



U.S. National
Science Foundation



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

Spring 2024



Karen Marrongelle
*National Science Foundation
Chief Operating Officer*

NSF Management appreciates the opportunity to respond to the Office of Inspector General's (OIG) Semiannual Report for the period from October 1, 2023, through March 31, 2024. On April 8, 2024, shortly after the close of this reporting period, NSF marked the total solar eclipse of the sun by supporting once-in-a-generation science. During the eclipse, NSF-funded researchers collected high-altitude observations of the infrared radiation streaming out of the solar corona using NSF National Center for Atmospheric Research (NCAR) research aircraft, which flew along the path of totality surveying emissions. These spectacular and impactful moments are only achieved through NSF's longstanding support of research programs and infrastructure that requires strong stewardship of U.S. taxpayer funds. To that end, this response highlights NSF engagement with OIG audit and investigative activities over this reporting period to support improvements and promote the integrity of our programs and operations so that the U.S. taxpayer may reap the maximum benefits from NSF-funded research.

The cover of this Management Response depicts the Daniel K. Inouye Solar Telescope, an NSF-funded major facility, which used its coronagraphic capabilities to co-observe the solar corona during the time of total eclipse. The Inouye Solar Telescope conducts year-round solar research, providing 24/7 observations on the sun and its activity. The OIG's major facility audits over the past several years, covering all phases of the facility lifecycle, have helped improve and strengthen our oversight of the overall research infrastructure program, which includes the Inouye Solar Telescope and NCAR. We appreciate the OIG's recognition that our oversight of major facilities is a model program, culminating in its removal from the OIG's annual list of Management Challenges, as published during this reporting period. At the same time, we recognize that NSF must stay vigilant in our oversight of major facility and other research infrastructure awards.

The OIG's annual Financial Statement Audit broadly sweeps NSF's programs and operations, extending beyond our research infrastructure program, thereby helping NSF to continue to improve financial controls at the agency level. We are pleased that the Financial Statement Audit for FY 2023, which concluded this past November, yielded NSF its twenty-sixth consecutive unmodified audit opinion for its FY 2023 and 2022 comparative financial statements. We further note that the FY 2023 audit's opinion is the seventh consecutive year for which NSF has an unmodified (or clean) opinion, without material weaknesses, significant deficiencies, or instances of non-compliance with applicable laws and regulations. More significantly, NSF leverages the results of the Financial Statement Audit, including lower-level findings and observations, to make improvements, reassess risks, and inform our internal control program year-round.

NSF's culture is rooted in innovation, which extends to our internal operations and controls. Likewise, the OIG executes its mission in innovative ways, so it complements our own oversight activities. The OIG's most recent innovation involves reorganizing its Office of Audits to fully support all types of audit activities, including full-scale audits as

well as inspections and evaluations. The OIG's re-visioning of its audit activities will help deliver audit products tailored to emerging risks and challenges to the maximum benefit of NSF for discrete issues, while continuing to deliver comprehensive "Yellow Book" audits that conduct deep dives into NSF's programs and operations, identifying broader areas for sustainable improvements. NSF has benefitted greatly from both types of audit engagements, as detailed in prior Management Responses. In this manner, our OIG continues to be a leader in the OIG community.

Similarly, the OIG Office of Investigations has been recognized by the IG community for its leadership, including in the area of fraud detection in the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program. We are proud that our OIG often has an "outsized" role in multi-agency grant fraud investigations relative to the size of the NSF awards at issue. In our view, the OIG's success is rooted in the tenaciousness of its investigators and the synergistic actions by NSF program managers and grants officers, who are vigilant to indicators of possible wrongdoing and work with the OIG to take appropriate actions to mitigate the loss of funds during the course of investigations. Meanwhile, NSF regularly incorporates observations and recommendations from OIG investigations to strengthen controls related to fraud-risk, including enhanced certification requirements.

Overall, we view our OIG as a leader in the investigation of all grant fraud. We note that, on average, NSF receives over 40,000 competitive proposals annually, but less than twenty-five percent are funded. The work of our OIG helps ensure that NSF funds research by those investigators and institutions who play by the rules and adhere to NSF's fundamental values of openness and transparency, accountability and honesty, impartiality and objectivity, and merit-based competition for research support. These values help ensure the integrity of NSF-funded research so that its potential can be fully realized.

Finally, as required by the IG Act, NSF appends to this response the Management Report on Final Actions Taken (also known as the Final Action Tables). The Final Action Tables report data arising from the OIG's audits of NSF's awardees, including (1) the status of NSF's resolution of the OIG's audit reports; and (2) costs disallowed and disposition of recommendations by NSF during the reporting period.

In closing, the OIG has recognized that NSF has continued to demonstrate its ability to achieve its mission in an ever-changing environment. Correspondingly, NSF recognizes that the OIG's independent critical lens helps us identify and traverse the challenges ahead. We continue to leverage the OIG's work to help inform and improve our oversight of agency controls and programs so that NSF can meet the moment to fund breathtaking discoveries.

**NSF's Final Action Tables do not include data on recommendations arising from OIG audits of NSF's operations and programs (OIG internal recommendations). Only a relatively small subset of OIG internal recommendations issued before the start of this Semiannual Reporting period were still open at the end of the period, totaling 17 recommendations from 8 reports. All seventeen recommendations are resolved, and none include questioned costs or funds put to better use. NSF's practice for internal audit recommendations is to reach agreement with the OIG with respect to (a) the planned corrective actions; and then (b) the sufficiency of completed actions to support recommendation closure. Therefore, for these recommendations, NSF's management decisions and final actions align with the OIG's resolution and closure.*



Karen Marrongelle
National Science Foundation
Chief Operating Officer

**Management Decisions Made on OIG External Audit Reports
for the Six-Month Period Ended March 31, 2024**

	Number of Reports	Dollar Value
A. Audit reports pending management decisions at the beginning of the period	29	\$5,158,231
(1) Questioned Costs	29	\$5,158,231
(2) Funds Put to Better Use	0	\$0
B. Audit reports issued during the reporting period	9	\$1,813,045
(1) Questioned Costs	9	\$1,813,045
(2) Funds Put to Better Use	0	\$0
C. Total audit reports pending management decisions this reporting period (A+B)	38	\$6,971,271
D. Audit reports for which a management decision was made during the reporting period (Disallowed Costs)	6	\$657,018
(1) Questioned Costs	6	\$848,230
(a) Disallowed Costs	6	\$657,018
(b) Allowed Costs	6	\$191,212
(2) Funds Put to Better Use	0	n/a
E. Audit reports pending management decisions at the end of the period	32	\$6,123,046
(1) Questioned Costs	32	\$6,123,046
(2) Funds Put to Better Use	0	\$0
F. Total Reports (D+E)	38	

**Final Actions Taken on Audits with Management Decisions
For the Six-Month Period Ended March 31, 2024**

	Number of Recommendations	Dollar Value
A. Audit reports with management decisions on which final action had not been taken at the beginning of the period	51	\$1,676,362
B. Audit reports on which management decisions were made during the period	69	\$657,018
C. Total audit reports pending final action during this period (Total A+B)	120	\$2,333,380
D. Audit reports on which final action was taken during this period	74	\$1,851,287
(1) Recoveries		
a) Collection and Offset		\$1,851,287
b) Amount uncollectible		
(2) Write-offs		
(3) Implemented Recommendations	74	
E. Audit reports needing final action at the end of the reporting period and unimplemented recommendations (C-D) See detailed table for explanations why final actions are not complete.	46	\$482,093
F. Total (D+E)	120	\$2,333,380

Management Decisions Made on OIG External Audit Reports for the Period Ended March 31, 2024

A. Audit reports pending management decisions at the beginning of the period:			No. of Recommendations	Questioned Costs	Funds Put to Better Use
1	19-1-010	University of Maryland College Park	19	\$357,108	\$0
2	19-1-017	Oregon State University	24	\$369,532	\$0
3	20-1-004	University of North Carolina at Chapel Hill	43	\$744,671	\$0
4	20-1-005	University of Houston	30	\$133,305	\$0
5	21-1-002	Texas A&M University	24	\$137,558	\$0
6	21-1-004	University of Florida	17	\$640,723	\$0
7	21-1-007	Clemson University	35	\$276,440	\$0
8	21-1-017	Tennessee State University	13	\$155,432	\$0
9	21-1-019	University of Pittsburgh	12	\$106,659	\$0
10	21-1-020	University of California-San Francisco	20	\$136,810	\$0
11	22-1-001	University of Rhode Island	21	\$627,748	\$0
12	22-1-002	University of Texas at Dallas	24	\$249,210	\$0
13	22-1-003	University of California - Merced	33	\$226,652	\$0
14	22-1-006	California Polytechnic State University Foundation	13	\$30,177	\$0
15	22-1-007	San Francisco State University	6	\$260	\$0
16	22-1-008	Education Development Center	12	\$88,089	\$0
17	22-1-009	BSCS Science Learning	16	\$158,050	\$0
18	22-1-011	Arctic Research Consortium of the U.S.	10	\$14,847	\$0
19	22-1-013	Colorado School of Mines	10	\$10,260	\$0
20	23-1-001	Cary Institute of Ecosystem Studies	15	\$33,024	\$0
21	23-1-002	Computing Research Association	27	\$319,674	\$0
22	23-1-003	University of Mississippi	16	\$129,951	\$0
23	23-1-004	University of North Carolina at Charlotte	10	\$6,048	\$0
24	23-1-005	Incorporated Research Institutions for Seismology (IRIS)	5	\$470	\$0
25	23-1-006	Rensselaer Polytechnic Institute	22	\$198,137	\$0
26	23-1-007	Ohio State University	5	\$960	\$0
27	23-1-008	Smithsonian Institution Astrophysical Observatory	4	\$2,496	\$0
28	23-1-009	Monterey Bay Aquarium Research Institute	5	\$2,891	\$0
29	23-1-010	University of Connecticut Health Center	5	\$1,049	\$0
Subtotal A			496	\$5,158,231	\$0

Management Decisions Made on OIG External Audit Reports for the Period Ended March 31, 2024

B. Audit reports issued this six-month reporting period.			No. of Recommendations	Questioned Costs	Funds Put to Better Use
1	24-1-001	University of Vermont & State Agricultural College	9	\$30,717	\$0
2	24-1-002	University of Arkansas	13	\$257,693	\$0
3	24-1-003	North Dakota State University Fargo	4	\$7,870	\$0
4	24-1-004	University of New Hampshire	7	\$7,754	\$0
5	24-1-005	Mississippi State University	17	\$34,314	\$0
6	24-1-006	Montana State University	18	\$119,241	\$0
7	24-1-007	Dartmouth College	9	\$104,270	\$0
8	24-1-008	University of Oklahoma Norman Campus	19	\$1,251,186	\$0
9	24-1-009	Virginia Polytechnic Institute and State University	1	\$0	\$0
Subtotal B			97	\$1,813,045	\$0

C. Total audit reports pending management decisions this reporting period (Total A+B: 38)			593	\$6,971,276	\$0
--	--	--	------------	--------------------	------------

D. Audit reports for which a management decision was made during the reporting period.			No. of Recommendations	Questioned Costs	Funds Put to Better Use	Disallowed Costs
1	21-1-017	Tennessee State University	13	\$155,432	\$0	\$155,432
2	22-1-001	University of Rhode Island ¹	21	\$627,748	\$0	\$459,522
3	22-1-007	San Francisco State University	6	\$260	\$0	\$260
4	23-1-001	Cary Institute of Ecosystem Studies	15	\$33,024	\$0	\$10,038
5	23-1-010	University of Connecticut Health Center	5	\$1,049	\$0	\$1,049
6	24-1-001	University of Vermont & State Agricultural College	9	\$30,717	\$0	\$30,717
Subtotal D			69	\$848,230	\$0	\$657,018

¹ Report 22-1-001 Disallowed Costs: \$397,305 disallowed questioned costs plus additional disallowed costs of \$62,217 that were not questioned by the auditor.

**Management Decisions Made on OIG External Audit Reports
for the Period Ended March 31, 2024**

E. Audit reports pending management decisions at the end of the period:			No. of Recommendations	Questioned Costs	Funds Put to Better Use
1	19-1-010	University of Maryland College Park	19	\$357,108	\$0
2	19-1-017	Oregon State University	24	\$369,532	\$0
3	20-1-004	University of North Carolina at Chapel Hill	43	\$744,671	\$0
4	20-1-005	University of Houston	30	\$133,305	\$0
5	21-1-002	Texas A&M University	24	\$137,558	\$0
6	21-1-004	University of Florida	17	\$640,723	\$0
7	21-1-007	Clemson University	35	\$276,440	\$0
8	21-1-019	University of Pittsburgh	12	\$106,659	\$0
9	21-1-020	University of California-San Francisco	20	\$136,810	\$0
10	22-1-002	University of Texas at Dallas	24	\$249,210	\$0
11	22-1-003	University of California - Merced	33	\$226,652	\$0
12	22-1-006	California Polytechnic State University Foundation	13	\$30,177	\$0
13	22-1-008	Education Development Center	12	\$88,089	\$0
14	22-1-009	BSCS Science Learning	16	\$158,050	\$0
15	22-1-011	Arctic Research Consortium of the U.S.	10	\$14,847	\$0
16	22-1-013	Colorado School of Mines	10	\$10,260	\$0
17	23-1-002	Computing Research Association	27	\$319,674	\$0
18	23-1-003	University of Mississippi	16	\$129,951	\$0
19	23-1-004	University of North Carolina at Charlotte	10	\$6,048	\$0
20	23-1-005	Incorporated Research Institutions for Seismology (IRIS)	5	\$470	\$0
21	23-1-006	Rensselaer Polytechnic Institute	22	\$198,137	\$0
22	23-1-007	Ohio State University	5	\$960	\$0
23	23-1-008	Smithsonian Institution Astrophysical Observatory	4	\$2,496	\$0
24	23-1-009	Monterey Bay Aquarium Research Institute	5	\$2,891	\$0
25	24-1-002	University of Arkansas	13	\$257,693	\$0
26	24-1-003	North Dakota State University Fargo	4	\$7,870	\$0
27	24-1-004	University of New Hampshire	7	\$7,754	\$0
28	24-1-005	Mississippi State University	17	\$34,314	\$0
29	24-1-006	Montana State University	18	\$119,241	\$0

(Continued on next page)

(Continued from previous page)

E. Audit reports pending management decisions at the end of the period:			No. of Recommendations	Questioned Costs	Funds Put to Better Use
30	24-1-007	Dartmouth College	9	\$104,270	\$0
31	24-1-008	University of Oklahoma Norman Campus	19	\$1,251,186	\$0
32	24-1-009	Virginia Polytechnic Institute and State University	1	\$0	\$0
Subtotal E			524	\$6,123,046	\$0

F. Reconciliation total audit reports (Total D+E: 38)			593	\$6,971,276	\$0
--	--	--	------------	--------------------	------------

Final Actions Taken on Audits with Management Decisions for the Six-Month Period Ended March 31, 2024

A. Audit Reports with management decisions on which final action had not been taken at the beginning of the period:			Reported Recommendations	Disallowed Costs	Open Recommendations	Pending Repayment
1	21-1-001	University of Kansas Center for Research Inc	11	\$1,550,054	11	\$1,550,054
2	21-1-003	University of Wyoming	15	\$256,351	6	\$0
3	21-1-008	Emory University	8	\$35,465	3	\$35,465
4	21-1-009	University of New Mexico	9	\$3,681	9	\$3,681
5	21-1-010	SUNY at Stony Brook	10	\$31,341	4	\$0
6	21-1-011	Florida International University	9	\$22,144	4	\$7,977
7	21-1-014	California Institute of Technology	11	\$18,865	11	\$18,865
8	22-1-012	North Carolina Central University	14	\$60,320	3	\$60,320
Subtotal A			87	\$1,978,221	51	\$1,676,362

B. Audit Reports on which management decisions were made during the period:			Reported Recommendations	Disallowed Costs	Open Recommendations	Pending Repayment
1	21-1-017	Tennessee State University	13	\$155,432	13	\$155,432
2	22-1-001	University of Rhode Island	21	\$459,522	21	\$459,522
3	22-1-007	San Francisco State University	6	\$260	6	\$260
4	23-1-001	Cary Institute of Ecosystem Studies	15	\$10,038	15	\$10,038
5	23-1-010	University of Connecticut Health Center	5	\$1,049	5	\$1,049
6	24-1-001	University of Vermont & State Agricultural College	9	\$30,717	9	\$30,717
Subtotal B			69	\$657,018	69	\$657,018

C. Total Recommendations Pending Final Action During This Period:					120	\$2,333,380
--	--	--	--	--	------------	--------------------

Final Actions Taken on Audits with Management Decisions for the Six-Month Period Ended March 31, 2024

D. Audit Reports on which final action was taken during this period:			Open Recommendations	Pending Repayment	Closed Recommendations	Repaid
1	21-1-001	University of Kansas Center for Research Inc	11	\$1,550,054	11	\$1,550,054
2	21-1-008	Emory University	3	\$35,465	3	\$35,465
3	21-1-014	California Institute of Technology	11	\$18,865	10	\$2,514
4	21-1-017	Tennessee State University	13	\$155,432	1	\$939
5	22-1-001	University of Rhode Island	21	\$459,522	16	\$230,289
6	22-1-007	San Francisco State University	6	\$260	6	\$260
7	23-1-001	Cary Institute of Ecosystem Studies	15	\$10,038	13	\$0
8	23-1-010	University of Connecticut Health Center	5	\$1,049	5	\$1,049
9	24-1-001	University of Vermont & State Agricultural College	9	\$30,717	9	\$30,717
Subtotal D			94	\$2,261,402	74	\$1,851,287

E. Audit Reports needing final action at the end of the period:			Reported Recommendations	Disallowed Costs	Open Recommendations	Pending Repayment	Explanation Why Final Action is Not Complete
1	21-1-003	University of Wyoming	15	\$256,351	6	\$0	b.
2	21-1-009	University of New Mexico	9	\$3,681	9	\$3,681	b.
3	21-1-010	SUNY at Stony Brook	10	\$31,341	4	\$0	b.
4	21-1-011	Florida International University	9	\$22,144	4	\$7,977	b.
5	21-1-014	California Institute of Technology	11	\$18,865	1	\$16,351	b.
6	21-1-017	Tennessee State University	13	\$155,432	12	\$154,493	a.
7	22-1-001	University of Rhode Island	21	\$459,522	5	\$229,233	a.
8	22-1-012	North Carolina Central University	14	\$60,320	3	\$60,320	a.
9	23-1-001	Cary Institute of Ecosystem Studies	15	\$10,038	2	\$10,038	a.
Subtotal E			117	\$1,017,694	46	\$482,093	

F. Reconciliation of Recommendations:			120	\$2,333,380	
--	--	--	------------	--------------------	--

Final actions are completed when all recommendations are closed and all disallowed costs have been repaid.

Explanations why final actions are not complete:

- a. The management decision was made during the preceding year.
- b. NSF Management continues to aggressively pursue final actions to fully implement audit recommendations.