



National Science Foundation
Office of the Director

November 13, 2019

Diane L. Souvaine, Ph.D.
Chairperson, National Science Board
Tufts University
161 College Avenue
Medford, MA 02155

Dear Dr. Souvaine:

The accompanying document is the response by the National Science Foundation to the Office of Inspector General's (OIG) Semiannual Report, which covers the period from April 1, 2019 through September 30, 2019. I have also included the management report on final actions on audits for the same period.

In this response, we acknowledge that NSF has benefitted by increased communication with the OIG Office of Investigations to address current and emerging challenges in the responsible and ethical conduct of research, including failure by investigators to make required disclosures and fraud by awardees. These challenges manifest in a range of OIG investigative referrals to which NSF responds with actions tailored to the type and severity of the underlying conduct and the risk to NSF's mission and funds. We also add context to the positive results of an OIG audit directed to a challenge across the Federal government, eliminating improper payments.

We look forward to continuing to work with the OIG to respond to investigative referrals and audit reports. This engagement with the OIG helps NSF navigate current and emerging challenges in the stewardship of Federal funds.

Sincerely,

A handwritten signature in blue ink that reads 'F. Fleming Crim'.

F. Fleming Crim, Ph.D.
Chief Operating Officer

Enclosures

cc: Dr. France Córdova

NSF's Response to the Office of Inspector General's Semiannual Report to Congress



National Science Foundation
Fall 2019



NSF Management appreciates the opportunity to provide this response to the Office of Inspector General's Semiannual Report for the period from April 1, 2019 through September 30, 2019. In this response, we provide an overview of the range of referrals by the OIG Office of Investigations and the corresponding actions taken by NSF in FY 2019. We provide additional information about an OIG Office of Audits report directed to financial management. Finally, as required by statute, we provide summaries of audit data during this reporting period.

The cover of this Management Response is a picture of the German RV *Polarstern*, the launchpad for a group of international researchers who set sail in 2019 for the largest polar expedition in the world. Hundreds of researchers, including NSF-supported scientists from the United States, boarded the *Polarstern* for the MOSAiC (Multidisciplinary drifting Observatory for the Study of

Arctic Climate) expedition, a year-long operation that required lengthy logistical preparation by NSF staff and our international partners.

MOSAiC embodies the bold vision of NSF and our international partners to support first-of-its-kind research aimed to produce scientific breakthroughs. As we support such groundbreaking research, we cooperate with our OIG, engage in constructive dialogue, and respond to its recommendations for NSF action. To that end, NSF has benefitted by increased communication with the OIG Office of Investigations to address current and emerging challenges, including failure by investigators to engage in the responsible and ethical conduct of research and make required disclosures and fraud by awardees. These challenges manifest in a range of OIG referrals to which NSF responds with actions tailored to the type and severity of the underlying conduct and the risk to NSF's mission and funds.

The OIG's new investigative referrals in FY 2019 contained several types of allegations, including research misconduct under 45 C.F.R. Part 689; criminal conduct; breach of panel reviewer confidentiality; and failure to abide by NSF policies and procedures, including making required disclosures. We note that the OIG made six new referrals in FY 2019 for allegations of research misconduct, which encompasses fabrication, falsification, or plagiarism in performing or reporting NSF-funded research or proposing research to NSF. This number has declined from an average of about twelve misconduct referrals per year for the three prior fiscal years. NSF does not tolerate research misconduct, so every referral is significant. Further, focusing solely on a specific number of research misconduct cases in any one year is not a metric by which NSF can draw any meaningful conclusions, given that the number of cases is small compared to the number of proposals and awards processed each year.

Moreover, emphasizing only one type of referral by the OIG minimizes the areas of responsible and ethical conduct of research interrelated with, or extending beyond, research misconduct. These areas include ensuring that research environments are free from harassment, abiding by Federal and NSF award policies, and mentoring of students. We appreciate that the OIG recognized this holistic view of the responsible and ethical conduct of research in its related Management Challenge for FY 2019.

Indeed, the majority of OIG referrals to NSF for action for FY 2019 arose from allegations outside the area of research misconduct. In response to these varied referrals, NSF has prohibited researchers from serving as reviewers or panelists if they, for example, relied on graduate students to do their work as reviewers or failed to make required disclosures related to absences while overseas or about their foreign affiliations. We have also imposed debarments based on criminal

convictions of participants in NSF's Small Business Innovation Research and Small Business Technology Transfer programs.

Another class of OIG referrals to NSF focuses on specific awards, for which the OIG recommends and the NSF Office of Budget, Finance and Award Management (BFA) imposes suspensions, terminations, or enhanced monitoring. This referral mechanism provides for (a) rapid and agile Agency response to emerging issues, including failures by NSF-funded investigators to make required disclosures of foreign affiliations; and (b) re-assessment of Agency action as additional information becomes available, including elevation of suspensions to terminations. In this way, NSF calibrates its actions to the scope of the referral, wrongdoing, and known risk.

Expanding our focus beyond isolated investigative referrals, we have also provided clarifications or updates to existing policies and procedures to address common problems or emerging issues. For example, we emphasized in 2019 that NSF's misconduct regulation applies to proposals in the same way as publications and encouraged responsible conduct of research training for faculty. More recently, we have included in draft policy guidance clarifications of the requirements to disclose U.S. and foreign support in proposals to NSF.

While many investigative referrals are externally focused and limited to targeted recommendations for individual investigators funded by NSF, the OIG Office of Audits regularly issues reports directed to internal management and operations reaching across the Agency. During this reporting period, for example, the Office of Audits issued a report on NSF's compliance with the Improper Payment Elimination and Recovery Act (IPERA). Eliminating improper payments is a priority across the Federal government and, according to the OIG, an Agency Management Challenge for FY 2019.

Given the potential reach and significance of this audit to Agency financial management, we are pleased that the OIG found that NSF complied with IPERA for FY 2018. Consistent implementation of corrective action plans in response to the OIG's previous audits and inspections helped address root causes for improper payments. We appreciate the opportunities for improvement identified by the OIG in this audit, which will support our ongoing assessments of the effectiveness and sustainability of related business processes.

Finally, as required by the Inspector General Act, NSF appends to this response the Management Report on Final Actions Taken on Audits (also known as the Final Action Tables). The Final Action Tables report data from OIG as well as Single Audit (formerly OMB Circular A-133 audit) reports. The data include disallowed costs, by audit and in aggregate, and NSF's disposition of recommendations for the better use of funds over the Semiannual Reporting period.

We appreciate the investigative and audit work of the OIG. Our responses are varied, based on the type of referral or report. As appropriate, we act swiftly to respond to OIG recommendations for which there are imminent risks to NSF funds. We mitigate broader risks by taking actions over extended periods that address systemic issues identified by OIG reports. Going forward, we will continue our constructive engagement with the OIG to address both current and emerging challenges.



F. Fleming Crim
Chief Operating Office, National Science Foundation

Cover image: The German research vessel Polarstern during an expedition into the central Arctic Ocean.
Credit: Alfred-Wegener-Institut / Mario Hoppmann (CC-BY 4.0)

**Management Report on Final Actions
Taken on Audits with Disallowed Costs for the Six-Month Period
Ended September 30, 2019**

	Number of Reports	Dollar Value
A. Audit reports with management decisions on which final action has not been taken at the beginning of the period	5	\$ 1,061,670
B. Audit Reports on which management decisions were made during the period	16	\$ 2,183,242
C. Total audit reports pending final action during this period (Total A+B)	21	\$ 3,244,912
D. Audit reports on which final action was taken during this period		
(1) Recoveries		
a) Collection and Offset	12	\$ 975,857
b) Amount uncollectible	0	
(2) Write-offs	0	
E. Audit reports needing final action at the end of the reporting period (C-D)	9	\$ 2,269,055
F. Total (D+E)	21	\$ 3,244,912

**Management Report on Final Action
on Audits with Recommendations for Better Use of Funds
Agreed to by Management
For the Six-Month Period Ended September 30, 2019**

	Number of Reports	Dollar Value
A. Audit Reports with management decisions on which final action had not been taken at the beginning of the period	0	\$0
B. Audit Reports on which management decisions were made during the period	0	\$0
C. Audit reports on which final action was taken during this period (Total A+B)	0	\$0
D. Recommendations on which final action was taken during this period	0	
(1) the dollar value of recommendations that were actually completed		\$0
(2) the dollar value of recommendations that management subsequently concluded should not or could not be implemented or completed		\$0
E. Audit reports for which no final action has been taken by the end of the reporting period (C-D)	0	\$0

**Management Report on Final Actions
Taken on Audits with Disallowed Costs
for the Six-month Period Ended September 30, 2019**

			Sustained Costs
A. Audit Reports with management decisions on which final action has not been taken at the beginning of the period:			
1	16-4-052	National Ecological Observatory Network (NEON) ¹	\$ 962,298
2	17-1-003	Purdue University	\$ 39,728
3	17-1-010	University of Arizona ²	\$ 22,256
4	18-1-004	University of New Mexico	\$ 20,109
5	18-1-008	Tufts University	\$ 17,279
Subtotal A			\$ 1,061,670
			5
B. Audit Reports on which management decisions were made during the period:			
1	16-5-009	Yukon River Inter-Tribal Watershed	\$ 98,721
2	18-1-003	North Carolina State University	\$ 49,192
3	18-1-005	National Academy of Sciences	\$ 90,902
4	18-1-006	Massachusetts Institute of Technology	\$ 331,114
5	18-1-007	University of Montana	\$ 367,779
6	19-1-001	Northwestern University	\$ 51,461
7	19-1-002	University of Wyoming	\$ 207,276
8	19-1-003	Colorado State University	\$ 3,486
9	19-1-004	Princeton University	\$ 55,889
10	19-1-005	University of Tennessee - Knoxville	\$ 34,094
11	19-1-009	University Corporation for Atmospheric Research (UCAR)	\$ 171,804
12	19-4-057	New York Botanical Garden	\$ 3,355
13	19-5-018	Tuskegee University	\$ 4,429
14	19-5-058	Harris Stowe State University	\$ 140,032
15	19-6-001	University of South Carolina at Columbia	\$ 83,388
16	19-6-002	University of Delaware ³	\$ 490,320
Subtotal B			\$ 2,183,242
			16
C. Total Audit Reports pending final action during this period:			(Total A+B: 21)
			\$ 3,244,912
D. Audit Reports on which final action was taken during this period:			
1	17-1-003	Purdue University	\$ 39,728
2	17-1-010	University of Arizona ²	\$ 22,256
3	18-1-004	University of New Mexico	\$ 20,109
4	18-1-005	National Academy of Sciences	\$ 90,902
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11	19-5-058	Harris Stowe State University	\$ 140,032
12	19-6-001	University of South Carolina at Columbia	\$ 83,388
Subtotal D			\$ 975,857
			12
E. Audit Reports needing final action at the end of the period:			
1	16-4-052	National Ecological Observatory Network (NEON) ¹	\$ 962,298
2	16-5-009	Yukon River Inter-Tribal Watershed	\$ 98,721
3	18-1-003	North Carolina State University	\$ 49,192
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6	19-1-003	Colorado State University	\$ 3,486
7	19-1-004	Princeton University	\$ 55,889
8	19-1-005	University of Tennessee - Knoxville	\$ 34,094
9	19-6-002	University of Delaware ³	\$ 490,320
Subtotal E			\$ 2,269,055
			9
F. Reconciliation of Audit Reports:			(Total D+E: 21)
			\$ 3,244,912

¹ NSF disallowed a total of \$962,298, of which \$812,941 has been remitted via an offset resulting from finalization of the FY 2015 NSF-negotiated indirect cost rate. The balance of disallowed costs has been turned over to the NSF Grants Officer for consideration as "pre-existing liabilities" in accordance with terms and conditions included in Battelle Memorial Institute's (BMI) current award(s). Upon a decision by the Grants Officer, disposition of the entire amount will be reported accordingly.

² Difference of \$5,122 between amount collected and the amount presented in OIG Questioned Cost Tables represents additional unallowable costs identified by awardee and disallowed.

³ Difference of \$323,984 between amount collected and the amount presented in OIG Questioned Cost Tables represents additional unallowable costs identified by awardee and disallowed.