



National
Science
Foundation



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

Spring 2023



Karen Marrongelle
*National Science Foundation
Chief Operating Officer*

NSF's Management appreciates the opportunity to respond to the Office of Inspector General's (OIG's) Semiannual Report for the period from October 1, 2022 through March 31, 2023. During this reporting period, NSF proceeded with implementation of the CHIPS and Science Act of 2022 to meet the challenge of continuing the Nation's global leadership in Science, Technology, Engineering, and Mathematics (STEM) and all levels of STEM education. Integral to our path to success are three drivers: continuing investment in basic research; providing STEM opportunities to reach every demographic and socioeconomic group throughout the country; and accelerating use-inspired, translational breakthroughs by fostering partnerships with academia, non-profit organizations, and the private sector. To that end, this response highlights three OIG activities over the reporting period for which the OIG's critical lens and NSF's responsive actions will help these drivers steer a clear, direct path forward for breakthroughs in science, engineering, and technology and the development of a future-focused science and engineering workforce. These activities are the OIG's Audit of NSF's Controls over the Graduate Research Fellowship Program (GRFP), the annual Financial Statement audit, and the OIG's proactive review of a new transaction authority under the CHIPS Act.

The cover of this Management Response represents NSF's investment to expand STEM opportunities in K-12 education through an initiative launched during this reporting period, the Visionary Interdisciplinary Teams Advancing Learning (VITAL) Prize Challenge. The VITAL Prize Challenge, made possible through a partnership with three organizations, will focus on providing interdisciplinary teams from the science and engineering research and startup or small-business communities to build K-12 learning technology innovations at speed and scale for the adoption nationwide.

The VITAL Prize Challenge continues NSF's leadership over the past 70 years in promoting education for the next generations of scientists, which began with the GRFP. As the oldest graduate fellowship program of its kind, GRFP recognizes and supports outstanding graduate students who have demonstrated the potential to be high achieving scientists and engineers. Past fellows include numerous Nobel Prize winners, and we strive for the program to be a gold standard for fellowships across all Federal science agencies. Correspondingly, we appreciate the OIG's rigorous review of the program, including application of two innovations by its Office of Audits, the Notice of Potential Findings and Recommendations (NPFRR) process and the hybrid approach of auditing agency internal controls as well as conducting external reviews of institutions receiving NSF funds. The OIG's work yielded constructive, actionable recommendations which, when fully implemented, will result in sustainable improvements in NSF's management of the program.

More specifically, the OIG's timely feedback through the NPFRR process and testing at awardee institutions helped NSF identify the scope of issues presented and chart a concrete pathway for improvement of GRFP controls well before the OIG issued its final report. NSF updated the GRFP Administrative Guide (GRFP Guide) for fellows and their institutions in 2022 to clarify policies and procedures, including eligibility requirements for fellows and application of the Cost of Education (COE) allowance by institutions, in a more user-friendly format. NSF amplified the impact of issuance of the updated and improved GRFP Guide by conducting webinars over the past year to communicate program requirements and responsibilities for applicants, fellows, and institutions, including three webinars in 2023 which have drawn, collectively, hundreds of attendees. Finally, NSF has made several enhancements to information technology (IT) controls for award administration, including

controls related to the Cost of Education allowance, stipend expenditures, Grant Roster Reports, and Program Expense Reports, with more planned. Informed by the OIG's audit work, NSF will continue to improve oversight of GRFP, which, in turn, will continue to support future leaders in STEM.

We appreciate that NSF and OIG engagement during a second activity, the annual Financial Statement Audit, helps maintain and strengthen financial controls across agency awards and programs as well as agency operations. We are pleased that the Financial Statement Audit for FY 2022, conducted by the OIG's contract auditor, Kearney & Company, yielded NSF its twenty-fifth consecutive unmodified audit opinion for its FY 2022 and 2021 comparative financial statements. We further note that the FY 2022 audit's opinion is the sixth 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.

A key factor to sustaining these results, notably over the past six years, is Kearney's and the OIG's communication of observations and suggestions arising from the Financial Statement audits from year to year and NSF's actions responsive to these matters and to other OIG audits that feed into the agency's internal controls and financial statements. For example, informed by the OIG's NPFRRs arising from its GRFP audit, NSF conducted payment testing of the program, which indicated that GRFP is below the statutory threshold for significant improper payments within the Payment Integrity Information Act of 2019 (PIIA). In addition, during this reporting period, NSF completed implementation of all recommendations arising from the OIG's Audit of NSF's Purchase Card Program, thereby helping mitigate risks to internal controls. Most simply, NSF's continuous improvements in view of the OIG's annual Financial Statement and related audits help maintain and strengthen our stewardship of agency funds across all programs, powering the drivers for promoting the progress of science and the Nation's competitiveness.

A third OIG activity during this reporting period, its report summarizing findings and recommendations related to the authority to use other transaction agreements (OTAs) exemplifies another innovation of our OIG, proactive reviews of emerging issues. As we are developing policies and procedures for implementation of this flexible transaction authority under the CHIPS Act, the OIG's report on OTAs will help address potential risks, avoid pitfalls, and leverage existing financial and administrative controls so that we may realize the full potential of partnerships and carry forward the promise of the CHIPS Act. More broadly, open and constructive dialogue with the OIG advances sound stewardship of taxpayer dollars across all types of agreements, under both existing and new authorities.

Finally, NSF appends to this response the Management Report on Final Actions Taken (also known as the Tables) as required under the IG Act, as amended. The Tables report data arising from the OIG's audits of NSF's awardees (external audits), 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, NSF recognizes that the OIG's activities, including the GRFP audit, the Financial Statement audit, and the OTA report, have assisted NSF in identifying areas for improvement of agency programs and controls as well as providing insights into potential risks arising from a new type of agreement. The OIG's reports and NSF's responsive actions align with key drivers for NSF's continued success, supporting STEM education for all, ensuring the effective and efficient administration of funding to advance research across all programs, and unleashing the power of partnerships. We will continue to leverage the OIG's work to help inform and improve our oversight of agency controls and programs as we meet the challenges ahead.

* For completeness and transparency, NSF notes that the Tables exclude the small subset of data arising from the OIG's audits of NSF's programs and operations (internal audits), which do not include any recommendations to recover costs. Rather, as detailed in the OIG's Semiannual Report, NSF works closely with the OIG to reach agreement on corrective action plans, with target dates, for each internal recommendation and continues to communicate with the OIG on any expected changes to the plans to maintain alignment with the OIG on the plan forward for completion of all responsive actions.



Karen Marrongelle
National Science Foundation
Chief Operating Officer

**Management Decisions Made on OIG External Audit Reports
For the Six-Month Period Ended March 31, 2023**

	Number of Reports	Dollar Value
A. Audit reports pending management decisions at the beginning of the period	27	\$5,201,920
(1) Questioned Costs	27	\$5,201,920
(2) Funds Put to Better Use	0	\$0
B. Audit reports issued during the reporting period	6	\$687,304
(1) Questioned Costs	6	\$687,304
(2) Funds Put to Better Use	0	\$0
C. Total audit reports pending management decisions this reporting period (A+B)	33	
D. Audit reports for which a management decision was made during the reporting period (Disallowed Costs)	5	\$270,684
(1) Questioned Costs	5	\$336,212
(a) Disallowed Costs	5	\$270,684
(b) Allowed Costs	5	\$65,528
(2) Funds Put to Better Use	0	n/a
E. Audit reports pending management decisions at the end of the period	28	
(1) Questioned Costs	28	\$5,553,012
(2) Funds Put to Better Use	0	\$0
F. Total Reports (D+E)	33	

**Final Actions Taken on Audits with Management Decisions
For the Six-Month Period Ended March 31, 2023**

	Number of Reports	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	7	123	\$2,920,877
B. Audit reports on which management decisions were made during the period	5	49	\$270,684
C. Total audit reports pending final action during this period (Total A+B)	12	172	\$3,191,561
D. Audit reports on which final action was taken during this period	3	22	\$213,314
(1) Recoveries			
a) Collection and Offset	3		\$213,314
b) Amount uncollectible	0		
(2) Write-offs	0		
(3) Implemented Recommendations		22	
(4) Unimplemented Recommendations		0	
E. Audit reports needing final action at the end of the reporting period and unimplemented recommendations (C-D) All management decisions were made during the preceding year.	9	150	\$2,978,247
F. Total (D+E)	12	172	\$3,191,561

**Management Decisions Made on OIG External Audit Reports for the Period
Ended March 31, 2023**

A. Audit reports pending management decisions at the beginning of the period:			Questioned Costs	Funds Put to Better Use
1	19-1-010	University of Maryland College Park	\$357,108	\$0
2	19-1-017	Oregon State University	\$369,532	\$0
3	20-1-001	University of Colorado at Boulder	\$79,831	\$0
4	20-1-004	University of North Carolina at Chapel Hill	\$744,671	\$0
5	20-1-005	University of Houston	\$133,305	\$0
6	20-1-007	Yale University	\$251,973	\$0
7	21-1-002	Texas A&M University	\$137,558	\$0
8	21-1-004	University of Florida	\$640,723	\$0
9	21-1-007	Clemson University	\$276,440	\$0
10	21-1-008	Emory University	\$89,884	\$0
11	21-1-011	Florida International University	\$22,144	\$0
12	21-1-014	California Institute of Technology	\$50,721	\$0
13	21-1-016	University of South Carolina at Columbia	\$140,360	\$0
14	21-1-017	Tennessee State University	\$155,432	\$0
15	21-1-019	University of Pittsburgh	\$106,659	\$0
16	21-1-020	University of California-San Francisco	\$136,810	\$0
17	22-1-001	University of Rhode Island	\$627,748	\$0
18	22-1-002	University of Texas at Dallas	\$249,210	\$0
19	22-1-003	University of California - Merced	\$226,652	\$0
20	22-1-006	California Polytechnic State University Foundation	\$30,177	\$0
21	22-1-007	San Francisco State University	\$260	\$0
22	22-1-008	Education Development Center	\$88,089	\$0
23	22-1-009	BSCS Science Learning	\$158,050	\$0
24	22-1-010	West Virginia University Research Corporation	\$43,156	\$0
25	22-1-011	Arctic Research Consortium of the U.S.	\$14,847	\$0
26	22-1-012	North Carolina Central University	\$60,320	\$0
27	22-1-013	Colorado School of Mines	\$10,260	\$0
		Subtotal A	\$5,201,920	\$0
		27		

B. Audit reports issued this six-month reporting period:			Questioned Costs	Funds Put to Better Use
1	23-1-001	Cary Institute of Ecosystem Studies	\$33,024	\$0
2	23-1-002	Computing Research Association	\$319,674	\$0
3	23-1-003	University of Mississippi	\$129,951	\$0
4	23-1-004	University of North Carolina at Charlotte	\$6,048	\$0
5	23-1-005	Incorporated Research Institutions for Seismology (IRIS)	\$470	\$0
6	23-1-006	Rensselaer Polytechnic Institute	\$198,137	\$0
		Subtotal B	\$687,304	\$0
		6		

C. Total audit reports pending management decisions this reporting period: (Total A+B: 33) \$5,889,224

D. Audit reports for which a management decision was made during the reporting period:			Questioned Costs	Disallowed Costs	Funds Put to Better Use
1	20-1-001	University of Colorado at Boulder	\$79,831	\$68,303	\$0
2	21-1-011	Florida International University	\$22,144	\$0	\$0
3	21-1-014	California Institute of Technology	\$50,721	\$18,865	\$0
4	21-1-016	University of South Carolina at Columbia	\$140,360	\$140,360	\$0
5	22-1-010	West Virginia University Research Corporation	\$43,156	\$43,156	\$0
		Subtotal D	\$336,212	\$270,684	\$0
		5			

E. Audit reports pending management decisions at the end of the period:			Questioned Costs	Funds Put to Better Use
1	19-1-010	University of Maryland College Park	\$357,108	\$0
2	19-1-017	Oregon State University	\$369,532	\$0
3	20-1-004	University of North Carolina at Chapel Hill	\$744,671	\$0
4	20-1-005	University of Houston	\$133,305	\$0
5	20-1-007	Yale University	\$251,973	\$0
6	21-1-002	Texas A&M University	\$137,558	\$0
7	21-1-004	University of Florida	\$640,723	\$0
8	21-1-007	Clemson University	\$276,440	\$0
9	21-1-008	Emory University	\$89,884	\$0
10	21-1-017	Tennessee State University	\$155,432	\$0
11	21-1-019	University of Pittsburgh	\$106,659	\$0
12	21-1-020	University of California-San Francisco	\$136,810	\$0
13	22-1-001	University of Rhode Island	\$627,748	\$0
14	22-1-002	University of Texas at Dallas	\$249,210	\$0
15	22-1-003	University of California - Merced	\$226,652	\$0
16	22-1-006	California Polytechnic State University Foundation	\$30,177	\$0
17	22-1-007	San Francisco State University	\$260	\$0
18	22-1-008	Education Development Center	\$88,089	\$0
19	22-1-009	BSCS Science Learning	\$158,050	\$0
20	22-1-011	Arctic Research Consortium of the U.S.	\$14,847	\$0
21	22-1-012	North Carolina Central University	\$60,320	\$0
22	22-1-013	Colorado School of Mines	\$10,260	\$0
23	23-1-001	Cary Institute of Ecosystem Studies	\$33,024	\$0
24	23-1-002	Computing Research Association	\$319,674	\$0
25	23-1-003	University of Mississippi	\$129,951	\$0
26	23-1-004	University of North Carolina at Charlotte	\$6,048	\$0
27	23-1-005	Incorporated Research Institutions for Seismology (IRIS)	\$470	\$0
28	23-1-006	Rensselaer Polytechnic Institute	\$198,137	\$0
		Subtotal E	\$5,553,012	\$0
		28		

F. Reconciliation of audit reports: (Total D+E: 33)			\$5,889,224	
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**Final Actions Taken on Audits with Management Decisions
For the Six-Month Period Ended March 31, 2023**

A. Audit Reports with management decisions on which final action had not been taken at the beginning of the period:			No. of Recommendations	Disallowed Costs
1	19-1-016	Ohio State University ¹	22	\$386,368
2	20-1-008	Duke University	48	\$663,284
3	21-1-001	University of Kansas Center for Research Inc	11	\$1,550,054
4	21-1-003	University of Wyoming	15	\$256,351
5	21-1-009	University of New Mexico	9	\$3,681
6	21-1-010	SUNY at Stony Brook	10	\$31,341
7	21-1-013	University of Wisconsin-Madison	8	\$29,798
		Subtotal A	123	\$2,920,877

B. Audit Reports on which management decisions were made during the period:				
1	20-1-001	University of Colorado at Boulder	15	\$68,303
2	21-1-011	Florida International University	9	\$0
3	21-1-014	California Institute of Technology	11	\$18,865
4	21-1-016	University of South Carolina at Columbia	8	\$140,360
5	22-1-010	West Virginia University Research Corporation	6	\$43,156
		Subtotal B	49	\$270,684

C. Total Audit Reports pending final action during this period: (Total A+B: 12 Reports)			172	\$3,191,561
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D. Audit Reports on which final action was taken during this period:

1	21-1-013	University of Wisconsin-Madison	8	\$29,798
2	21-1-016	University of South Carolina at Columbia	8	\$140,360
3	22-1-010	West Virginia University Research Corporation	6	\$43,156
		Subtotal D	22	\$213,314

E. Audit Reports needing final action at the end of the period:

1	19-1-016	Ohio State University ¹	22	\$386,368	a.
2	20-1-001	University of Colorado at Boulder	15	\$68,303	a.
3	20-1-008	Duke University	48	\$663,284	a.
4	21-1-001	University of Kansas Center for Research Inc	11	\$1,550,054	a.
5	21-1-003	University of Wyoming	15	\$256,351	a.
6	21-1-009	University of New Mexico	9	\$3,681	a.
7	21-1-010	SUNY at Stony Brook	10	\$31,341	a.
8	21-1-011	Florida International University	9	\$0	a.
9	21-1-014	California Institute of Technology	11	\$18,865	a.
		Subtotal E	150	\$2,978,247	

**F. Reconciliation of Audit Reports:
(Total D+E: 12 Reports)**

172	\$3,191,561
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¹ The NSF sustained amount is \$463,523; however, NSF's consideration of circumstances and alternative documentation resulted in a management decision to disallow and require repayment of \$386,368.

^a The management decision was made during the preceding year.