



**National Science Foundation**  
Office of the Director

May 10, 2019

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

Dear Dr. Souvaine:

The National Science Foundation herewith transmits its response to the Office of Inspector General's (OIG) Semiannual Report, which covers the period from October 1, 2018 through March 31, 2019. Also included for the same time period is the management report on final actions on audits.

The cover of the Management Response is the breathtaking first image of a Black Hole from the Event Horizon Telescope, which was supported by NSF. We recognize that the standards by which we conduct our work at NSF are integral to funding the research and facilities that yield these important discoveries. The OIG helps NSF advance these values and improve our operations.

To that end, our Response highlights activities during this Semiannual Reporting Period affirming our commitment to ethical and responsible stewardship of taxpayer funds. These include the NSF Director's re-issuance of an Ethics Memorandum, reminding all NSF staff of the obligation to treat public service as a public trust. Also noted are the positive results of the OIG's financial and information technology audits. Finally, we provide an overview of our support of the OIG's investigations, including how we engage with the OIG at the different stages of its investigations.

We look forward to continuing to work with the OIG toward our shared goal of effective 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  
Spring 2019



NSF Management appreciates the opportunity to provide this response to the Office of Inspector General's Semiannual Report for the period from October 1, 2018 through March 31, 2019. In this response, we reaffirm our commitment to upholding the highest ethical standards, and we highlight positive results from audits directed to financial management and information technology controls. NSF provides additional information about the OIG's investigative activities, focused on actions in response to referrals for Agency action and analysis of research misconduct referrals over a two year period. Finally, we provide summaries of audit data during this reporting period.

The cover of the Management Response is the breathtaking first image of a Black Hole from the Event Horizon Telescope, as announced in April. This historic discovery was a worldwide effort, involving 200 researchers from 60 institutes across 20 countries and regions. NSF's funding of individual investigators, interdisciplinary scientific teams, and radio

astronomy facilities, including the Atacama Large Millimeter/submillimeter Array in Chile, helped advance this milestone in astrophysics.

We recognize that the standards by which we conduct our work at NSF are integral to funding research and facilities, including the Event Horizon Telescope. To that end, on March 7, 2019, the Director of NSF re-issued the Agency's memorandum on ethical conduct, reminding all NSF staff of the obligation to treat public service as a public trust. The ethics memorandum intersects with NSF's response to an OIG audit of NSF controls to mitigate conflicts of interest for staff appointed under the Intergovernmental Personnel Act. While the OIG focused on only one category of personnel and closed the audit's recommendations earlier in this Semiannual Reporting period, exemplary ethics must be an ongoing priority for all staff.

In the ethics memorandum, the Director emphasized that all staff must take great care in identifying and raising ethics issues and in adhering to ethics requirements. These requirements include attending ethics training and honoring obligations to file accurate and timely financial disclosure reports and other forms. The reports and related forms are reviewed to prevent potential conflicts of interest. As further detailed in the memorandum, reporting responsibilities cover outside activities and employment, sponsored travel, emoluments issues, and gifts, including gifts from prohibited sources and foreign governments. Adhering to the highest standards of ethical conduct is integral to the proper stewardship over taxpayer resources entrusted to NSF.

Stewardship encompasses sound financial and information security practices. We are pleased that, during this Semiannual Report period, NSF received its twenty-first consecutive unmodified audit opinion for its FY 2018 financial statements, without any material weaknesses, significant deficiencies, or any instances of non-compliance with applicable laws and regulations. The clean audit opinion demonstrates the consistent commitment across NSF to operations and internal controls in such areas as program, finance, budget, information technology, procurement, human capital, and other administrative services. We also recognize that the auditors identified opportunities for improvement in financial management and information technology, for which we are undertaking responsive actions.

We are also pleased that the OIG's Federal Information Security Modernization Act of 2014 (FISMA) audit for FY 2018 recognized that the Agency had taken corrective actions sufficient to close all three prior-year findings. For the two new findings, NSF is taking corrective actions to implement the corresponding five recommendations.

Turning to the OIG's investigative activities, NSF recognizes and appreciates that actions initiated by the OIG have led to the recovery of over \$4.5 million during this Semiannual Reporting Period. NSF staff, including, the Chief Operating Officer, Program Officers, the Office of Budget, Finance, and Award Management (BFA), and the Office of General Counsel, support these activities throughout the lifecycle of investigations arising from allegations of misuse of funds, also referred to as program integrity investigations. For example,

based on recommendations by the OIG, the Chief Operating Officer issues government-wide suspensions of individuals and companies, while staff from BFA suspend or terminate awards. These actions mitigate loss of Federal funds. Program and BFA staff also support the OIG during different stages of investigations. Finally, the Chief Operating Officer, acting on referrals from the OIG, issues debarments based on outcomes of criminal and civil investigations as well as the most serious cases of research misconduct.

NSF leadership emphasizes that NSF does not tolerate research misconduct, which means fabrication, falsification, or plagiarism in proposing or performing research funded by NSF, in reviewing research proposals submitted to NSF, or in reporting research results funded by NSF. As reported by the OIG in its Spring 2017 Semiannual Report, the number of research misconduct referrals to NSF from FY 2005 through FY 2017 has remained relatively low and stable. NSF also performed a more detailed root cause analysis of referrals to the Agency by the OIG in FY 2016 and FY 2017, as described in the Agency Financial Report this past November. In this two-year period, NSF made 23 findings of research misconduct based on 24 referrals (excluding referrals arising from the Small Business Innovation Research/Small Business Technology Transfer programs). Nine of the findings arose from plagiarism by faculty in proposals to NSF that were not funded. Considering that the total number of referrals by the OIG is relatively low and NSF reviewed over 98,000 proposals and funded over 23,000 proposals in the same period, it is difficult to identify trends. However, NSF notes that a significant subset of findings involve plagiarism by faculty in unfunded proposals. NSF is addressing these issues through additional guidance and outreach. For example, the NSF Proposal and Award Policies and Procedures Guide (NSF 19-1), effective February 25, 2019, was supplemented to expressly encourage the training of faculty in the responsible and ethical conduct of research. NSF will continue to track and analyze the OIG's investigation referrals to assess responsive actions and identify any trends, if possible.

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.

In summary, NSF recognizes the importance of ethical conduct to NSF's mission and proper stewardship of taxpayer dollars. We appreciate that, while NSF received a clean audit opinion for the Financial Statement Audit for FY 2018, the audit identified opportunities for improvement and areas of potential risk. Stewardship encompasses support of the OIG's investigation referrals arising from allegations of misuse of funds and research misconduct. NSF recognizes the potential high impact of research misconduct on scientific integrity and has taken actions to reduce the likelihood of such activities. We will continue to work with the OIG to identify opportunities for improvement across NSF's programs and operations.



F. Fleming Crim

Chief Operating Officer, National Science Foundation

Cover image:

Scientists have obtained the first image of a black hole, using Event Horizon Telescope observations of the center of the galaxy M87. The image shows a bright ring formed as light bends in the intense gravity around a black hole that is 6.5 billion times more massive than the Sun. This long-sought image provides the strongest evidence to date for the existence of supermassive black holes and opens a new window onto the study of black holes, their event horizons, and gravity.

Credit: Event Horizon Telescope Collaboration

**Management Report on Final Actions  
Taken on Audits with Disallowed Costs for the Six-Month Period  
Ended March 31, 2019**

	<b>Number of Reports</b>	<b>Dollar Value</b>
A. Audit Reports with management decisions on which final action has not been taken at the beginning of the period	5	\$1,536,402
B. Audit reports on which management decisions were made during the period	7	\$337,938
C. Total audit reports pending final action during this period (Total A+B)	12	\$1,874,340
D. Audit reports on which final action was taken during this period		
(1) Recoveries		
a) Collection and Offset	7	\$812,670
b) Amount uncollectible	0	
(2) Write-offs	0	
E. Audit reports needing final action at the end of the reporting period (C-D)	5	\$1,061,670
F. Total (D+E)	12	\$1,874,340

**Management Report on Final Action  
on Audits with Recommendations for Better Use of Funds  
Agreed to by Management  
For the Six-Month Period Ended March 31, 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  (1) the dollar value of recommendations that were actually completed  (2) the dollar value of recommendations that management subsequently concluded should not or could not be implemented or completed	0	\$0  \$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 March 31, 2019**

<b>A. Audit Reports with management decisions on which final action has not been taken at the beginning of the period:</b>			<b>Sustained Costs</b>
1	16-4-052	National Ecological Observatory Network (NEON) <sup>1</sup>	\$962,298
2	16-1-023	University of Michigan	\$218,349
3	17-1-005	University of California - Scripps Inst of Oceanography	\$95,882
4	17-1-006	University of California - San Diego	\$187,089
5	18-1-002	Texas A&M Engineering Experiment Station	\$72,784
<b>Subtotal A</b>			<b>\$1,536,402</b>
			<b>5</b>
<b>B. Audit Reports on which management decisions were made during the period:</b>			
1	17-1-003	Purdue University	\$39,728
2	17-1-009	University of Southern California	\$64,816
3	17-1-010	University of Arizona <sup>2</sup>	\$22,256
4	18-1-001	University of Kansas Center for Research, Inc.	\$173,655
5	18-1-004	University of New Mexico	\$20,109
6	18-1-008	Tufts University	\$17,279
7	18-4-067	American Physical Society	\$95
<b>Subtotal B</b>			<b>\$337,938</b>
			<b>7</b>
<b>C. Total Audit Reports pending final action during this period: (Total A+B: 12)</b>			<b>\$1,874,340</b>
<b>D. Audit Reports on which final action was taken during this period:</b>			
1	16-1-023	University of Michigan	\$218,349
2	17-1-005	University of California - Scripps Inst of Oceanography	\$95,882
3	17-1-006	University of California - San Diego	\$187,089
4	17-1-009	University of Southern California	\$64,816
5	18-1-001	University of Kansas Center for Research, Inc.	\$173,655
6	18-1-002	Texas A&M Engineering Experiment Station	\$72,784
7	18-4-067	American Physical Society	\$95
<b>Subtotal D</b>			<b>\$812,670</b>
			<b>7</b>
<b>E. Audit Reports needing final action at the end of the period:</b>			
1	16-4-052	National Ecological Observatory Network (NEON) <sup>1</sup>	\$962,298
2	17-1-003	Purdue University	\$39,728
3	17-1-010	University of Arizona <sup>2</sup>	\$22,256
4	18-1-004	University of New Mexico	\$20,109
5	18-1-008	Tufts University	\$17,279
<b>Subtotal E</b>			<b>\$1,061,670</b>
			<b>5</b>
<b>F. Reconciliation of Audit Reports: (Total D+E: 12)</b>			<b>\$1,874,340</b>
<p><sup>1</sup>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.</p>			
<p><sup>2</sup>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.</p>			