



# Semiannual Report to Congress

October 1, 2023 – March 31, 2024



U.S. National Science Foundation  
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# Table of Contents

<b>Investigations</b> .....	<b>2</b>
Program Integrity Investigations.....	2
Actions Resulting from Previously Reported Program Integrity Investigations.....	3
Research Misconduct Investigations .....	4
Research Misconduct Investigations with University-wide Actions.....	6
NSF Actions Taken on Previously Reported Research Misconduct Investigations.....	7
Administrative Investigations .....	8
NSF Actions on Previously Reported Administrative Investigations .....	8
<b>Audits and Reviews</b> .....	<b>8</b>
Audits and Reviews of NSF Programs and Operations.....	8
Audits of NSF Award Recipients .....	10
Reviews of Single Audits.....	11
Audit Resolution .....	12
<b>Peer Review</b> .....	<b>14</b>
<b>Statistical Tables</b> .....	<b>15</b>
Investigative Outcomes .....	15
Office of Audits Reports Issued This Semiannual Period .....	16
Office of Audits Recommendations Made Before October 1, 2023, for Which Corrective Actions Have Not Been Completed .....	17



# From the Inspector General

I am pleased to present our semiannual report, which summarizes our work and accomplishments during the first half of fiscal year 2024. In this reporting period, our work led to nearly \$3.4 million in potential savings to taxpayers, including \$1,554,937 in investigative recoveries and \$1,813,045 in questioned costs.

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 returned \$950,000 to NSF because it falsely certified that it enforced a required conflicts of interest policy for at least 4 years. As a result of our investigation, the university also revised its conflicts of interest policy; terminated its Assistant Vice President for Research Compliance; reassigned its Vice President for Research; and hired a consultant to develop a corrective action plan. In another case, a university agreed to pay \$90,000 to resolve allegations of violations of the *False Claims Act*, in addition to the \$105,000 it had previously returned to NSF in connection with an Industry-University Cooperative Research Center (IUCRC) award. As part of the settlement, the university also agreed to improve program controls.

Our audits of NSF programs and operations continued to promote effectiveness, efficiency, and integrity. This semiannual period marks the twenty-sixth consecutive year NSF has received a “clean” opinion on its financial statements. Additionally, during this period, we reported on NSF’s information security program, including vulnerabilities identified in NSF and U.S. Antarctic Program networks. We also reported on audits of eight NSF award recipients, which resulted in \$1.8 million in questioned costs related to unallowable costs, inadequately supported costs, and inappropriately allocated costs.

Finally, during this period, we continued to build our capacity to investigate criminal sexual assaults in Antarctica under the Special Maritime and Territorial Jurisdiction of the United States, including aggravated sexual abuse, sexual abuse, abusive sexual contact, and stalking. Our special agents made two trips to Antarctica and continued to respond remotely to complaints from individuals deployed at NSF’s Antarctic research stations. We are working toward having an on-site presence during future austral summer seasons and the capacity to deploy trained special agents to Antarctica rapidly in the event of a sexual assault in austral winter seasons. We will continue to work with NSF to address this challenging new mission.

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*



# 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:

### **University Returned \$950,000 For False Certifications**

Since at least 2019, a university falsely certified to NSF that it had implemented and was enforcing a written conflicts of interest policy according to the terms, conditions, and requirements of NSF awards. As a result of our investigation, the university: returned \$950,000 to NSF; conducted a compliance audit; revised its conflicts of interest policy; terminated its Assistant Vice President for Research Compliance; reassigned its Vice President for Research; and hired a consultant to review its compliance measures and develop a comprehensive corrective action plan.

### **University Returned \$242,790 for Falsified Letters of Support in an NSF Proposal**

A university professor modified letters of support he submitted with a proposal, which NSF funded. The professor also falsified at least one letter of support in eight additional proposals. We shared our investigative findings with the university and asked the university to determine whether any improper costs were charged to NSF awards. The university returned all funds associated with the professor's NSF award. Our office's research misconduct investigation is ongoing.

### **Small Business Agreed to Pay \$68,000 to Settle *False Claims Act* Allegations**

As part of a civil settlement agreement, a Small Business Innovation Research (SBIR) company agreed to pay \$68,000 and participate in a fraud awareness training video to resolve potential *False Claims Act* liability. A proactive review of wage records revealed the SBIR company's principal investigator (PI) was a full-time employee of two other companies, in violation of the SBIR program's primary employment requirements. The company falsely certified to NSF that its PI was primarily employed by the grantee.



## University Enters into a Civil Compliance Agreement for Failure to Disclose Foreign Research Agreements

A university failed to disclose foreign research agreements involving three research awards and two PIs. NSF's Proposal and Award Policies and Procedures Guide (PAPPG) requires that PIs disclose all forms of current and pending support in NSF proposals. Although the PIs disclosed the foreign research agreements to the university, the university and the PIs failed to disclose the agreements to NSF. As part of a civil settlement with DOJ, the university must update and enhance its research compliance program, which includes internal guidelines for reporting current and pending support, training requirements, and disciplinary procedures for employees who fail to meet NSF's award terms and conditions.

## Contract Employee Pleaded Guilty to Making a False Writing

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 was charged with one count of making a false writing. His initial court appearance was scheduled for April 4, 2024.

## 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 Settles *False Claims Act* Case for \$90,000

We previously reported<sup>1</sup> that NSF debarred a professor who pleaded guilty to providing material false statements to NSF and that the university returned \$105,000 it received because of the professor's false statements. During this reporting period, the university agreed to settle *False Claims Act* allegations for \$90,000. The university also implemented policies and procedures to prevent a similar occurrence in the future and will continue its compliance efforts. DOJ issued a [press release](#) about this case.

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<sup>1</sup> SAR April – September 2019, p. 3; SAR October 2019 – March 2020, p. 7; SAR April – September 2020, p. 5; SAR October 2020 – March 2021, p. 11; SAR April – September 2021, p. 4

## **SBIR Company and Owners Debarred**

We previously reported<sup>2</sup> that an SBIR company was sentenced to 5 years of probation and ordered to pay restitution of nearly \$900,000, after a multi-agency investigation found that the company submitted false statements and false claims related to the PI's primary employment, failed to expend grant funds according to approved budgets, and proposed individuals as company employees without their permission. During this reporting period, NSF debarred the company for 4 years and husband and wife owners for 2 years based on our recommendation.

## **Former PhD enters into a Deferred Prosecution Agreement**

We previously reported<sup>3</sup> that a Ph.D. graduate fabricated research data and later fabricated evidence and forged a letter to support the fabricated data. The university rescinded his degree, and NSF imposed administrative actions and a 3-year debarment. In this reporting period, as a result of the forgery, the former student entered into a 2-year deferred prosecution agreement with the United States Attorney's Office. As part of the agreement, the former student acknowledged the forgery and agreed not to work for the federal government or on federally funded projects. He will also complete 120 hours of community service. If he complies with the terms of the agreement, the United States will not pursue any charges related to the forgery.

## **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.<sup>4</sup> Additional actions are described below. Unless otherwise specified, NSF's decisions are pending.

### **Small Business PI Plagiarized a Proposal**

We received an allegation that a PI committed plagiarism in an SBIR proposal. Our investigation concluded that the PI intentionally plagiarized approximately 221 unique lines of text, 73 embedded references, and 81 references in the References Cited section, that were identical or nearly identical to material in the source document. We found the acts were a significant departure from accepted practices of the PI's research community. We recommended that NSF

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<sup>2</sup> SAR October 2018 - March 2019, p. 13; SAR October 2020 - March 2021, p. 10; SAR April - September 2021, p. 4

<sup>3</sup> SAR October 2020 - March 2021, pp. 12-13; SAR October 2021 - March 2022, p. 14

<sup>4</sup> NSF refers to RCR training as "responsible and ethical conduct of research (RECR)" training.

require the PI to: submit 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 professor's employer that any proposals or reports submitted to NSF do not contain plagiarized, falsified, or fabricated material (assurances); and prohibit him from participating as an NSF peer reviewer, advisor, or consultant for 2 years.

### **Reviewer Violated Confidentiality of NSF's Merit Review**

We received an allegation that a proposal submitted to a foreign funding agency contained material plagiarized from a declined NSF proposal, which had been reviewed by the foreign proposal's PI. The foreign funding agency investigated and determined that the PI plagiarized text and ideas from the declined NSF proposal. We concurred that the PI plagiarized text from the declined proposal and therefore violated the confidentiality of NSF's merit review process. We recommended NSF take appropriate administrative action.

### **PI Falsified Participation in Outreach Activities in Annual Report**

A PI falsified his participation in outreach activities in an annual report for his NSF Faculty Early Career Development Program (CAREER) award. According to the allegation, the program director returned the annual report to the PI for lack of reported progress in educational activities, and the PI falsified his participation in outreach activities in the revised annual report. We referred the investigation to the university and concurred with its finding that the PI falsified his participation in outreach activities in his annual report for his CAREER award.

As part of its investigation, the university also reviewed allegations that the PI falsified data in progress reports for a contract with another federal agency. The university found the progress reports for the contract contained falsified data but could not determine who was responsible for the falsifications. One committee member dissented and concluded the PI was responsible for the falsifications. We concurred with the dissenting committee member.

We concluded the PI engaged in a pattern of misrepresenting his accomplishments in progress reports to Federal agencies. We recommended NSF require the PI to provide certifications and assurances with each document he submits to NSF; and prohibit the PI from serving as a reviewer, advisor, or consultant to NSF for 3 years.

### **CAREER Awardee Plagiarized in a Proposal and Papers**

NSF suspended a professor's CAREER award pending the completion of our plagiarism investigation.<sup>5</sup> The university concluded the professor plagiarized from a funded award into his CAREER award proposal and two published papers. The university issued a letter of reprimand to the professor. It also required the professor to complete RCR training; submit certifications and

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<sup>5</sup> SAR October 2022 – March 2023, p. 13; SAR April – September 2023, p. 4

assurances for at least 3 years; use plagiarism software on all proposals for at least 4 years; withdraw all pending proposals to all funding agencies; and submit a plagiarism report before every proposal or paper submission for at least 3 years. The professor is also ineligible for salary increases for at least 3 years.

We found additional plagiarism in six other declined NSF proposals. In all, the professor copied 1121 unique lines of text, 196 embedded references, and 4 tables into 7 proposals and 2 papers. We determined that the professor intentionally committed plagiarism, the acts were a significant departure from accepted practices, and the number of plagiarized documents indicated a pattern of behavior. We recommended that NSF: require the professor comply with university sanctions; debar him for 2 years; and prohibit him from participating as an NSF peer reviewer, advisor, or consultant for 4 years.

## Research Misconduct Investigations with University-wide Actions

This section highlights cases that resulted in university-wide actions to help prevent research misconduct, in addition to actions taken against the PIs. The universities' willingness to expand their responses beyond the individuals who committed research misconduct reflects a commitment to preventing future acts of research misconduct that we felt warranted highlighting in this report. We encourage universities that must address an instance of research misconduct to consider if a similar approach is appropriate.

### **Graduate Student Falsified Data in Papers**

We received allegations that a former graduate student committed fabrication or falsification in an NSF-funded publication (and four other publications not funded by NSF). The university's investigation concluded that the student committed 11 instances of fabrication or falsification of data or figures, and the acts were intentional and a significant departure from accepted practices of the student's research community. The university also found the student violated its honor code. The university expelled the student, revoked his degree, and gave him a failing grade in his research course. Additionally, the university voluntarily began a review of its practices for handling research misconduct.

We accepted the university's conclusions and determined that the student committed falsification and that the acts were intentional and a significant departure from accepted practices. We recommended that NSF make a research misconduct finding, issue a letter of reprimand, and require interactive RCR training. We also recommended NSF debar the student for 3 years and, for 5 years, require certifications and assurances and prohibit him from participating as an NSF peer reviewer, advisor, or consultant. NSF's decisions are pending.



## 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 seven research misconduct investigations, as summarized below. Each case resulted in NSF making a finding of research misconduct, issuing a letter of reprimand, and requiring interactive RCR training. Additional actions are described below:

- In the case of a PI that plagiarized in an NSF proposal and manipulated records during the investigation, NSF concurred with most of our recommendations and required compliance with the university's requirements. NSF implemented a 1-year government-wide debarment instead of our recommended 2-year debarment. Also, for a period of 3 years, NSF required certifications and assurances, and prohibited the PI from participation as an NSF peer reviewer, advisor, or consultant. NSF also prohibited the PI from serving as a rotator at NSF for 1 year. NSF recognized the PI's completed RCR training and did not require additional training.
- In the case of a PI who plagiarized material in two declined SBIR proposals,<sup>6</sup> NSF prohibited the PI from participating as an NSF peer reviewer, advisor, or consultant, and required certifications for 2 years.
- In the case of a PI who plagiarized into two NSF proposals submitted by a small business,<sup>7</sup> NSF, for 2 years, required certifications and prohibited the PI from participation as an NSF peer reviewer, advisor, or consultant.
- 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,<sup>8</sup> NSF prohibited the PI from participating as an NSF reviewer, advisor, or consultant, and required certifications and assurances for 2 years. The PI timely appealed the action.
- In the case of the PI who admitted plagiarism in a proposal,<sup>9</sup> we recommended NSF require the PI to provide certifications and assurances, and NSF prohibit the PI from participating as an NSF peer reviewer, advisor, or consultant for 2 years. NSF agreed with these actions but required them for 1 year. The PI timely appealed the action.
- In the case of a graduate student who fabricated data in an electronic lab notebook, cherry-picked data for publication, and falsified other data,<sup>10</sup> NSF proposed a 1-year government-wide debarment. Additionally, for 3 years, NSF prohibited the student from participating as an NSF

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<sup>6</sup> SAR April – September 2022, p. 6

<sup>7</sup> SAR April – September 2022, p. 5

<sup>8</sup> SAR October 2022 – March 2023, p. 13

<sup>9</sup> SAR April – September 2022, p. 7

<sup>10</sup> SAR October 2022 – March 2023, p. 13.

reviewer, advisor, or consultant; and required certifications, assurances, and a data management plan with each submitted NSF proposal.

- In the case of a postdoctoral researcher who failed to review raw data and failed to perform experimental reverification on questioned results,<sup>11</sup> NSF, for 2 years, prohibited the researcher from participating as an NSF reviewer, advisor, or consultant; and required certifications, assurances, and a data management plan with each submitted NSF proposal. NSF also required, for each submitted NSF proposal listing the researcher as PI, a detailed mentoring plan describing the RCR training each NSF-funded lab member will receive.

## 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.

## NSF Actions on Previously Reported Administrative Investigations

We previously reported that an NSF program director potentially violated travel regulations and ethical standards.<sup>12</sup> During this reporting period, NSF issued a letter of reprimand to the program director in response to our report of investigation.

## Audits and Reviews

The Office of Audits 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

### **FY 2023 Financial Statement Audit Results in 26th Unmodified Opinion**

NSF is required to prepare annual financial statements, which must be audited by an independent entity. Kearney & Company, P.C. (Kearney), under a contract with NSF OIG, audited NSF's FY 2023 and 2022 comparative financial statements. Kearney issued an unmodified opinion on the financial statements and identified no instances of noncompliance or other matters that were required to be reported under *Generally Accepted Government Auditing Standards*. Additionally,

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<sup>11</sup> SAR October 2022 – March 2023, p. 14.

<sup>12</sup> Semiannual Report to Congress April 1, 2023 – September 30, 2023, pp. 5-6

Kearney's tests disclosed no instances in which financial management systems did not substantially comply with the *Federal Financial Management Improvement Act of 1996*. This marks the twenty-sixth consecutive year NSF has received a “clean” opinion on its financial statements.

### **NSF's Information Security Program for FY 2023 Rated Effective**

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 an annual independent evaluation of NSF's information security program and practices, as well as an assessment of its compliance with FISMA requirements. Under a contract with NSF OIG, Kearney performed the FY 2023 FISMA audit and rated NSF's Information Security Program as effective according to the Inspector General FISMA Reporting Metrics maturity model criteria. For the FY 2023 audit, the auditors issued one new finding and three new recommendations, as well as four modified repeat findings with associated recommendations, to address weaknesses in information technology security controls. We will evaluate the progress and effectiveness of NSF's corrective actions during the FY 2024 FISMA audit.

### **External Penetration Testing Identified Vulnerabilities with NSF and USAP Networks**

As part of ongoing efforts to assess NSF's information security program, OIG contractors performed external penetration testing of the NSF and U.S. Antarctic Program (USAP) external network segments, systems, and applications, as well as the research.gov domain in support of FISMA. The contractors sought to provide a practical demonstration of the security controls' effectiveness and each network's susceptibility to exploitation and data breaches. The contractors determined NSF and USAP networks were moderately susceptible to malicious actors attempting to gain access through the internet. They identified certain vulnerabilities, including security flaws and instances of data leakage of nonsensitive information, which may contribute to unauthorized access or network disruption of the NSF and USAP information systems. The contractors recommended that NSF remediate the vulnerabilities identified using NSF's vulnerability management procedure.

### **NSF Updated its Passport Policies to Reflect U.S. Department of State Guidance**

We performed an inspection to determine whether NSF adheres to applicable laws and NSF and U.S. Department of State guidance for official passports. We found NSF's policy was inconsistent with the Department of State's Foreign Affairs Manual. Specifically, NSF required staff to obtain an official passport for all official international travel, even though the Department of State permits official business travel with a personal passport. As a result of our inspection, NSF updated its policy to allow staff to use their personal passports when warranted.

### **NSF Met Payment Integrity Information Act Requirements for FY 2023**

As required by the *Payment Integrity Information Act of 2019* (PIIA, Pub. L. No. 116-117), we reviewed NSF's compliance with agency reporting requirements on improper payment reduction activity for FY 2023. In addition to requirements related to annual reporting on improper



payments as part of the Agency Financial Report, PIIA requires agencies with low-risk programs to perform a risk assessment at least once every 3 years for significant improper payments. We determined that NSF complied with all applicable PIIA reporting requirements for FY 2023. We also confirmed that NSF met its milestones to date for the ongoing 3-year PIIA risk assessment, which must be included in its FY 2024 Agency Financial Report. Finally, we determined that NSF continues to strengthen its risk assessment methodology and continues to make progress toward preventing and reducing improper payments.

## Audits of NSF Award Recipients

### **Virginia Tech Generally Complied with Industry-University Cooperative Research Center — Center for Space, High-performance, and Resilient Computing Award Requirements**

We audited NSF's Center for Space, High-performance, and Resilient Computing (SHREC) award to the Virginia Polytechnic Institute and State University (Virginia Tech). SHREC assists industrial partners, government agencies, and research organizations in mission-critical computing research. The objective of our audit was to determine if Virginia Tech mitigated potential conflicts of interest; properly managed and accounted for program income; and claimed costs that were allowable, allocable, reasonable, and in conformity with NSF award terms and conditions and applicable federal requirements.

We found that Virginia Tech generally complied with SHREC award requirements. It properly tracked and reported its SHREC receipts and expenditures of program income. Virginia Tech's claimed costs and expenditures of program income were allowable, allocable, reasonable, and in conformity with NSF award terms and conditions and applicable federal requirements. Virginia Tech also had a policy on conflicts of interest that met all the award requirements. However, we found Virginia Tech could improve its controls for the documentation of annual membership certifications and made one recommendation for corrective action.

### **OIG Contractors' Audits of Award Recipients Resulted in More Than \$1.8 Million in Questioned Costs**

OIG contractors completed audits of eight NSF award recipients that expended approximately \$289.2 million of NSF funds. The audits assessed the allowability, allocability, and reasonableness of costs charged to NSF and resulted in \$1,813,045 of 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 finding areas and that NSF recover the questioned costs.

## Reports of Award Recipients this Semiannual Period

Report No.	Award Recipient	Questioned Costs
<a href="#">24-1-001</a>	University of Vermont and State Agricultural College	\$30,717
<a href="#">24-1-002</a>	University of Arkansas	\$257,693
<a href="#">24-1-003</a>	North Dakota State University	\$7,870
<a href="#">24-1-004</a>	University of New Hampshire	\$7,754
<a href="#">24-1-005</a>	Mississippi State University	\$34,314
<a href="#">24-1-006</a>	Montana State University	\$119,241
<a href="#">24-1-007</a>	Dartmouth College	\$104,270
<a href="#">24-1-008</a>	University of Oklahoma	\$1,251,186
<a href="#">23-1-009</a>	Audit of Industry-University Cooperative Research Center: Center for Space, High-performance, and Resilient Computing — Virginia Tech	\$0
<b>Total</b>		<b>\$1,813,045</b>

Source: NSF OIG

## Reviews of Single Audits

### Quality of Single Audits Increased from Prior Period

Uniform Guidance<sup>13</sup> 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, referred to as a "single audit." NSF relies on the results of single audit reports 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.<sup>14</sup> 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, 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 32 different independent public accounting firms and covered more than \$269 million in total federal expenditures, including approximately \$157 million in NSF direct expenditures. There was an increase (4 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 higher than the 5-year average of 64 percent. As shown in Figure 1, 26 audit reporting packages (68 percent) fully met federal reporting requirements.

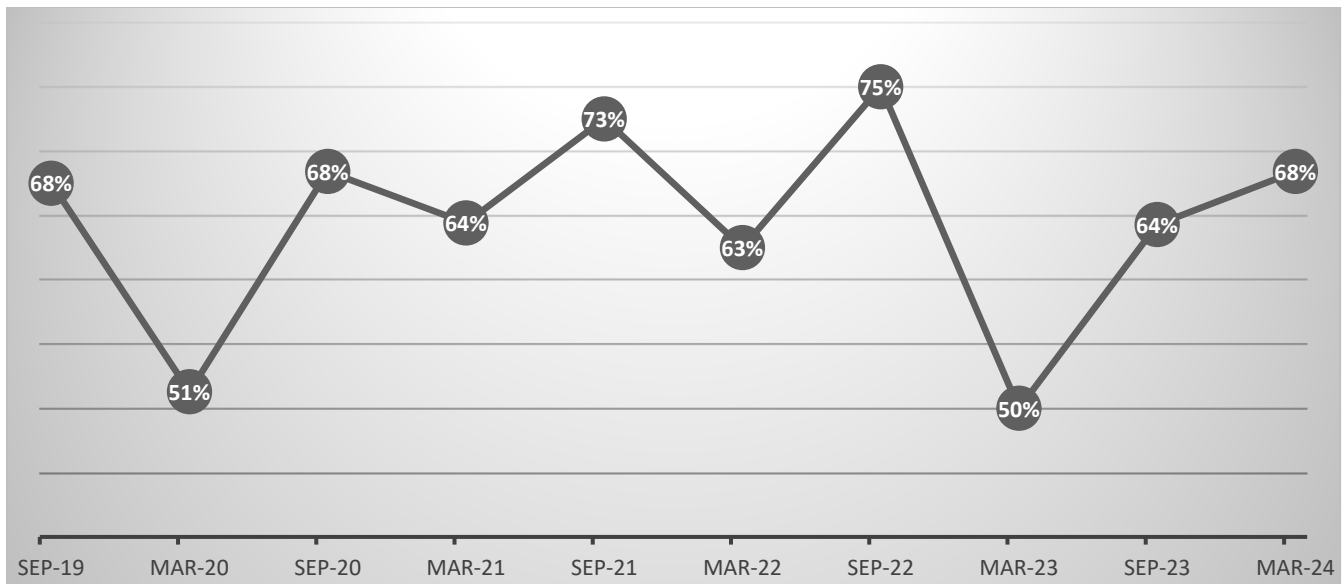
<sup>13</sup> 2 CFR Pt. 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

<sup>14</sup> Generally defined as an awardee's predominant federal funding agency.





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



Source: NSF OIG Semiannual Reports

We identified deficiencies in 12 audit reporting packages, including reporting packages submitted after required deadlines; audit reports missing required language; 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; missing corrective action plans; and missing Summary Schedule of Prior Audit Findings.

For errors that potentially impacted the reliability of the audit reporting packages, 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 two 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 informing them of our review results 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.

## 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 Strengthened its Controls Over Electronic Records Management

We confirmed that NSF implemented all corrective actions from our report *NSF Could Strengthen Key Controls over Electronic Records Management*.<sup>15</sup> Specifically, NSF implemented software that automatically captures and retains work-related text messages from NSF-issued devices and developed a Mobile Apps Blacklist, which will identify prohibited apps that encrypt emails or are automatically configured to delete messages. NSF also updated its *Capstone Officials Email Records Management Policy* and its training to meet National Archives and Records Administration requirements.

### NSF Sustained \$638,000 of Questioned Costs

NSF and OIG resolved 69 recommendations on 6 previous audits of award recipients this semiannual period. NSF sustained \$638,000 in questioned costs, as shown in the following table.

#### Reports of Award Recipients Resolved This Semiannual Period

Report No.	Issue Date	Award Recipient	Questioned Costs	Sustained Questioned Costs
<a href="#">21-1-017</a>	07/20/21	Tennessee State University	\$155,432	\$155,432
<a href="#">22-1-001</a>	10/15/21	University of Rhode Island	\$627,748	\$417,518
<a href="#">22-1-007</a>	06/22/22	San Francisco State University	\$260	\$260
<a href="#">23-1-001</a>	10/27/22	Cary Institute of Ecosystem Studies	\$33,024	\$33,024
<a href="#">23-1-010</a>	8/18/23	University of Connecticut Health Center	\$1,049	\$1,049
<a href="#">24-1-001</a>	10/24/23	University of Vermont and State Agricultural College	\$30,717	\$30,717
<b>Total</b>			<b>\$848,230</b>	<b>\$638,000</b>

Source: NSF OIG

<sup>15</sup> NSF OIG Report No. 17-2-009, July 6, 2017

NSF also required the award recipients to strengthen internal controls over allocating and documenting costs, including costs for internal services; provide clear guidance on the allowability of publication costs; strengthen procedures for assigning participant support costs in accounting systems; strengthen controls over time and effort reports, consultant costs, cost sharing, and subaward issuance and monitoring; and ensure indirect costs are charged according to applicable Negotiated Indirect Cost Rate Agreements. Additionally, NSF required two award recipients to ensure that annual program reports are submitted on time.

## Peer Review

### Office of Audits

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 <sup>16</sup>	12
Referrals to DOJ Criminal Prosecutors (individuals and entities counted separately for all referrals)	4
Referrals to Criminal State/Local Authorities	0
Indictments/Criminal Information	2
Criminal Convictions/Pleas	1
Number of No-knock Entries	0
Substantiated Senior Government Employee Misconduct	0
Substantiated Whistleblower Retaliation	0
Substantiated Agency Interference	0
Referrals to DOJ Civil Prosecutors	9
Referrals to Civil State/Local Authorities	0
Civil Settlements/Judgements/Compliance Plans	2
Research Misconduct Findings Issued by NSF <sup>17</sup>	7
Government-wide Suspensions/Debarments/Voluntary Exclusions	4
Administrative Actions taken by NSF (Includes actions related to findings of research misconduct, suspension/termination of awards or employee misconduct)	27
Total Investigative Recoveries (includes funds returned to NSF, restitution, fees, proceeds from civil settlements and funds put to better use)	\$1,554,937

<sup>16</sup> 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.

<sup>17</sup> Research misconduct statistics are reported on our [website](#).

## Office of Audits Reports Issued This Semiannual Period

Report Number & Date Issued	Report Title	Questioned Costs	Unsupported Costs <sup>18</sup>	Better Use of Funds	Total Recs.	Mgmt. Decision <sup>19</sup>
24-1-001 10/24/23	<a href="#">Performance Audit of Incurred Costs- University of Vermont and State Agricultural College</a>	\$30,717	\$0	\$0	9	9
24-1-002 11/15/23	<a href="#">Performance Audit of Incurred Costs- University of Arkansas</a>	\$257,693	\$125,124	\$0	13	0
24-1-003 11/16/23	<a href="#">Performance Audit of Incurred Costs- North Dakota State University</a>	\$7,870	\$0	\$0	4	0
24-1-004 01/26/24	<a href="#">Performance Audit of Incurred Costs- University of New Hampshire</a>	\$7,754	\$0	\$0	7	0
24-1-005 01/26/24	<a href="#">Performance Audit of Incurred Costs- Mississippi State University</a>	\$34,314	\$0	\$0	17	0
24-1-006 01/31/24	<a href="#">Performance Audit of Incurred Costs- Montana State University</a>	\$119,241	\$3,906	\$0	18	0
24-1-007 02/02/24	<a href="#">Performance Audit of Incurred Costs- Dartmouth College</a>	\$104,270	\$0	\$0	9	0
24-1-008 03/06/24	<a href="#">Performance Audit of Incurred Costs - University of Oklahoma</a>	\$1,251,186	\$0	\$0	19	0
24-1-009 03/12/24	<a href="#">Audit of Industry- University Cooperative Research Center: Center for Space, High-performance, and</a>	\$0	\$0	\$0	1	0

<sup>18</sup> Unsupported costs are a subset of questioned costs.

<sup>19</sup> Number of recommendations for which a management decision has been made by 3/31/24. A "Management Decision" is NSF's response to findings and recommendations including actions it determined necessary.



	<a href="#">Resilient Computing — Virginia Tech</a>					
24-2-001 11/09/23	<a href="#">Performance Audit of the National Science Foundation's Information Security Program for FY 2023</a>	\$0	\$0	\$0	5	5
24-2-002 11/14/23	<a href="#">Audit of the National Science Foundation's Fiscal Years 2023 and 2022 Financial Statements</a>	\$0	\$0	\$0	0	N/A
24-3-001 11/07/23	<a href="#">Inspection of NSF Passport Guidance</a>	\$0	\$0	\$0	0	N/A
24-6-001 11/15/23	<a href="#">External Penetration Testing of the NSF and U.S. Antarctic Program Networks</a>	\$0	\$0	\$0	1	1
<b>Total</b>	<b>13 Reports</b>	<b>\$1,813,045</b>	<b>\$129,030</b>	<b>\$0</b>	<b>103</b>	<b>15</b>

## Office of Audits Recommendations Made Before October 1, 2023, for Which Corrective Actions Have Not Been Completed

Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2023	Total Potential Cost Savings <sup>20</sup>
19-1-010 05/02/19	<a href="#">Performance Audit of Incurred Costs - University of Maryland College Park</a>	19	19	\$357,108
19-1-017 09/13/19	<a href="#">Performance Audit of Incurred Costs - Oregon State University</a>	24	24	\$369,532
20-1-004 07/13/20	<a href="#">Performance Audit of Incurred Costs - University of North Carolina Chapel Hill</a>	43	43	\$744,671
20-1-005 07/23/20	<a href="#">Performance Audit of Incurred Costs - University of Houston</a>	30	30	\$133,305
20-2-002 11/22/19	<a href="#">Performance Audit of the National Science Foundation's Information Security Program for FY 2019</a>	23	2	\$0
21-1-002 12/17/20	<a href="#">Performance Audit of Incurred Costs - Texas A&amp;M University</a>	24	24	\$137,558

<sup>20</sup> 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 9/30/2023	Total Potential Cost Savings <sup>20</sup>
21-1-003 01/13/21	<a href="#">Performance Audit of Incurred Costs on EPSCoR Awards – University of Wyoming</a>	15	6	\$0
21-1-004 01/15/21	<a href="#">Performance Audit of Incurred Costs – University of Florida</a>	17	17	\$640,723
21-1-007 04/30/21	<a href="#">Performance Audit of Incurred Costs – Clemson University</a>	35	35	\$276,440
21-1-009 05/13/21	<a href="#">Performance Audit of the Implementation of OMB COVID-19 Flexibilities – University of New Mexico</a>	9	9	\$20,965
21-1-010 05/18/21	<a href="#">Performance Audit of the Implementation of OMB COVID-19 Flexibilities – State University of New York at Stony Brook</a>	10	4	\$0
21-1-011 05/19/21	<a href="#">Performance Audit of the Implementation of OMB COVID-19 Flexibilities – Florida International University</a>	9	4	\$7,977
21-1-014 05/26/21	<a href="#">Performance Audit of the Implementation of OMB COVID-19 Flexibilities – California Institute of Technology</a>	11	1	\$16,351
21-1-017 07/20/21	<a href="#">Performance Audit of Incurred Costs – Tennessee State University</a>	13	12	\$154,493
21-1-019 08/30/21	<a href="#">Performance Audit of Incurred Costs – University of Pittsburgh</a>	12	12	\$106,659
21-1-020 09/29/21	<a href="#">Performance Audit of Incurred Costs – University of California, San Francisco</a>	20	20	\$136,810
22-1-001 10/15/21	<a href="#">Performance Audit of Incurred Costs– University of Rhode Island EPSCoR Awards</a>	21	5	\$423,365
22-1-002 12/09/21	<a href="#">Performance Audit of Incurred Costs – University of Texas at Dallas</a>	24	24	\$249,210
22-1-003 04/15/22	<a href="#">Performance Audit of Incurred Costs – University of California, Merced</a>	33	33	\$226,652
22-1-006 06/21/22	<a href="#">Performance Audit of Incurred Costs – Cal Poly Corporation</a>	13	13	\$30,177
22-1-008 06/28/22	<a href="#">Performance Audit of Incurred Costs – Education Development Center</a>	12	12	\$88,089
22-1-009 06/28/22	<a href="#">Performance Audit of Incurred Costs – BSCS Science Learning</a>	16	16	\$158,050



Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2023	Total Potential Cost Savings <sup>20</sup>
22-1-011 08/09/22	<a href="#">Performance Audit of Incurred Costs - Arctic Research Consortium of the United States</a>	10	10	\$14,847
22-1-012 08/12/22	<a href="#">Performance Audit of Incurred Costs – North Carolina Central University</a>	14	3	\$60,320
22-1-013 09/23/22	<a href="#">Performance Audit of Incurred Costs – Colorado School of Mines</a>	10	10	\$10,260
22-2-003 11/17/21	<a href="#">Performance Audit of the National Science Foundation's Information Security Program for FY 2021</a>	5	1	\$0
22-2-006 09/02/22	<a href="#">Audit of NSF's Divestment of Major Facilities</a>	3	2	\$0
22-3-001 09/14/22	<a href="#">Inspection of NSF's Compliance with International Telework Requirements</a>	6	3	\$0
22-6-004 03/18/22	<a href="#">NSF Vetting of United States Antarctic Program Contractors</a>	2	2	\$0
23-1-001 10/27/22	<a href="#">Performance Audit of Incurred Costs – Cary Institute of Ecosystem Studies</a>	15	2	\$10,038
23-1-002 10/28/22	<a href="#">Performance Audit of Incurred Costs – Computing Research Association</a>	27	27	\$319,674
23-1-003 11/18/22	<a href="#">Performance Audit of Incurred Costs – University of Mississippi</a>	16	16	\$129,951
23-1-004 02/03/23	<a href="#">Performance Audit of Incurred Costs – University of North Carolina, Charlotte</a>	10	10	\$6,048
23-1-005 02/07/23	<a href="#">Performance Audit of Incurred Costs - Incorporated Research Institutions for Seismology</a>	5	5	\$470
23-1-006 03/22/23	<a href="#">Performance Audit of Incurred Costs- Rensselaer Polytechnic Institute</a>	22	22	\$198,137
23-1-007 6/23/23	<a href="#">Performance Audit of Mid-Scale Research Infrastructure Incurred Costs - The Ohio State University</a>	5	5	\$960
23-1-008 7/18/23	<a href="#">Performance Audit of Mid-Scale Research Infrastructure Incurred Costs – Smithsonian Astrophysical Observatory</a>	4	4	\$2,496
23-1-009 8/4/23	<a href="#">Performance Audit of Mid-Scale Research Infrastructure Incurred Costs – Monterey Bay Aquarium Research Institute</a>	5	5	\$2,891



Report Number & Date Issued	Report Title	Total Recs.	Open Recs. as of 9/30/2023	Total Potential Cost Savings <sup>20</sup>
23-2-001 11/04/22	<a href="#">Performance Audit of the National Science Foundation's Information Security Program for FY 2022</a>	2	1	\$0
23-2-003 01/09/23	<a href="#">Audit of NSF's Vetting Process for Individuals Assigned Under the Intergovernmental Personnel Act</a>	5	2	\$0
23-2-004 03/30/23	<a href="#">Audit of NSF's Controls over Graduate Research Fellowship Program Funding</a>	6	4	\$0
<b>Total</b>	<b>41 reports</b>	<b>605</b>	<b>499</b>	<b>\$5,034,227</b>



## 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 USC 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

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