaining Weaknesses Identified in FY 2019 and FY 2021 FISMA Audits

NSF implemented controls and achieved final operating capability to address the remaining weakness identified in our report⁶ on NSF's Information Security Program for FY 2019, which included 23 recommendations to improve IT security. (NSF addressed the other recommendations in previous SAR reporting periods.) NSF also implemented tools and developed processes to address the last remaining weakness identified in our report⁷ on the program for FY 2021. As of July 2024, all recommendations associated with these audit reports were closed.

NSF Strengthened its Controls over Network Security Segments, Systems, and Applications

We confirmed that NSF implemented all corrective actions from our report *External Penetration Testing of National Science Foundation and U.S. Antarctic Program Networks*.⁸ Specifically, NSF patched and/or remediated all identified vulnerabilities and validated that the vulnerabilities no longer exist. NSF also conducted regular security testing, coded reviews, and web application scans. Finally, NSF ensured that NSF and USAP IT Security and Privacy Awareness Training included training on policies regarding the use of NSF and USAP email for official business.

⁶ NSF OIG Report No. 20-2-002, November 22, 2019

⁷ NSF OIG Report No. 22-2-003, November 17, 2021

⁸ NSF OIG Report No. 24-6-001, November 15, 2023

NSF Strengthened its Controls Over the Graduate Research Fellowship Program

We confirmed that NSF implemented corrective actions for all 6 recommendations in our report *Audit of NSF's Controls over Graduate Research Fellowship Program (GRFP) Funding*.⁹ NSF enhanced information technology controls and data analytics to enforce GRFP award requirements and ensure accurate payments; implemented a monitoring program that includes site visits to ensure institutions have the necessary policies and procedures to comply with program requirements; and updated its *GRFP Administrative Guide*. NSF also conducted an outreach webinar series to communicate program requirements to applicants, fellows, and institutions.

NSF Sustained \$2,114,268 of Questioned Costs

NSF and NSF OIG resolved 264 recommendations on 16 previous audits of award recipients this semiannual period. NSF sustained \$2,114,268 in questioned costs, as shown in the following table.

Reports of Award Recipients Resolved This Semiannual Period

Report Number	Issue Date	Award Recipient	Questioned Costs	Sustained Questioned Costs
20-1-004	7/13/2020	University of North Carolina at Chapel Hill	\$744,671	\$744,671
20-1-005	7/23/2020	University of Houston	\$133,305	\$133,305
21-1-002	12/17/2020	Texas A&M University	\$137,558	\$125,436
21-1-019	8/30/2021	University of Pittsburgh	\$106,659	\$103,765
21-1-020	9/29/2021	University of California, San Francisco	\$136,810	\$97,310
22-1-002	12/9/2021	University of Texas at Dallas	\$249,210	\$249,210
22-1-003	4/15/2022	University of California, Merced	\$226,652	\$221,170
22-1-006	6/21/2022	California Polytechnic State University Foundation	\$30,177	\$21,368
22-1-008	6/28/2022	Education Development Center	\$88,089	\$88,089
23-1-002	10/28/2022	Computing Research Association	\$319,674	\$318,695
23-1-004	2/3/2023	University of North Carolina at Charlotte	\$6,048	\$6,048
23-1-007	6/23/2023	Ohio State University	\$960	\$960
23-1-008	7/18/2023	Smithsonian Institution Astrophysical Observatory	\$2,496	\$0
23-1-009	8/4/2023	Monterey Bay Aquarium Research Institute	\$2,891	\$2,891
24-1-009	3/12/2024	Virginia Polytechnic Institute and State University	\$0	\$0
24-1-010	5/10/2024	University of Pittsburgh	\$1,350	\$1,350
Total			\$2,186,550	\$2,114,268

Source: NSF OIG

⁹ NSF OIG Report No. 23-2-004, March 30, 2023



NSF also required the award recipients to strengthen internal controls over the areas that led to the questioned costs.

Investigations

The Office of Investigations is dedicated to promoting effectiveness and efficiency in NSF programs and operations. We investigate wrongdoing involving organizations or individuals that receive awards from, conduct business with, or work for NSF.

Program Integrity Investigations

We investigate allegations concerning misappropriation and misuse of NSF funds, false statements in documents submitted to NSF, and NSF employee misconduct. When we identify a violation of a criminal or civil statute, we refer our investigation to the U.S. Department of Justice (DOJ) for criminal prosecution or civil action; if the case is accepted, we work with DOJ attorneys to support any resulting litigation. When appropriate, we also refer matters to NSF for administrative action, such as award termination and government-wide suspension or debarment. The following are brief descriptions of case outcomes during this semiannual period:

Contract Employee Sentenced for Providing Forged Medical Documents

A contract employee hired to serve as a firefighter at McMurdo Station in Antarctica made false statements and provided forged documentation to NSF during the medical screening process. During his interview, the employee also made false statements to federal investigators. The employee pleaded guilty to one count of making a false writing and was sentenced to one year of probation. DOJ issued a [press release](#) about this case.

Small Business Settled *False Claims Act* Allegations Involving Work Performed Overseas

As part of a civil settlement agreement, a Small Business Innovation Research (SBIR) company agreed to pay \$37,700 to resolve potential *False Claims Act* liability. A proactive review and subsequent investigation revealed the company's principal investigator (PI) charged 400 hours of time for work conducted while abroad, in violation of the SBIR program's requirement that all research be performed in the United States. The company falsely certified to NSF that all research had been performed in the United States.

Former PI Debarred for Funding and Affiliation Disclosure Failures

A PI at a university evaded an IG subpoena and violated NSF's *Proposal and Award Policies & Procedures Guide* (PAPPG) and award terms and conditions by failing to disclose foreign research funding and affiliations in three NSF grant proposals, after being specifically advised by the PI's institution to make such disclosures. Based on our recommendation, NSF debarred the PI for 3 years and prohibited the PI from serving as a peer reviewer at NSF for 3 years.

Sexual Assault Allegation Investigated, Report Sent to NSF

We investigated allegations of sexual assault and sexual harassment from one contract employee against another contract employee at McMurdo Station in Antarctica. We referred the case to DOJ, but no further criminal action was taken because the victim did not want to pursue criminal charges. Sexual assault and harassment violate the Polar Code of Conduct and other NSF policies. We issued a report of investigation to NSF, which recommended that NSF take any administrative actions NSF deems appropriate. NSF's response is pending.

Small Business Agreed to Pay \$152,000 To Settle Primary Employment Violations

As part of a civil settlement agreement, an SBIR company agreed to pay more than \$152,000 to settle *False Claims Act* allegations. A proactive investigation involving SBIR recipients revealed the SBIR company's PI was employed full-time with another company while concurrently serving as the PI on the SBIR award, in violation of the SBIR program's primary employment requirements. The company falsely certified to NSF that its PI was primarily employed by the awardee.

Two NSF Employees Failed to Follow Government Purchase Card Policy

We investigated an allegation that a Government Purchase Card (GPC) cardholder and an approving official did not follow NSF's Purchase Card Handbook and Policy Manual. Our investigation revealed that required documentation was missing from the GPC database. Additionally, the GPC cardholder and approving official failed to report a fraudulent charge on the GPC, resulting in a \$3,448 charge to NSF. The cardholder and approving official were suspended from their GPC duties. We issued a report of investigation recommending NSF take appropriate administrative action. NSF's decision is pending.

Actions Resulting from Previously Reported Program Integrity Investigations

This section describes actions taken on cases discussed in previous Semiannual Reports to Congress (SAR). Investigations may span multiple years and result in a variety of outcomes over multiple semiannual reporting periods. For example, criminal or civil matters may result in prosecution, settlement agreements, fines, and repayments. NSF may take administrative actions such as suspension and termination of awards, or debarments of individuals and businesses. Additionally, universities may return award funds and/or improve policies and procedures.

University Agreed to Pay \$500,000 to Resolve Allegations That It Failed to Disclose Foreign Research Support

We previously reported¹⁰ that NSF suspended four awards to a university because the PIs did not

¹⁰ SAR October 2022 - March 2023, p. 10

disclose all current and pending support in their proposals as required by NSF's PAPPG. As part of a proactive review, we found the university failed to disclose current and pending support from foreign sources for faculty members who were PIs or co-PIs in five proposals submitted to NSF and another agency. We referred the matter to DOJ, and a civil case was opened. As a result, the university entered a *False Claims Act* settlement agreement with DOJ and agreed to pay \$500,000, of which more than \$240,000 was returned to NSF. DOJ issued a [press release](#) about this case.

Professor Debarred for 3 Years After Tax Conviction; Award Closed

We previously reported¹¹ a professor was indicted on three counts of making a false or fraudulent statement on a tax return, two counts of wire fraud (which were later dismissed), one count of false statement to NSF, and one count of failure to file a report of a foreign bank account. The professor was convicted of three counts of making a false or fraudulent statement on a tax return and one count of failure to file a report of a foreign bank account. The judge sentenced the professor to 1 year probation. During this reporting period, NSF debarred the professor for 3 years based on our recommendation. Additionally, at our recommendation, NSF suspended, and later closed the award, resulting in more than \$145,000 in funds put to better use.

Research Misconduct Investigations

Research misconduct damages the scientific enterprise, is a potential misuse of taxpayer dollars, and undermines the public's trust in government-funded research. NSF-funded researchers must carry out their projects with the highest ethical standards. Pursuing allegations of research misconduct — plagiarism, fabrication, and falsification — continues to be a focus of our investigative work. NSF takes research misconduct seriously, as do NSF's awardee institutions.

For each case described in this section, we recommended that NSF make a finding of research misconduct, issue a letter of reprimand, and require interactive responsible conduct of research (RCR) training.¹² Additional actions are described below. Unless otherwise specified, NSF's decisions are pending.

PI Fabricated and Falsified Data in Six NSF-Funded Publications

An NSF PI fabricated and falsified data in six NSF-funded publications and three non-NSF-funded publications. The PI's university contracted an investigator who concluded the PI committed significant fabrication and falsification in the nine publications by reporting research that did not occur, duplicating data, presenting estimated results as exact measurements, and using undisclosed formulas. The university agreed with the investigator's findings for eight publications; however, it found the evidentiary record incomplete for one of the NSF-funded publications. The PI resigned from the university.

¹¹ SAR April – September 2021, p. 3; SAR April 2022 – September 2022, p. 3

¹² NSF refers to RCR training as “responsible and ethical conduct of research (RECR)” training.

We concluded that the PI intentionally fabricated and falsified data in each NSF-funded paper and that his actions were a significant departure from the accepted practices of the scientific community. We also concluded that he exhibited a pattern of misconduct, and that his actions impacted the research record, other researchers, and the university.

We recommended NSF debar the PI for 3 years and, for 6 years, require contemporaneous certifications that any proposals or reports submitted to NSF do not contain plagiarized, falsified, or fabricated material (certifications); submit contemporaneous assurances by a responsible official of the PI's employer that any proposals or reports submitted to NSF do not contain plagiarized, falsified, or fabricated material (assurances); prohibit him from participating as an NSF peer reviewer, advisor, or consultant; and require a data management plan with annual certifications. We also recommended NSF require compliance with university-imposed requirements.

Former Graduate Student Confessed to Data Falsification in Publication, Dissertation

A former graduate student confessed to his advisor that he falsified data in an NSF-supported publication and a chapter of his dissertation. The university determined that an investigation was unwarranted because the former graduate student admitted his misconduct. We determined that a full investigation was warranted to ascertain the scope of the former graduate student's misconduct and referred the investigation to the university.

During the investigation, the former graduate student confessed to another instance of research misconduct associated with his undergraduate thesis at another institution. Ultimately, the university found the former graduate student committed four separate instances of data fabrication and/or falsification and rescinded his Ph.D.

We concurred that the former graduate student committed research misconduct. We found the former graduate student committed four acts of falsification, three of which had a nexus to NSF. Because the former graduate student freely confessed his misconduct and accepted full responsibility for his actions, we did not recommend debarment. Instead, we recommended NSF require the former graduate student provide certifications and assurances with each document he submits to NSF and prohibit the former graduate student from serving as a reviewer, advisor, or consultant to NSF for 3 years.

Professor Plagiarized in Publication by Posting Without Proper Attribution

We received an allegation that a professor plagiarized in a publication that acknowledged NSF support. The university's investigation found that the professor plagiarized when he co-authored and posted a publication that lacked proper attribution to another paper. The university also found that the professor plagiarized when he published multiple papers that leveraged his prior work without properly attributing the earlier work. The university made a research misconduct finding and required the professor to submit plagiarism reports to a university official before

submitting publications or proposals; to complete RCR training; and to ensure that the research record is fully corrected with regard to the investigated publications.

We concurred with the university that the researcher plagiarized when he posted a publication that lacked proper attribution to another paper. Regarding the professor's reuse of his prior work, we found that this did not meet the definition of plagiarism under the NSF Research Misconduct Regulation; please see the sidebar for more information about reuse of prior work.

In addition to a finding of research misconduct, we also recommended NSF require the professor to provide certifications and assurances with each document he submits to NSF and prohibit the professor from serving as a reviewer, advisor, or consultant to NSF for 1 year.

NSF Actions Taken on Previously Reported Research Misconduct Investigations

This section describes actions taken on cases discussed in previous SARs. Investigations may span multiple years and result in a variety of outcomes over multiple semiannual reporting periods. During this reporting period, NSF acted on five research misconduct investigations, as summarized below. Each case resulted in NSF making a research misconduct finding, issuing a letter of reprimand, and requiring interactive RCR training. Additional actions are described below:

- In the case of the PI who admitted to plagiarism in a proposal,¹³ but appealed an NSF action, NSF upheld its research misconduct finding and actions.

¹³ SAR April – September 2022, p. 7; SAR October 2023 – March 2024, p. 7

Investigator Insight: Reuse of Authors' Own Text

During plagiarism investigations, we sometimes find that authors reused their own previously written material, often from a document with multiple authors. We then assess the original document to determine if the reuse constitutes plagiarism according to the definition in NSF's Research Misconduct Regulation:

*Plagiarism is the appropriation of **another person's** ideas, processes, results, or words without giving appropriate credit. (see 45 C.F.R. § 689.1(a)(3); emphasis added)*

In multiple-authored documents, we assess if the original document contains demarcations, such as subsections with named authors, that clearly indicate specific authorship within the document. We consider multiple-authored documents without such demarcations to be jointly written by all the document's authors. As such, any of the document's authors may reuse the jointly written material, and such reuse does not meet the definition of plagiarism under NSF's Research Misconduct Regulation.

- In the case of the professor who intentionally plagiarized from a resume and other sources into multiple proposals,¹⁴ we recommended that NSF require the professor provide certifications and assurances; prohibit the professor from participating as an NSF reviewer, advisor, or consultant for 5 years; debar the professor for 3 years; and require a mentoring plan with annual certifications. NSF concurred and implemented our recommendations.
- In the case of the PI who received a copy of a funded NSF proposal to use as an example and then plagiarized from it,¹⁵ NSF prohibited the PI from participating as an NSF reviewer, advisor, or consultant, and required certifications and assurances for 2 years. The PI appealed the imposition of certifications and assurances and the requirement to take RCR training because the actions were duplicative of actions he had already completed for the university. Noting the PI's rigorous compliance with the university's sanctions and the length of the matter's pendency at NSF, NSF rescinded the requirements for certifications and assurances and RCR training and reduced the prohibition from serving as a peer reviewer, advisor, or consultant for NSF to 1 year.
- In the case of a PI who falsified participation in outreach activities in an annual report,¹⁶ we previously recommended NSF require the PI to provide certifications and assurances and prohibit the PI from participating as an NSF peer reviewer, advisor, or consultant for 3 years. NSF imposed the recommended actions for 2 years.
- In the case of the graduate student who falsified data in papers,¹⁷ we recommended that NSF debar the student for 3 years and prohibit him from participating as an NSF peer reviewer, advisor, or consultant for 5 years. NSF imposed the recommended sanctions.

Administrative Investigations

Our office investigates a variety of allegations that are not pursued as criminal or civil matters or do not meet the definition of research misconduct. These cases, which are resolved administratively, include allegations such as retaliation against whistleblowers, violations of human and animal subject regulations, violations of peer review confidentiality, conflicts of interest, and employee misconduct.

Site Visit Panelist Used Confidential Information in Proposal to Another Federal Agency

We received an allegation that a scientist at a small business violated the confidentiality of an NSF site visit review. We found that the scientist submitted a proposal to another federal agency that included confidential information he received during the site visit. The scientist acknowledged he copied a figure and entries from a table he obtained during the site visit into his proposal and that

¹⁴ SAR April – September 2023, pp. 4-5

¹⁵ SAR October 2022 – March 2023, p. 13; SAR October 2023 - March 2024, p. 7

¹⁶ SAR October 1, 2023 - March 31, 2024, p. 5

¹⁷ SAR October 1, 2023 - March 31, 2024, p. 6

he mistakenly alluded to the site visit while discussing another topic. We recommended NSF take appropriate administrative action.

Professor Used Confidential Information From Program Officer Review in Own Proposal

A professor, while serving as an NSF Program Officer, allegedly obtained confidential information to which he had access and plagiarized from it into his own proposal. Our inquiry determined the professor plagiarized in his proposal and in the final report after the proposal was awarded. We recommended NSF suspend the professor from participating as a peer reviewer, advisor, or consultant for NSF, pending the outcome of our investigation. NSF agreed with and implemented our recommendations.

Professor Used Confidential Information From Ad Hoc Review in Own Proposal

A professor allegedly plagiarized confidential information from a proposal she reviewed into her own proposal. Our inquiry determined the professor plagiarized in her proposal and in the final report after the proposal was awarded. We recommended NSF suspend the professor from participating as a reviewer, advisor, or consultant for NSF, pending the outcome of our investigation. NSF agreed with and implemented our recommendation.

Former Associate College Professor Subjected to Whistleblower Reprisal

A former associate college professor alleged that a college retaliated against her for making protected disclosures about fraud related to the college's NSF award. The former associate professor made disclosures to college leadership, the college's Ethics Hotline, and NSF OIG. The college then placed her on a performance improvement plan and later decided not to renew her faculty contract. We investigated this matter under the whistleblower protection provisions of 41 U.S.C. § 4712 and reported our findings to NSF. NSF concluded that the former associate professor's protected disclosures were a contributing factor to the college's adverse actions against her, and that the record did not establish by clear and convincing evidence that the college would have taken the actions absent the protected disclosures. NSF required the college to take actions consistent with its obligation under 41 U.S.C. § 4712, including reinstatement, compensatory damages, and payment of costs and expenses. However, the matter is still pending because administrative proceedings have not concluded, and the college has sought to challenge the disposition in federal appeals court.

Former CEO of Non-Profit Alleged Whistleblower Retaliation by Board

A former chief executive officer (CEO) of a non-profit organization alleged that the organization's board of directors (Board) retaliated against the CEO for making protected disclosures about violations of laws, rules, or regulations related to NSF awards. The CEO made disclosures to the executive committee of the Board and the organization's external auditor. We investigated this matter under the whistleblower protection provisions of 41 U.S.C. § 4712 and reported our

findings to NSF. NSF concluded that clear and convincing evidence established the Board would have taken the actions against the CEO absent the protected disclosures.

Peer Review

Office of Audits, Inspections, and Evaluations

Federal audit organizations performing work under Government Auditing Standards must have an external peer review by an independent organization every 3 years. The reviews follow the Council of the Inspectors General on Integrity and Efficiency's guidelines and focus on the audit organization's quality control system. A quality control system includes the office's organizational structure, as well as policies and procedures that facilitate compliance with *Generally Accepted Government Auditing Standards*. Audit organizations can receive a rating of pass, pass with deficiencies, or fail. In March 2024, our Office of Audits received a rating of "pass" for the year ending September 30, 2023. A copy of the final peer review report is posted on our [website](#).

Office of Investigations

Per the guidelines established by the Council of the Inspectors General on Integrity and Efficiency and the Attorney General's Guidelines for Offices of Inspector General with Statutory Law Enforcement Authority, the Office of Investigations underwent a Quality Assessment Review (Peer Review) in April 2023 by the U.S. Department of State Office of Inspector General. For these peer reviews, investigative offices can receive a rating of compliant or non-compliant. We received a rating of "compliant." Further, the review identified two best practices — one related to our evidence program and the other relating to our proactive efforts in addressing plagiarism within the research community.

Statistical Tables

Investigative Outcomes

Investigative Reports Issued to NSF Management for Action ¹⁸	11
Referrals to DOJ Criminal Prosecutors (individuals and entities counted separately for all referrals)	6
Referrals to Criminal State/Local Authorities	0
Indictments/Criminal Information	0
Criminal Convictions/Pleas	1
Number of No-knock Entries	0
Substantiated Senior Government Employee Misconduct	0
Substantiated Whistleblower Retaliation	1
Substantiated Agency Interference	0
Referrals to DOJ Civil Prosecutors	6
Referrals to Civil State/Local Authorities	0
Civil Settlements/Judgements/Compliance Plans	3
Research Misconduct Findings Issued by NSF ¹⁹	3
Government-wide Suspensions/Debarments/Voluntary Exclusions	5
Administrative Actions taken by NSF (Includes actions related to findings of research misconduct, suspension/termination of awards or employee misconduct)	29
Total Investigative Recoveries (includes funds returned to NSF, restitution, fees, proceeds from civil settlements and funds put to better use)	\$1,530,591

¹⁸ For “Investigative Reports Issued to NSF Management for Action,” we count only investigative reports issued to NSF that include recommendations for administrative action (e.g., findings of research misconduct, imposition of government-wide suspension or debarment, or suspension/terminations of awards). We count recommendations for each individual and entity separately.

¹⁹ Research misconduct statistics are reported on our [website](#).

Reports Issued This Semiannual Period

Report No. and Date Issued	Report Title	Questioned Costs	Unsupported Costs ²⁰	Better Use of Funds	Total Recs.	Mgmt. Decision ²¹
24-1-010 5/10/2024	Audit of Industry-University Cooperative Research Center: Center for Space, High-performance, and Resilient Computing — University of Pittsburgh	\$1,350	\$0	\$0	1	1
24-1-011 5/24/2024	Performance Audit of Incurred Costs — University of Alabama	\$41,311	\$0	\$0	14	0
24-1-012 8/12/2024	Performance Audit of Incurred Costs — Iowa State University	\$9,709	\$0	\$0	4	0
24-1-013 8/16/2024	Performance Audit of Incurred Costs — Brown University	\$78,318	\$0	\$0	14	0
24-1-014 9/30/2024	Audit of Industry-University Cooperative Research Center: Center for Advanced Forestry Systems — North Carolina State University	\$0	\$0	\$0	2	0
24-3-002 9/24/2024	Review of NSF's U.S. Antarctic Program Sexual Harassment Prevention and Response	\$0	\$0	\$0	2	0
24-6-002 8/23/2024	Review of Protected Disclosure Provisions in NSF's Agreements with Federal Employees	\$0	\$0	\$0	1	0
Total	7 Reports	\$130,688	\$0	\$0	38	1

²⁰ Unsupported costs are a subset of questioned costs.

²¹ Number of recommendations for which a management decision has been made by 9/20/2024. A "Management Decision" is NSF's response to findings and recommendations including actions it determined necessary.

Recommendations Made Before Beginning of Reporting Period for which Corrective Actions Have Not Been Completed

Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2024	Total Potential Cost Savings ²²
19-1-010 05/02/19	Performance Audit of Incurred Costs — University of Maryland College Park	19	19	\$357,108
19-1-017 09/13/19	Performance Audit of Incurred Costs — Oregon State University	24	24	\$369,532
20-1-004 07/13/20	Performance Audit of Incurred Costs — University of North Carolina Chapel Hill	43	13	\$744,671
20-1-005 07/23/20	Performance Audit of Incurred Costs — University of Houston	30	8	\$74,057
21-1-002 12/17/20	Performance Audit of Incurred Costs — Texas A&M University	24	13	\$134,949
21-1-004 01/15/21	Performance Audit of Incurred Costs — University of Florida	17	17	\$640,723
21-1-007 04/30/21	Performance Audit of Incurred Costs — Clemson University	35	35	\$276,440
21-1-017 07/20/21	Performance Audit of Incurred Costs — Tennessee State University	13	6	\$0
21-1-019 08/30/21	Performance Audit of Incurred Costs — University of Pittsburgh	12	7	\$106,659
21-1-020 09/29/21	Performance Audit of Incurred Costs — University of California, San Francisco	20	6	\$135,458
22-1-001 10/15/21	Performance Audit of Incurred Costs — University of Rhode Island EPSCoR Awards	21	5	\$423,365
22-1-002 12/09/21	Performance Audit of Incurred Costs — University of Texas at Dallas	24	6	\$249,210
22-1-003 04/15/22	Performance Audit of Incurred Costs — University of California, Merced	33	11	\$226,652
22-1-006 06/21/22	Performance Audit of Incurred Costs — Cal Poly Corporation	13	12	\$25,478
22-1-008 06/28/22	Performance Audit of Incurred Costs — Education Development Center	12	7	\$74,645
22-1-009 06/28/22	Performance Audit of Incurred Costs — BSCS Science Learning	16	16	\$158,050

²² Potential Cost Savings includes both Questioned Costs and Funds Put to Better Use

Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2024	Total Potential Cost Savings ²²
22-1-011 08/09/22	Performance Audit of Incurred Costs — Arctic Research Consortium of the United States	10	10	\$14,847
22-1-013 09/23/22	Performance Audit of Incurred Costs — Colorado School of Mines	10	10	\$10,260
22-2-006 09/02/22	Audit of NSF's Divestment of Major Facilities	3	1	\$0
22-3-001 09/14/22	Inspection of NSF's Compliance with International Telework Requirements	6	3	\$0
22-6-004 03/18/22	NSF Vetting of United States Antarctic Program Contractors	2	2	\$0
23-1-002 10/28/22	Performance Audit of Incurred Costs — Computing Research Association	27	7	\$297,968
23-1-003 11/18/22	Performance Audit of Incurred Costs — University of Mississippi	16	16	\$129,951
23-1-005 02/07/23	Performance Audit of Incurred Costs — Incorporated Research Institutions for Seismology	5	5	\$470
23-1-006 03/22/23	Performance Audit of Incurred Costs — Rensselaer Polytechnic Institute	22	22	\$198,137
23-2-001 11/04/22	Performance Audit of the National Science Foundation's Information Security Program for FY 2022	2	1	\$0
23-2-003 01/09/23	Audit of NSF's Vetting Process for Individuals Assigned Under the Intergovernmental Personnel Act	5	2	\$0
24-1-002 11/15/2023	Performance Audit of Incurred Costs — University of Arkansas	13	13	\$257,693
24-1-003 11/16/2023	Performance Audit of Incurred Costs — North Dakota State University	4	4	\$7,870
24-1-004 1/26/2024	Performance Audit of Incurred Costs — University of New Hampshire	7	7	\$7,754
24-1-005 1/31/2024	Performance Audit of Incurred Costs — Mississippi State University	17	17	\$34,314
24-1-006 1/31/2024	Performance Audit of Incurred Costs — Montana State University	18	18	\$119,241
24-1-007 2/2/2024	Performance Audit of Incurred Costs — Dartmouth College	9	9	\$104,270



Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2024	Total Potential Cost Savings ²²
24-1-008 3/6/2024	Performance Audit of Incurred Costs — University of Oklahoma	19	19	\$1,251,186
24-2-001 11/9/2023	Performance Audit of NSF's Information Security Program for Fiscal Year 2023	5	4	\$0
Total	35 Reports	556	375	\$6,430,958



About the U.S. National Science Foundation

NSF is an independent federal agency created by Congress in 1950 “[t]o promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.” NSF leadership has two major components: a Director who provides oversight of NSF staff and management responsible for program creation and administration, merit review, planning, budget, and day-to-day operations; and a 24-member National Science Board to establish overall policies.

With a budget of about \$9.9 billion (FY 2023), NSF is the funding source for about 25 percent of all federally supported basic research conducted by America’s colleges and universities. Each year, NSF supports about 300,000 scientists, engineers, educators, and students at universities, laboratories, and field sites.

About the NSF Office of Inspector General

The NSF Office of Inspector General promotes effectiveness, efficiency, and economy in administering NSF’s programs; detects and prevents fraud, waste, and abuse within NSF or by individuals who receive NSF funding; and identifies and helps to resolve cases of research misconduct. NSF OIG was established in 1989, in compliance with the *Inspector General Act of 1978* (5 U.S.C. 401-24). Because the Inspector General reports directly to the National Science Board and Congress, the Office is organizationally independent from NSF.

Connect with Us

For more information or questions, please contact us at oigpublicaffairs@nsf.gov. Follow us on [X \(formerly Twitter\)](#) and [LinkedIn](#), or visit our [website](#).

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