Merit Review Process

Fiscal Year 2021 Digest

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NATIONAL SCIENCE BOARD OVERVIEW
FY 2021 NSF MERIT REVIEW DIGEST

The National Science Board (NSB) is pleased to receive the NSF FY 2021 Merit Review Digest (Digest) from the National Science Foundation (NSF). Merit review remains at the heart of NSF's enterprise. It identifies portfolios of ideas for funding in accord with two merit review criteria – Intellectual Merit (IM) and Broader Impacts (BI). NSF's merit review process remains the gold standard in the allocation of more than $8.5 billion in annual resources to support U.S. basic scientific research and programs to strengthen scientific research potential and science education programs at all levels throughout the United States and worldwide. Our goal is to fund awards with integrity in a fair, competitive, and transparent process. NSF's mechanisms for assessing merit review includes the utilization of external advisory committees, reports from Committees of Visitors (COVs), and biennial surveys of proposers and reviewers. Together with NSF, the NSB will conduct a reexamination of the NSF merit review policies, implementation, and accountability in the coming year with a goal to further strengthen this core function of the NSF.

FY 2021

NSF made 11,344 new, competitive awards in FY 2021, reverting to pre-pandemic levels after an increase in FY 2020 awards due in part to a jump in RAPID awards for pandemic research. NSF's overall funding rate was 26%, slightly below the 28% FY 2020 funding rate. NSF received slightly more proposals than the year before, but proposals remain approximately 10% below the number submitted in 2018. A substantial reason for the decrease in the number of proposals is attributed to the increasing number of Directorates using no-deadline policies. An important consideration, which merits further study, is whether the decrease in proposals is concomitant with shrinking demographic and/or regional diversity. NSF reports that 43% of applicants who submitted proposals in the most recent three-year period (2019-2021) received funding. The percentage of applicants succeeding in each three-year period has increased consistently since the FY 2010-2012 tranche. The reasons for the increase merit further examination.

NSF made several changes to its merit review process last year with the intention to reduce the burden on proposal submitters. These include standardizing biographical and pending support information and certain other disclosure requirements and harmonizing some required disclosures with ones required by NIH. In addition, NSF has provided staff with new, updated guidance for virtual panelists on full participation in the merit review process covering topics of confidentiality, conflicts of interest, and respectful behavior. These changes illustrate NSF's attention to continuous improvement of its processes and NSB welcomes them.

NSF grants provide compensation for participants, including senior personnel, post-doctoral researchers, and graduate students. The budgets of funded research awards in FY 2021 proposed to support an estimated 44,600 senior personnel, 5,000 post-doctoral researchers, and 30,300 graduate students. This compares favorably to estimates of the preceding year and reflects a positive trend over time. As part of the NSB's focus on developing STEM talent for the

nation, the Board seeks disaggregated data demonstrating the extent to which NSF supports participants, especially early-career and young researchers. To ensure that NSF is helping to close the STEM talent gap and to aid NSB's assessment whether current compensation from NSF funded research provides adequate support to attract and retain students, NSB urges NSF explore ways to collect and report on actual compensation expenditures in this area as soon as feasible.

A Culture of Accountability and Transparency

NSF's proposals are evaluated by two criteria: Intellectual Merit and Broader Impacts. Data in this Digest shows that close to 98% of proposals in FY 2021 were reviewed by external reviewers via one of three methods: panel only, ad hoc (i.e., on an individual basis) only, or panel + ad hoc. Agency-wide, about 69% of proposals were evaluated through panels with a mean number of 3.8 reviewers per proposal. Twenty-three percent of proposals were reviewed through panels and one or more ad hoc reviewers. The mean number of reviewers per proposal for this kind of evaluation was 4.8. Finally, six percent of proposals were reviewed by ad hoc reviewers only, resulting in a mean of 3.8 reviewers per proposal.

In February 2021, NSB passed two resolutions to enhance the merit review process. The first resolution stipulated that the Director, acting at his discretion, shall implement policies to maximize reviewers' preparedness to fulfill their role in the merit review process, such as through a program of required training for reviewers. The resolution was informed by reviewer survey results indicating that, while nearly all respondents thought orientation training would be helpful, only one out of five respondents completed it. We anticipated training for all reviewers would enhance the merit review process. The second resolution provided that the Director, acting at his discretion, shall develop a plan to ensure that there is appropriate Broader Impacts expertise on COV panels. This resolution resulted in part from repeated COV reports noting that written reviews of proposed Broader Impacts tended to be less consistent and less rigorous than the reviews of the Intellectual Merit of the proposal. NSB stated its belief that COVs would be enhanced by including at least one member with in-depth experience and knowledge in BI and who could analyze and make specific recommendations to improve the current review process.

Within the resolution, NSB sought presentation of the results of pilot programs conducting relevant initiatives after a year. The pandemic slowed the ability of NSF to develop and conduct these pilots. but NSB expects to hear the results from these pilot programs in FY 2023.

NSB Re-examination of Merit Review Policies, Criteria, and Process

For decades the NSB, at times with encouragement from Congress, has worked with NSF to ensure the fairness and effectiveness of the merit review process. It is the Board's responsibility to establish the policies of NSF within the framework of applicable national policies set forth by the President and Congress. The Board last systematically examined the merit review policy and criteria in 2011. Considering the focus that the Foundation and Congress place on accountability and the growth in professionalism regarding the Broader Impacts criterion, this is an appropriate time for NSB to re-examine the merit review criteria and process.

Historical Context

The proposal evaluation criterion of "scientific merit" was established in 1951 as NSF began its work. Since then, NSF, NSB, and expert third parties have periodically examined the policies and process of proposal review at NSF, resulting in revisions. In 1967, the Board approved five review criteria for academic research, marking an emergence of benefits to society as a critical component of federally funded research. In 1974, 11 criteria were established, and in 1981, those criteria were reduced to four. Out of growing concern that an increasing share of resources directed towards large facilities could potentially undermine NSF's peer review process, in 1985, NSB called upon NSF to reaffirm the importance of and re-examine its review process as indeed a process, and one that involves more than just technical merit.

Concern for the effectiveness of the merit review process was spurred by the passage of the Government Performance and Results Act (GPRA) in 1993, which mandated the tying of agency goals and strategies to performance outcomes. As a result, in 1996, a Task Force of NSB and NSF staff recommended the criteria be simplified and harmonized with NSF's strategic plan. As a result, the Board reduced the Merit Review criteria down to two – Intellectual Merit (IM) and Broader Impacts (BI) – which remain in place today.

In 2007, after a review of the Merit Review process, the Board declared the process was "an international 'gold standard' for review of science and engineering research proposals," and revised the description of IM to highlight the importance of transformational research. Five years later, the COMPETES Act codified NSF's use of BI as a merit review criterion and directed the application of this criterion to achieve specific societal goals. At the same time, the Board convened a joint NSB-NSF Task Force to assess how well Intellectual Merit and Broader Impacts were serving the agency. While the Task Force recommended keeping IM and BI as the Merit Review criteria, it also recommended revisions to criteria descriptions to draw clearer connections to core principles and better articulate essential elements of each criterion.

Most recently, through the Vision 2030 report, the Board stated its commitment to strengthening the BI criterion to better meet societal needs and work with NSF leadership to review and recommend changes to policies, processes, and procedures. Over the past several years, the Board and its Committee on Oversight have received numerous presentations and engaged in numerous discussions with subject-matter experts throughout the agency and the broader science and engineering community. Two years ago, the Board passed resolutions to improve reviewer preparedness and facilitate BI expertise on Committee of Visitors panels.

The passage of the CHIPS Act and launch of the Directorate for Technology, Innovation, and Partnerships (TIP) in 2022 increased the importance of NSF documenting achievements facilitated through NSF funded research.

The CHIPS Act supports research to understand the impact of federally funded research and development on society, the economy, workforce, and job creation. The Act requires NSF and TIP to utilize the full potential of the U.S. workforce by avoiding undue geographic concentration of funding, encouraging broader participation by populations historically underrepresented in STEM and incorporate a worker perspective. Revisiting the merit review

criteria is therefore timely to ensure that NSF is best placed to meet the requirements set out by Congress.

With continued concern for the effectiveness of the Merit Review process and criteria, last year the Board determined that the time was right for another re-examination and established the Commission on Merit Review – more than 12 years after its last comprehensive assessment.

Joint NSB-NSF Commission on Merit Review
In February 2023, NSB charged a joint NSB-NSF Commission with assessing "the efficacy of the current Merit Review policy and associated criteria and processes at supporting NSF's mission to create new knowledge, fully empower diverse talent to participate in STEM, and benefit society by translating knowledge into solutions."

The Commission will review multiple aspects of the merit review process including clarity of the Digest to report progress and consideration of other reporting mechanisms, the review criteria of Intellectual Merit and Broader Impacts, and data and reporting progress toward achieving NSF goals. The commission expects to present a final report and policy recommendations to the Board and the Agency by spring of 2024.

About this Report

The National Science Foundation's Merit Review Process: FY 2021 Digest (Merit Review Digest) provides statistical information on proposals awarded and declined in fiscal year (FY) 2021 based on a snapshot of NSF's transactional databases taken on October 1, 2021.[1] The purpose of the Merit Review Digest is to provide summary annual statistics that characterize the annual merit review work of NSF and the individuals and organizations submitting proposals and receiving awards. It makes no conclusions or recommendations about NSF's merit review policies, processes, or outcomes. The statistical information included is relevant to agency leadership and stakeholders in the science and engineering (S&E) enterprise.

This report is prepared in response to a National Science Board (NSB) policy, endorsed in 1977 and amended in 1984, 2017, and 2019, requesting that the NSF Director submit an annual report on the NSF merit review process.

Data in this report are organized into the following sections:

- Competitive Proposals and Awards – Overall proposal and award trends, methods of proposal review, time to decision, diversity of Principal Investigators (PIs), and geographic and institutional participation.
- Characteristics of Research Awards – Award size and duration, PI collaboration, PI funding rate and career stage, and people supported on research awards.

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[1] NSF also publishes statistical and funding information through an interactive dashboard, *NSF by the Numbers* (https://beta.nsf.gov/about/about-nsf-by-the-numbers). *NSF by the Numbers* is updated periodically, so small differences between the dashboard and the Merit Review Digest may exist due to data corrections or changes made after the Merit Review Digest snapshot was produced.

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I.   Introduction

The National Science Foundation Act of 1950 directs the Foundation "to initiate and support basic scientific research and programs to strengthen scientific research potential and science education programs at all levels." NSF is the only U.S. federal agency whose mission is to invest in fundamental, basic research and education across the full spectrum of science, technology, engineering, and mathematics (STEM) disciplines, except for medical sciences. NSF achieves its unique mission by making merit-based awards to around 1,900 colleges, universities, businesses, informal science organizations and other research organizations throughout the U.S.

NSF Organization

NSF is divided into directorates that support science and engineering research and education. In FY 2021, NSF had the following directorates: Biological Sciences (BIO); Computer and Information Science and Engineering (CISE); Engineering (ENG); Geosciences (GEO); Mathematical and Physical Sciences (MPS); Social, Behavioral and Economic Sciences (SBE); and Education and Human Resources (EHR).[2] Within NSF's Office of the Director, the Office of Integrative Activities (OIA) and the Office of International Science and Engineering (OISE) also support research and researchers. Program Divisions or Offices within directorates are responsible for the scientific, technical, and programmatic review and evaluation of proposals and for recommending that proposals be declined or awarded. Other sections of NSF are devoted to financial management, proposal and award policy, award processing and monitoring, legal affairs, outreach, and other functions. The Office of Inspector General examines the Foundation's work and reports to the NSB and Congress.

Distribution of Awards

NSF funds projects primarily using grants, cooperative agreements, and contracts awarded through a competitive proposal evaluation process, referred to as the merit review process. Most NSF projects support or stimulate scientific and engineering research and education and are funded using grants or cooperative agreements. A grant may be funded as either a standard or continuing award. Standard grants are provided full funding for the duration of the project, generally 1-5 years, at the time NSF makes the initial award. Continuing grants receive funding incrementally, usually annually, subject to NSF's judgment of satisfactory progress, availability of funds, and receipt and approval of required annual and final project reports. The use of standard and continuing grants allows NSF flexibility in balancing current and future obligations. Cooperative agreements are used when the project requires substantial agency involvement during the project performance period (e.g., research centers and multi-user facilities). Contracts, which are excluded from the Merit Review Digest, are most often used to acquire products, services, and studies (e.g., program evaluations) required for NSF or other government use.

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[2] NSF established the Directorate for Technology, Innovation and Partnerships in FY 2022 so it is not included in this report.

Merit Review Process

Organizations submit proposals for new projects to NSF, which are then evaluated using two NSB-approved criteria: Intellectual Merit and Broader Impacts.[3] The Intellectual Merit criterion encompasses the potential to advance knowledge. The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes. Proposal solicitations may contain additional NSF-specified review criteria particular to the goals and objectives of the program.

NSF program officers, who are knowledgeable experts in both technical and programmatic areas, lead the merit review of proposals and recommend which projects should be funded by NSF. The merit review process also relies on knowledgeable external experts to help evaluate proposals against the merit review criteria. Most proposals are reviewed by 3 to 5 external reviewers chosen for their specific expertise in areas needed to evaluate the proposed project. Each reviewer contributes their diverse experiences and unique point of view. Reviewers provide written reviews that describe the strengths and weaknesses of proposals in the context of the merit review criteria.

NSF programs obtain the input of external reviewers by three principal methods: (1) "ad hoc-only," (2) "panel-only," and (3) "ad hoc + panel" review. NSF policy also allows internal review for some types of proposals, including proposals for EArly-concept Grants for Exploratory Research (EAGER), Rapid Response Research (RAPID), Research Advanced by Interdisciplinary Science and Engineering (RAISE), planning, and small proposals for travel and symposia.[4] EAGER is a type of proposal used to support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. RAPID is a type of proposal used when there is a severe urgency regarding availability of, or access to, data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events.

In the "ad hoc-only" review method, reviewers are asked to submit their written reviews to NSF. "Panel-only" refers to the process of soliciting reviews from panelists who also convene in person or virtually to discuss their reviews and provide advice as a group to the program officer. Many proposals submitted to NSF are reviewed using a combination of these two processes to ensure appropriate rigorous review by a variety of experts.

NSF program officers consider the input of reviewers as one of several factors when making funding recommendations to award or decline proposals. Since NSF receives more highly rated proposals than can be funded each year, program officers strive to build a portfolio of awarded projects that invests in diverse ideas, funds a mix of experienced and early-career researchers, supports research across the entirety of the nation, and builds research capacity at institutions that have historically received less federal research funding.

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[3] https://www.nsf.gov/bfa/dias/policy/merit_review/phase2.jsp#review
[4] https://www.nsf.gov/pubs/policydocs/pappg22_1/pappg_2.jsp#IIE

The merit review process is overseen by the cognizant division director, or other appropriate NSF official, who reviews program officer funding recommendations before they are finalized.[5] Large awards may receive additional levels of review, up to and including NSB authorization.

II.   Year in Review

In FY 2021, NSF received $8.7 billion in its annual congressional appropriation to fund the agency's programmatic activities.[6] As part of the national effort to recover from the COVID-19 pandemic, NSF received $600 million in funding from the American Rescue Plan (ARP) Act to help individuals and institutions in the U.S. science, engineering, and STEM education communities most significantly affected by the pandemic recover. NSF obligated $8.3 billion from its regular appropriations and $228 million from the ARP appropriation for new and continuing research and education projects.[7,8] The COVID-19 pandemic continued to impact the STEM research and education community and NSF operations. For the entirety of the fiscal year, reviewers and NSF program officers conducted the merit review process virtually.

NSF's merit review practices are governed by the policies established by the NSB and the agency's policy guidance to proposers, awardees, and staff, which are documented in the *Proposal & Award Policies & Procedures Guide* (PAPPG) and the *Proposal and Award Manual* (PAM). In FY 2021, the NSB passed two resolutions related to merit review:

- Resolution NSB-2021-10 requested the Director, at his discretion, implement policies to maximize reviewers' preparedness to fulfill their role in the merit review process.
- Resolution NSB-2021-11 requested the Director, at his discretion, develop a plan to ensure that there is appropriate Broader Impacts expertise on NSF Committee of Visitor (COV) panels.

Analyses and pilot activities in response to both resolutions were initiated in FY 2021 and continue into FY 2022. The NSB also encouraged NSF to consider how to improve self-reporting of demographic data from PIs and reviewers after NSF observed a pattern of increasing non-response.

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[5] If the funding recommendation is to award the proposal, further processing takes place within the Office of Budget, Finance and Award Management (BFA) before an award is issued by NSF.
[6] NSF's total appropriation was nearly $9.1 billion. Programmatic activities are funded from three appropriations accounts (Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction). The total funding appropriated to these accounts was $8.7 billion. https://www.nsf.gov/pubs/2022/nsf22002/pdf/06-chap1-mda.pdf
[7] FY 2021 Agency Financial Report, Chapter 1 – Management's Discussion and Analysis https://www.nsf.gov/pubs/2022/nsf22002/pdf/06-chap1-mda.pdf
[8] In addition to the $228 million of ARP program funds that were obligated in 2021, $12 million in ARP funds were obligated in support of Agency award operations and award management activities. The remainder of the ARP appropriation was obligated in FY 2022.

At the end of FY 2021, NSF began requiring that newly registered PIs respond to demographic questions about gender, ethnicity, race, and disability status, with a continued option of selecting, "Do not wish to provide." Before the new requirement was instituted, less than half of new NSF PIs were providing demographic information. For the remainder of FY 2021 following implementation, 95% of new PIs opted to report their gender and 90% volunteered race and ethnicity responses.[9] NSF continues to see improved response rates as a result of these changes. To provide the most accurate data available, demographic trends for FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

In FY 2021, NSF issued revisions to the PAPPG and PAM that included the following major policy changes related to merit review:[10]

- Standardization of the biographical sketch and current and pending support formats in proposals to reduce proposal preparation burden on PIs.
- Standardization of disclosure requirements that are required to be addressed by senior personnel in the proposal and award lifecycle.
- Greater harmonization with the National Institutes of Health in required disclosures.
- New guidance regarding the responsibility of NSF staff to inform panelists of NSF's policy on harassment and the expectation that panelists comport themselves in a responsible and accountable manner while employed by NSF as panel reviewers.
- Updated guidance to staff clarifying that virtual panelists are expected to fully participate in the merit review process and are to be held to the same guidelines as face-to-face panelists, including confidentiality, conflicts of interest, and respectful behavior expectations.

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[9] Beginning May 2022, NSF expanded the requirement to existing PIs who log in to start a new proposal or project report.

[10] The PAM is a compendium of NSF internal policies and procedures and complements the PAPPG. It provides instructional guidance to NSF staff related to the review and processing of proposals and administration of assistance awards.

Summary Merit Review Statistics

During FY 2021, NSF evaluated 43,606 competitive proposals and awarded 11,344 new competitive awards, for an overall funding rate of 26%. [11, 12, 13] This was a 7% decrease (-824) in awards and a 2-percentage point decrease in the funding rate compared to FY 2020. NSF made 751 fewer RAPID awards. In FY 2020, NSF issued a request for non-medical, non-clinical-care RAPID proposals to address the COVID-19 pandemic, so the FY 2021 reduction was a return to pre-pandemic levels.

Figure 1 – Overall Award, Decline, and Funding Rate Trends
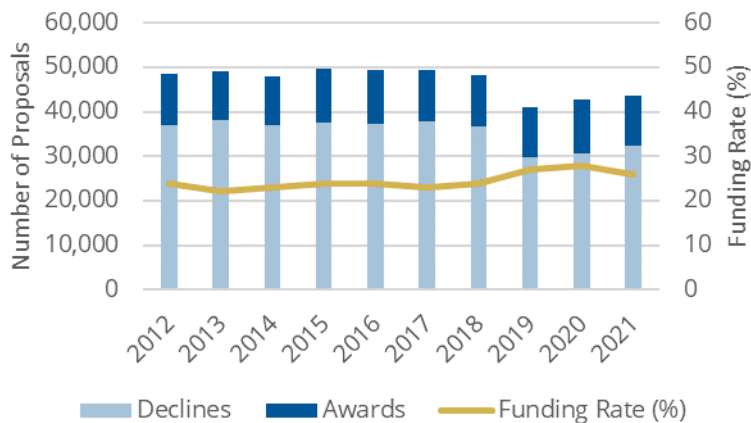
Source: Table 1 - Overall Proposals, Awards, and Funding Rate

Many potentially fundable proposals are declined each year. As shown in Figure 2, $1.7 billion was requested for nearly 1,500 declined proposals that received ratings at least as high as the average rating (4.1 out of 5.0) for all awarded proposals, and $4.1 billion was requested for the over 4,300 proposals that received a rating of "Very Good" or higher but were not funded.

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[11] Competitive proposals include full proposals for new projects, renewals, and accomplishment-based renewals, as well as interagency agreements that are externally reviewed. It excludes concept outlines, preliminary proposals, contracts, Intergovernmental Personnel Act (IPA) agreements, continuing grant increments, Graduate Research Fellowship applications, and similar categories.

[12] Funding rate refers to the proportion of evaluated proposals that were awarded in a fiscal year. For example, if a directorate evaluated 8,000 proposals in the year, making 2,000 awards and declining the remaining 6,000, the funding rate for that directorate in that year would be 25%.

[13] Interactive dashboards with statistical and funding information are also available through *NSF by the Numbers* (https://beta.nsf.gov/about/about-nsf-by-the-numbers). Slight differences in the data may exist due to the timing of when data for the Merit Review Digest were exported for analysis, but these do not change the overall observations.

Figure 2 - Cumulative Requested Amounts in FY 2021 for Declined Proposals, by Average Reviewer Rating
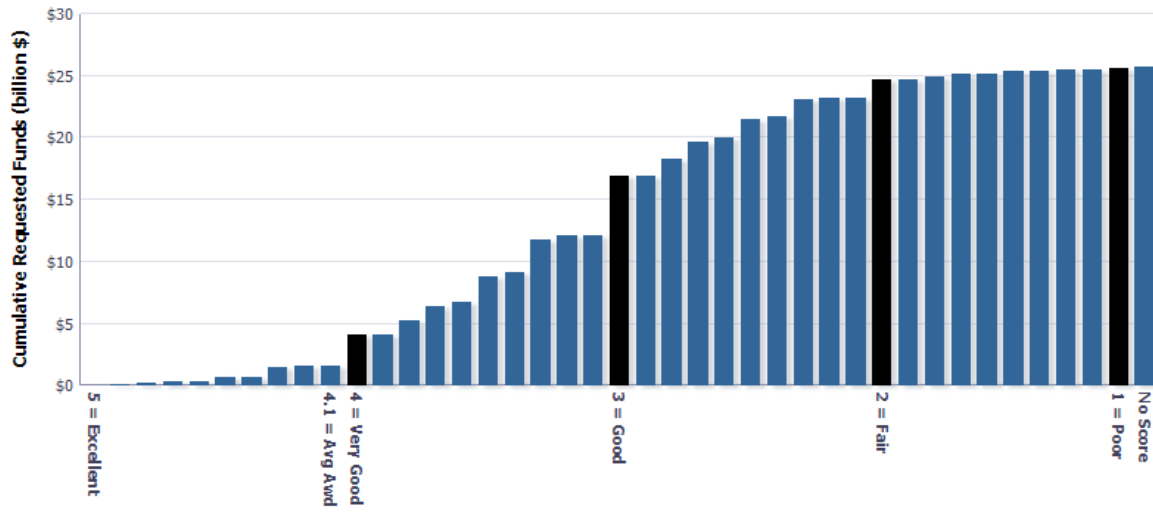
Source: NSF Enterprise Information System, accessed 10/1/2021.

In FY 2021, 82% of competitive proposals were research proposals. The remaining 18% were for centers and facilities projects, equipment, instrumentation, conferences and symposia, the Small Business Innovation Research (SBIR) program, and education and training. The funding rate for research proposals was 26%, the same as the funding rate for all competitive proposals.

In terms of individual investigators, the funding rate for PIs submitting research proposals across the last three years (which is the average duration for a research grant) was 43%. That is, of PIs who submitted one or more research proposals between FY 2019 and FY 2021, 43% received an award in that period. The PI funding rate has been increasing consistently since the FY 2010-2012 time period.

NSF reimburses organizations for the direct and indirect costs of conducting the project, including for salary and other expenses associated with senior personnel (e.g., PIs and co-PIs), post-doctoral researchers, students, and technical staff working on the project. In FY 2021, the mean annualized amount awarded per research grant was about $198,000. This is an increase of about $6,000 over the FY 2012 inflation-adjusted average of $192,000 (rounded). The average amount of PI salary support requested in the project budgets for awarded proposals was 0.6 months, down from the 0.9 months requested in FY 2012. Across all research awards, NSF provided funding to support an estimated 44,600 senior personnel, 5,000 post-doctoral researchers, and 30,300 graduate students that were included in proposal budgets.[14]

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[14] These estimates exclude direct support provided through other award categories, such as individual post-doctoral fellowships, NSF Graduate Research Fellowship awards, and other individual awards to graduate students. Estimates are based on budgeted amounts in the original proposals and not actual expenditures.

III.   Data Tables

A.   Competitive Proposals and Awards

Competitive proposals include full proposals for new projects, renewals, and accomplishment-based renewals, as well as interagency agreements that are externally reviewed. Concept outlines, preliminary proposals, contracts, Intergovernmental Personnel Act (IPA) agreements, continuing grant increments, Graduate Research Fellowship applications, and similar categories are not included. Funding rate refers to the proportion of proposals acted on in a fiscal year that resulted in awards. For example, if a directorate processed 8,000 proposals in the year, making 2,000 awards and declining the remaining 6,000, the funding rate for that directorate in that year would be 25%.

Overall Proposals, Awards and Funding Rate

<p align="center">Table 1 Series – Overall Proposals, Awards, and Funding Rate</p>

NSF

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	48,613*	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723	43,606
Awards	11,524*	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168	11,344
Funding Rate	24%	22%	23%	24%	24%	23%	24%	27%	28%	26%

*The NSF totals include two awarded proposals submitted to the Office of Inspector General.

BIO

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	5,269	5,934	4,784	5,119	5,206	5,005	4,765	3,110	3,783	3,959
Awards	1,293	1,250	1,272	1,379	1,330	1,142	1,190	1,046	1,369	1,174
Funding Rate	25%	21%	27%	27%	26%	23%	25%	34%	36%	30%

CISE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	7,703	7,821	7,434	8,032	8,299	8,722	9,150	8,616	7,932	7,247
Awards	1,749	1,616	1,680	1,886	1,918	1,819	2,098	2,009	1,971	1,739
Funding Rate	23%	21%	23%	23%	23%	21%	23%	23%	25%	24%

EHR

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	4,281	4,501	4,049	4,242	4,423	4,294	4,160	3,781	4,337	4,550
Awards	889	793	701	830	915	899	892	842	996	925
Funding Rate	21%	18%	17%	20%	21%	21%	21%	22%	23%	20%

ENG

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	11,338	10,738	11,878	12,326	12,570	13,028	13,092	9,024	9,181	11,325
Awards	2,065	2,212	2,145	2,504	2,499	2,455	2,458	2,379	2,406	2,283
Funding Rate	18%	21%	18%	20%	20%	19%	19%	26%	26%	20%

GEO

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	5,243	6,087	5,790	5,812	4,999	4,793	3,775	4,099	3,721	3,702
Awards	1,637	1,565	1,487	1,463	1,526	1,520	1,407	1,534	1,552	1,673
Funding Rate	31%	26%	26%	25%	31%	32%	37%	37%	42%	45%

MPS

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	9,006	8,903	8,855	9,133	9,199	8,848	8,803	8,045	8,612	8,114
Awards	2,523	2,201	2,343	2,593	2,432	2,334	2,593	2,415	2,552	2,422
Funding Rate	28%	25%	26%	28%	26%	26%	29%	30%	30%	30%

OIA

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	44	98	78	91	102	117	211	200	482	481
Awards	14	27	29	36	30	54	68	89	172	131
Funding Rate	32%	28%	37%	40%	29%	46%	32%	45%	36%	27%

OISE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	951	484	677	582	313	298	235	416	428	272
Awards	333	245	307	275	236	194	53	58	74	79
Funding Rate	35%	51%	45%	47%	75%	65%	23%	14%	17%	29%

SBE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	4,776	4,433	4,506	4,283	4,174	4,310	4,130	3,733	4,247	3,956
Awards	1,019	920	994	1,041	991	1,030	943	871	1,076	918
Funding Rate	21%	21%	22%	24%	24%	24%	23%	23%	25%	23%

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021

EAGER and RAPID Proposals, Awards and Funding Rate

Table 2 Series - EAGER and RAPID Proposals, Awards, and Funding Rate

NSF

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	182	681	276	666	195	454	957	510	137	375
Awards	176	493	216	498	142	323	869	427	118	283
Funding Rate	97%	72%	78%	75%	73%	71%	91%	84%	86%	75%

BIO

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	22	40	58	81	15	64	136	65	33	37
Awards	22	37	38	68	13	38	125	57	23	34
Funding Rate	100%	93%	66%	84%	87%	59%	92%	88%	70%	92%

CISE

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	18	239	16	161	12	166	163	104	5	64
Awards	18	129	12	136	4	109	157	100	3	59
Funding Rate	100%	54%	75%	84%	33%	66%	96%	96%	60%	92%

EHR

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	7	54	10	16	3	10	71	28	6	32
Awards	7	39	8	15	2	10	56	26	6	30
Funding Rate	100%	72%	80%	94%	67%	100%	79%	93%	100%	94%

ENG

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	38	220	42	260	73	130	203	128	22	54
Awards	36	176	33	153	38	84	188	108	19	53
Funding Rate	95%	80%	79%	59%	52%	65%	93%	84%	86%	98%

GEO

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	60	54	91	45	76	60	62	88	51	44
Awards	57	51	87	41	74	59	61	65	49	41
Funding Rate	95%	94%	96%	91%	97%	98%	98%	74%	96%	93%

MPS

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	1	39	3	79	2	18	75	62	2	32
Awards	1	27	2	69	2	18	61	51	2	31
Funding Rate	100%	69%	67%	87%	100%	100%	81%	82%	100%	97%

OD

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	0	0	0	0	0	0	13	17	0	2
Awards	0	0	0	0	0	0	13	8	0	2
Funding Rate	N/A	N/A	N/A	N/A	N/A	N/A	100%	47%	N/A	100%

SBE

Year	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021
Category	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER	RAPID	EAGER
Proposals	36	35	56	24	14	6	234	18	18	110
Awards	35	34	36	16	9	5	208	12	16	33
Funding Rate	97%	97%	64%	67%	64%	83%	89%	67%	89%	30%

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021.

Methods of Proposal Review

Table 3 - FY 2021 Methods of Proposal Review, by Directorate or Office

Dir./ Office	Total Proposals	Ad Hoc + Panel Proposals	Ad Hoc + Panel Percent	Ad Hoc Only Proposals	Ad Hoc Only Percent	Panel Only Proposals	Panel Only Percent	Internally Reviewed Proposals	Internally Reviewed Percent
NSF	43,606	9,916	23%	2,422	6%	29,951	69%	1,317	3%
BIO	3,959	2,024	51%	87	2%	1,731	44%	117	3%
CISE	7,247	419	6%	97	1%	6,605	91%	126	2%
EHR	4,550	288	6%	89	2%	3,951	87%	222	5%

Dir./Office	Total Proposals	Ad Hoc + Panel	Ad Hoc + Panel	Ad Hoc Only	Ad Hoc Only	Panel Only	Panel Only	Internally Reviewed	Internally Reviewed
ENG	11,325	655	6%	782	7%	9,499	84%	389	3%
GEO	3,702	2,302	62%	595	16%	644	17%	161	4%
MPS	8,114	1,366	17%	607	7%	6,037	74%	104	1%
OIA	481	174	36%	16	3%	272	57%	19	4%
OISE	272	14	5%	5	2%	234	86%	19	7%
SBE	3,956	2,674	68%	144	4%	978	25%	160	4%

Source: NSF Enterprise Information System, accessed 10/1/2021.
Notes: The "Internally Reviewed" category includes proposals that were reviewed by NSF experts in the relevant topical areas but did not receive external reviews.

Table 4 – FY 2021 Number of External Reviews, by Method and Directorate or Office

Directorate/Office	Total Reviews	Ad hoc + Panel	Ad hoc-Only	Panel-Only
NSF	169,911	47,903	9,125	112,883
BIO	17,739	10,902	334	6,503
CISE	29,812	2,158	350	27,304
EHR	17,919	1,308	319	16,292
ENG	41,228	2,992	2,637	35,599
GEO	15,499	10,727	2,402	2,370
MPS	28,209	6,012	2,429	19,768
OIA	1,698	691	60	947
OISE	852	64	18	770
SBE	16,955	13,049	576	3,330

Source: NSF Enterprise Information System, accessed 10/1/2021.
Notes: Includes only reviews written by individuals and excludes panel summaries. Panel summaries are written by the panel based on the panel discussion. The panel discussions may include the input of reviewers who have read the proposal but have not been asked to provide a separate written review. The number of external reviews, therefore, underestimates the amount of external reviewer input for the "Ad-hoc +Panel" and "Panel-Only" methods.

Table 5 – FY 2021 Mean Number of External Reviews per Proposal, by Directorate or Office

Directorate/Office	All Methods	Ad hoc + Panel	Ad hoc-Only	Panel-Only
NSF	4.0	4.8	3.8	3.8
BIO	4.6	5.4	3.8	3.8
CISE	4.2	5.2	3.6	4.1
EHR	4.1	4.5	3.6	4.1
ENG	3.8	4.6	3.4	3.7
GEO	4.4	4.7	4.0	3.7
MPS	3.5	4.4	4.0	3.3
OIA	3.7	4.0	3.8	3.5
OISE	3.4	4.6	3.6	3.3
SBE	4.5	4.9	4.0	3.4

Source: NSF Enterprise Information System, accessed 10/1/2021.
Notes: Excludes proposals that were internally reviewed.

Time to Decision

Table 6 - Dwell-Time

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Percentage of Proposals Processed Within Six Months	78%	76%	72%	76%	77%	71%	72%	61%	68%	65%

Source: NSF Enterprise Information System, accessed 10/1/2021.

Diversity of PIs

This section provides data on proposals, awards, and funding rates by PI characteristics. Gender, disability, ethnic and racial data are based on self-reported information.

Table 7 Series - Proposals, Awards, and Funding Rates, by PI Gender

NSF PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	48,613	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723	43,606
Awards	11,524	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168	11,344
Funding Rate	24%	22%	23%	24%	24%	23%	24%	27%	28%	26%

Female PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	10,795	11,152	11,142	11,444	11,598	11,322	10,858	10,291	11,096	11,868
Awards	2,775	2,556	2,669	3,007	3,032	2,962	2,943	3,281	3,656	3,679
Funding Rate	26%	23%	24%	26%	26%	26%	27%	32%	33%	31%

Male PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	32,932	32,866	31,625	32,411	31,528	30,046	28,180	25,781	26,523	26,290
Awards	7,816	7,316	7,286	7,810	7,512	6,930	6,884	7,265	7,828	7,080
Funding Rate	24%	22%	23%	24%	24%	23%	24%	28%	30%	27%

Unknown / Do Not Wish to Provide

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	4,886	4,981	5,284	5,765	6,159	8,047	9,283	4,952	5,104	5,448
Awards	933	957	1,003	1,190	1,333	1,555	1,875	697	684	585
Funding Rate	19%	19%	19%	21%	22%	19%	20%	14%	13%	11%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Table 8 Series - FY 2021 Proposals, Awards, and Funding Rate, by Directorate or Office and PI Gender

NSF

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	11,868	26,290	5,448
Awards	3,679	7,080	585
Funding Rate	31%	27%	11%

BIO

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	1,451	2,126	382
Awards	495	643	36
Funding Rate	34%	30%	9%

CISE

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	1,594	4,987	666
Awards	444	1,199	96
Funding Rate	28%	24%	14%

EHR

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	2,053	1,863	634
Awards	451	408	66
Funding Rate	22%	22%	10%

ENG

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	2,141	7,106	2,078
Awards	579	1,546	158
Funding Rate	27%	22%	8%

GEO

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	1,212	2,262	228
Awards	599	1,012	62
Funding Rate	49%	45%	27%

MPS

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	1,656	5,780	678
Awards	606	1,722	94
Funding Rate	37%	30%	14%

OIA

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	136	292	53
Awards	45	80	6
Funding Rate	33%	27%	11%

OISE

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	71	178	23
Awards	30	47	2
Funding Rate	42%	26%	9%

SBE

Category	Female	Male	Unknown / Do Not Wish to Provide
Proposals	1,554	1,696	706
Awards	430	423	65
Funding Rate	28%	25%	9%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Table 9 Series - Proposals, Awards, and Funding Rates, by PI Ethnicity

NSF

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	48,613	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723	43,606
Awards	11,524	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168	11,344
Funding Rate	24%	22%	23%	24%	24%	23%	24%	27%	28%	26%

Hispanic or Latino

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	1,934	1,956	1,921	2,053	1,950	1,993	2,106	1,724	1,898	2,094
Awards	412	401	411	495	459	460	534	503	565	632
Funding Rate	21%	21%	21%	24%	24%	23%	25%	29%	30%	30%

Not Hispanic or Latino

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	39,319	39,875	38,840	39,993	39,606	38,441	36,471	32,376	33,374	33,635
Awards	9,555	8,977	9,035	9,860	9,725	9,129	9,109	9,441	10,213	9,509
Funding Rate	24%	23%	23%	25%	25%	24%	25%	29%	31%	28%

Unknown / Do Not Wish to Provide

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	7,360	7,168	7,290	7,574	7,729	8,981	9,744	6,924	7,451	7,877
Awards	1,557	1,451	1,512	1,652	1,693	1,858	2,059	1,299	1,390	1,203
Funding Rate	21%	20%	21%	22%	22%	21%	21%	19%	19%	15%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Note: Prior to the FY 2021 Merit Review Digest, detailed data were not published on the number of PIs identifying as "Not Hispanic or Latino" or for whom ethnicity was unknown. Data for FY 2012-2020 have been recalculated for inclusion in the current Merit Review Digest. This led to slight differences relative to the data reported in the Merit Review Digests for FY 2013, 2014, 2015, 2016, and 2018. Differences are fewer than 5 proposals or awards in those years and do not change the reported funding rate.

Table 10 Series – FY 2021 Proposals, Awards, and Funding Rates, by Directorate or Office and PI Ethnicity

NSF

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	2,094	33,635	7,877
Awards	632	9,509	1,203
Funding Rate	30%	28%	15%

BIO

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	302	3,085	572
Awards	96	1,001	77
Funding Rate	32%	32%	13%

CISE

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	266	5,846	1,135
Awards	64	1,466	209
Funding Rate	24%	25%	18%

EHR

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	247	3,470	833
Awards	57	765	103
Funding Rate	23%	22%	12%

ENG

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	472	8,066	2,787
Awards	112	1,853	318
Funding Rate	24%	23%	11%

GEO

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	154	3,145	403
Awards	76	1,455	142
Funding Rate	49%	46%	35%

MPS

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	390	6,574	1,150
Awards	159	2,029	234
Funding Rate	41%	31%	20%

OIA

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	21	386	74
Awards	6	114	11
Funding Rate	29%	30%	15%

OISE

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	21	215	36
Awards	8	67	4
Funding Rate	38%	31%	11%

SBE

Category	Hispanic or Latino	Not Hispanic or Latino	Unknown / Do Not Wish to Provide
Proposals	221	2,848	887
Awards	54	759	105
Funding Rate	24%	27%	12%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Table 11 Series - Proposals, Awards, and Funding Rates, by PI Race

NSF

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	48,613	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723	43,606
Awards	11,524	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168	11,344
Funding Rate	24%	22%	23%	24%	24%	23%	24%	27%	28%	26%

American Indian or Alaska Native

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	83	113	103	104	99	134	112	95	114	112
Awards	18	28	36	25	29	39	29	36	51	42
Funding Rate	22%	25%	35%	24%	29%	29%	26%	38%	45%	38%

Asian

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	10,382	10,511	10,538	11,148	11,623	11,552	11,362	10,417	10,616	10,966
Awards	1,914	1,887	1,925	2,256	2,168	2,166	2,127	2,378	2,702	2,518
Funding Rate	18%	18%	18%	20%	19%	19%	19%	23%	25%	23%

Black or African American

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	1,154	1,124	1,123	1,102	1,134	1,135	1,159	1,054	1,195	1,360
Awards	263	203	204	233	264	266	262	289	326	389
Funding Rate	23%	18%	18%	21%	23%	23%	23%	27%	27%	29%

Native Hawaiian or Other Pacific Islander

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	40	32	30	30	41	30	30	43	25	24
Awards	6	5	5	2*	7	5	5	16	7	6
Funding Rate	15%	16%	17%	7%	17%	17%	17%	37%	28%	25%

* This report generally combines table cells of three or fewer proposals or awards when there is a risk of disclosure of sensitive or private information. Given the high number of PIs of "Unknown" race, the determination was made not to collapse this cell.

White

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	30,596	30,766	29,624	30,099	29,031	27,804	25,744	22,748	23,435	22,959
Awards	8,020	7,372	7,390	7,902	7,748	7,170	7,138	7,263	7,751	7,006
Funding Rate	26%	24%	25%	26%	27%	26%	28%	32%	33%	31%

Multiracial

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	448	439	425	495	508	550	550	573	630	710
Awards	113	110	114	151	124	143	154	173	191	253
Funding Rate	25%	25%	27%	31%	24%	26%	28%	30%	30%	36%

Other**

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals								187	268	384
Awards								58	74	104
Funding Rate								31%	28%	27%

** Beginning in FY 2019, NSF began allowing PIs to self-identify with another racial identity. These responses have been grouped into a single category for reporting purposes labeled "Other."

Unknown / Do Not Wish to Provide

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	5,910	6,014	6,208	6,642	6,849	8,210	9,364	5,907	6,440	7,091
Awards	1,190	1,224	1,284	1,438	1,537	1,658	1,987	1,030	1,066	1,026
Funding Rate	20%	20%	21%	22%	22%	20%	21%	17%	17%	14%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Table 12 Series – FY 2021 Proposals, Awards, and Funding Rates, by Directorate or Office and PI Race

NSF

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	520	10,966	1,360	22,959	710	7,091
Awards	152	2,518	389	7,006	253	1,026
Funding Rate	29%	23%	29%	31%	36%	14%

BIO

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	45	530	96	2,696	92	500
Awards	18	145	37	875	35	64
Funding Rate	40%	27%	39%	32%	38%	13%

CISE

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	76	2,864	161	3,046	92	1,008
Awards	21	671	29	822	21	175
Funding Rate	28%	23%	18%	27%	23%	17%

EHR

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	78	687	344	2,585	81	775
Awards	23	144	88	547	20	103
Funding Rate	29%	21%	26%	21%	25%	13%

ENG

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	163	3,563	341	4,563	145	2,550
Awards	43	705	69	1,154	33	279
Funding Rate	26%	20%	20%	25%	23%	11%

GEO

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	46	399	50	2,776	72	359
Awards	18	151	30	1,307	42	125
Funding Rate	39%	38%	60%	47%	58%	35%

MPS

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	58	2,239	184	4,530	138	965
Awards	14	561	80	1,528	65	174
Funding Rate	24%	25%	43%	34%	47%	18%

OIA and OISE*

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	5	212	29	380	13	114
Awards	1	40	11	138	4	16
Funding Rate	20%	19%	38%	36%	31%	14%

SBE

Category	American Indian / Alaskan Native / Native Hawaiian / Pacific Islander / Other*	Asian	Black or African American	White	Multi-racial	Unknown / Do Not Wish to Provide
Proposals	49	472	155	2,383	77	820
Awards	14	101	45	635	33	90
Funding Rate	29%	21%	29%	27%	43%	11%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

* These cells have been combined to minimize the risk of revealing information that is confidential, sensitive, or otherwise protected. Beginning in FY 2019, NSF began allowing PIs to self-identify with another racial identity. These responses have been grouped into a single category for reporting purposes labeled "Other."

Table 13 Series - Proposals, Awards, and Funding Rates, by PI Disability Status

NSF

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	48,613	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723	43,606
Awards	11,524	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168	11,344
Funding Rate	24%	22%	23%	24%	24%	23%	24%	27%	28%	26%

PIs with a Disability

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	483	488	468	562	496	491	453	521	583	622
Awards	134	122	99	120	110	120	114	150	176	156
Funding Rate	28%	25%	21%	21%	22%	24%	25%	29%	30%	25%

PIs without a Disability

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	33,291	33,679	33,302	34,633	34,158	33,292	31,826	34,794	35,584	35,851
Total Awards	7,969	7,486	7,692	8,515	8,281	7,811	7,884	10,101	10,900	10,183
Funding Rate	24%	22%	23%	25%	24%	23%	25%	29%	31%	28%

Unknown

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	14,839	14,832	14,281	14,425	14,631	15,632	16,042	5,709	6,556	7,133
Total Awards	3,421	3,221	3,167	3,372	3,486	3,516	3,704	992	1,092	1,005
Funding Rate	23%	22%	22%	23%	24%	22%	23%	17%	17%	14%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Note: Prior to the FY 2021 Merit Review Digest, detailed data were not published on the number of PIs without a reported disability or for whom disability status was unknown. Data for FY 2012-2020 have been recalculated for inclusion in the current Merit Review Digest. This led to slight differences relative to the data reported in the Merit Review Digests for FY 2013, 2014, 2015, and 2016. These differences do not change the reported funding rate.

Table 14 Series – FY 2021 Proposals, Awards, and Funding Rates, by Directorate or Office and PI Disability Status

NSF

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	622	35,851	7,133
Awards	156	10,183	1,005
Funding Rate	25%	28%	14%

BIO

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	60	3,383	516
Awards	22	1,078	74

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Funding Rate	37%	32%	14%

CISE

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	99	6,250	898
Awards	28	1,564	147
Funding Rate	28%	25%	16%

EHR

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	101	3,604	845
Awards	15	796	114
Funding Rate	15%	22%	13%

ENG

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	124	8,782	2,419
Awards	25	2,035	223
Funding Rate	20%	23%	9%

GEO

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	59	3,265	378
Awards	26	1,522	125
Funding Rate	44%	47%	33%

MPS

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	101	7,036	977
Awards	17	2,229	176
Funding Rate	17%	32%	18%

OIA and OISE*

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	14	618	121
Awards	7	189	14

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Funding Rate	50%	31%	12%

* These cells have been combined to minimize the risk of revealing information that is confidential, sensitive, or otherwise protected.

SBE

Category	PIs with a Disability	PIs without a Disability	Unknown / Do Not Wish to Provide
Proposals	64	2,913	979
Awards	16	770	132
Funding Rate	25%	26%	13%

Table Series Source: FY 2021 proposals and awards were from NSF Enterprise Information System, accessed 10/1/2021. Prior to FY 2019, PIs reported demographic data in FastLane. In FY 2019, PIs began using Research.gov instead of FastLane to report demographic data to NSF. In FY 2021, NSF made system changes to improve the collection of demographic data which resulted in a reduction in non-response. In order to provide the most accurate data available, FY 2019-2021 have been restated based on PI-reported data as of February 21, 2023.

Table 15 Series – Proposals, Awards, and Funding Rates, by PI Experience with NSF

New PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	17,943	17,635	17,405	18,276	18,348	18,757	18,596	15,654	16,221	17,345
Awards	3,063	3,013	3,108	3,320	3,510	3,319	3,257	3,252	3,473	3,453
Funding Rate	17%	17%	18%	18%	19%	18%	18%	21%	21%	20%

Prior PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	30,670	31,364	30,646	31,344	30,937	30,658	29,725	25,370	26,502	26,261
Awards	8,461	7,816	7,850	8,687	8,367	8,128	8,445	7,991	8,695	7,891
Funding Rate	28%	25%	26%	28%	27%	27%	28%	31%	33%	30%

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: A new PI is an individual who has not served as the PI or co-PI on any award from NSF (excluding as a PI or co-PI for doctoral dissertation awards, graduate or post-doctoral fellowships, research planning grants, or conferences, symposia and workshop grants).

Geographic Participation

This table provides data on proposal, award, and funding rates by the state or U.S. jurisdiction of the awardee institution. Twenty-five states, the Commonwealth of Puerto Rico, Guam, and the U.S. Virgin Islands were eligible to participate in aspects of the NSF Established Program to Stimulate Competitive Research (EPSCoR) program in FY 2021. EPSCoR was designed for those jurisdictions that have historically received lesser amounts of NSF Research and Development funding.

Additional information about the EPSCoR program can be found at: https://beta.nsf.gov/funding/initiatives/epscor. Additional state-level statistical and funding

details are available and published by NSF in the Budget Internet Information System (BIIS), https://dellweb.bfa.nsf.gov/AwdLst2/default.asp.

Table 16 - FY 2021 Proposals, Awards, and Funding Rate, by State or U.S. Jurisdiction

State or Jurisdiction	Proposals	Awards	Funding Rate	State or Jurisdiction	Proposals	Awards	Funding Rate
Alabama*	570	121	21%	New York	3,172	862	27%
Alaska*	144	61	42%	North Carolina	1,451	398	27%
Arizona	1,076	269	25%	North Dakota*	115	25	22%
Arkansas*	183	51	28%	Ohio	1,111	246	22%
California	5,118	1,451	28%	Oklahoma*	302	72	24%
Colorado	1,164	357	31%	Oregon	501	165	33%
Connecticut	532	139	26%	Pennsylvania	2,059	548	27%
Delaware*	288	68	24%	Puerto Rico*	63	17	27%
District of Columbia	518	181	35%	Rhode Island*	302	109	36%
Florida	1,948	388	20%	South Carolina*	518	105	20%
Georgia	1,143	254	22%	South Dakota*	96	18	19%
Hawaii*	227	73	32%	Tennessee	695	152	22%
Idaho*	185	46	25%	Texas	3,092	712	23%
Illinois	1,665	438	26%	Utah	523	135	26%
Indiana	1,141	303	27%	Vermont*	93	25	27%
Iowa*	440	96	22%	Virgin Islands*	7	1	14%
Kansas*	332	62	19%	Virginia	1,367	320	23%
Kentucky*	283	67	24%	Washington	856	289	34%
Louisiana*	432	114	26%	West Virginia*	132	32	24%
Maine*	160	45	28%	Wisconsin	612	174	28%
Maryland	991	263	27%	Wyoming*	94	25	27%
Massachusetts	2,616	725	28%	Other	71	24	34%
Michigan	1,467	363	25%				
Minnesota	503	131	26%				
Mississippi*	261	49	19%				
Missouri	616	134	22%				
Montana*	161	57	35%				
Nebraska*	298	64	21%				
Nevada*	286	73	26%				
New Hampshire*	202	51	25%				
New Jersey	1,081	302	28%				
New Mexico*	343	94	27%				

Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: * denotes that the state or jurisdiction was eligible to participate in EPSCoR in FY 2021. "Other" includes institutions in Guam*, American Samoa, and a small number of entries coded as "other" for the state name. These have been combined to minimize the risk of revealing information that is confidential, sensitive, or otherwise protected.

B.   Characteristics of Research Awards

"Research award" is a term used by NSF to represent a typical research award, particularly with respect to the award size. Not included in this category are awards such as operations costs for centers and facilities, grants for equipment, instrumentation, conferences, and symposia, awards in the Small Business Innovation Research program, and education and training grants.

These data are based on proposal budget and award data at the time of the initial award and do not include post award changes such as extensions of the period of performance or funding supplements.

Research Proposals, Awards and Funding Rate

Table 17 - Research Proposals, Awards, and Funding Rate

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Proposals	38,490	39,249	38,885	40,869	41,034	40,678	40,364	33,613	35,115	35,787
Awards	8,061	7,652	7,926	8,993	8,782	8,553	9,043	8,580	9,665	9,132
Funding Rate	21%	19%	20%	22%	21%	21%	22%	26%	28%	26%

Source: NSF Enterprise Information System, accessed 10/1/2021.

Research Award Size and Duration

Table 18 Series - Annualized Award Amount per Research Project (in Thousands)

Nominal Dollars

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$125	$130	$133	$130	$133	$133	$140	$147	$150	$150
Mean	$166	$169	$172	$171	$173	$169	$178	$189	$194	$198

Real Dollars (i.e., adjusted for inflation)

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$145	$148	$149	$144	$146	$143	$147	$151	$153	$150
Mean	$192	$192	$191	$188	$190	$182	$187	$195	$198	$198

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021. Office of Management and Budget Historical Table 10.1 "Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2026", https://www.whitehouse.gov/wp-content/uploads/2021/05/hist10z1_fy22.xlsx. Real dollars use FY 2021 as a baseline.

Note: This analysis is focused on projects, which count multi-institutional collaborative submissions as a single project.

Table 19 Series - Annualized Award Amount per Research Project, by Directorate or Office
(Nominal Dollars, in Thousands)

BIO

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$177	$182	$178	$186	$200	$198	$197	$215	$200	$222
Mean	$214	$228	$217	$237	$243	$223	$226	$263	$243	$260

CISE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$150	$161	$166	$161	$155	$156	$166	$167	$166	$167
Mean	$206	$204	$199	$187	$198	$187	$199	$210	$203	$224

EHR*

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median										$167
Mean										$275

* These data were only calculated for EHR beginning in FY 2021.

ENG

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$107	$103	$112	$103	$102	$107	$113	$117	$125	$119
Mean	$125	$122	$131	$122	$124	$125	$131	$135	$148	$141

GEO

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$125	$141	$141	$144	$150	$150	$166	$155	$167	$172
Mean	$170	$193	$201	$183	$185	$190	$216	$224	$225	$230

MPS

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$117	$116	$120	$125	$122	$120	$123	$130	$130	$137
Mean	$143	$130	$141	$149	$142	$138	$146	$151	$166	$164

OIA

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$170	$156	$171	$713	$156	$152	$150	$948	$710	$721
Mean	$178	$948	$173	$554	$514	$260	$262	$817	$655	$616

OISE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$50	$31	$49	$82	$83	$84	$100	$101	$100	$100
Mean	$200	$53	$142	$149	$102	$318	$161	$167	$163	$148

SBE

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Median	$98	$101	$109	$112	$117	$119	$123	$129	$144	$135
Mean	$120	$139	$134	$138	$136	$146	$141	$155	$154	$174

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: This analysis is focused on projects, which count multi-institutional collaborative submissions as a single project.
Only lead proposals for new projects were included in this analysis.

Table 20 - Mean Award Duration (Research Awards)

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Duration (Yrs)	2.9	3.0	3.0	2.9	2.9	2.9	3.0	3.0	2.8	3.1

Source: NSF Enterprise Information System, accessed 10/1/2021.

PI Funding Rate

Table 21 - PI Funding Rate (Research Awards)

Category	2010-2012	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021
PIs Applied (in Thousands)	55.6	55.1	53.4	53.9	54.2	54.6	54.6	52.6	51.7	50.8
PIs Awarded (in Thousands)	19.7	19.0	19.1	19.9	20.6	21.1	21.2	20.7	21.8	21.9
PI Funding Rate	35%	35%	36%	37%	38%	39%	39%	39%	42%	43%

Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: PI funding rate is the number of investigators receiving a research award divided by the number of PIs submitting proposals in the same three-year window.

PI Career Stage

Table 22 Series - Early and Later Career PIs (Research Awards)

Early Career PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Awards	2,695	2,654	2,710	3,091	3,131	3,053	3,211	3,192	3,499	3,393
Funding Rate	18%	18%	18%	20%	19%	19%	20%	24%	25%	24%

Later Career PIs

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Awards	5,361	4,995	5,208	5,896	5,649	5,500	5,830	5,388	6,166	5,739
Funding Rate	23%	21%	22%	24%	23%	23%	24%	27%	29%	26%

Table Series Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: An early career PI is defined as someone within ten years of receiving their last degree at the time of award. Prior to FY 2020, NSF defined an early career PI as someone within seven years of receiving their last degree at the time award. The definition was changed to align with the National Center for Science and Engineering Statistics (NCSES) Early Career Doctorates Survey (ECDS) and the 2021 "Women, Minorities, and Persons with Disabilities in Science and Engineering" reports. The table restates the data using the new definition.

Graduate Student, Post-doctoral Researcher, and Senior Personnel Funding Support

This section estimates direct NSF support provided to graduate students, post-doctoral researchers, and senior personnel on research proposals that are subsequently awarded.[15] NSF-funded research awards directly support these personnel by reimbursing the award institution for salary and other expenses. Estimates exclude other categories of personnel that may be included in the award budget, such as technicians, programmers, and undergraduate students. These estimates also exclude direct support provided through other award categories, such as individual post-doctoral fellowships, NSF Graduate Research Fellowship awards, and other individual awards to graduate students. Estimates are based on budgeted amounts in the original proposals and not actual expenditures. Budget details are extracted

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[15] Senior personnel include PIs, co-PIs, and other individuals designated on the proposal budget as senior personnel.

for research grants active in the year indicated. Award budgets include the amount of funding requested and a count of individuals by personnel category.

Table 23 - Estimated Number of People Budgeted on Successful Research Awards, by Year

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Graduate Students	25,550	25,161	26,317	26,882	27,099	26,693	26,997	27,159	29,043	30,292
Post-doctoral Researchers	4,596	4,447	4,286	4,586	4,460	4,442	4,516	4,230	4,672	5,008
Senior Personnel	39,862	32,829	31,650	33,831	35,326	33,296	35,870	33,529	38,865	44,564

Source: NSF Enterprise Information System, accessed 10/1/2021.
Note: The numbers reflect the expected number of people supported by the grant as specified in the yearly award budget.

Table 24 - Average Annual Budgeted Support for Graduate Students on Successful Research Awards, per Award (Nominal Dollars)

Fiscal Year	All Research Awards	Research Awards with Graduate Student Support
2012	$19,884	$28,101
2013	$20,937	$29,101
2014	$21,028	$29,381
2015	$20,842	$29,875
2016	$21,408	$30,657
2017	$21,440	$30,766
2018	$21,547	$31,182
2019	$23,471	$32,743
2020	$22,151	$30,413
2021	$24,951	$34,368

Source: NSF Enterprise Information System, accessed 10/1/2021.
Notes: Amounts do not represent an average stipend amount paid per student. This table shows the average annual amount of graduate student support requested in the proposal budgets for research awards divided, respectively, by the total number of research awards and by the subset of research awards that requested funding for graduate students.

Table 25 - Average Annual Budgeted Support for Post-Doctoral Researchers on Successful Research Awards, per Award (Nominal Dollars)

Fiscal Year	All Research Awards	Research Awards with Post-Doctoral Researcher Support
2012	$5,992	$35,593
2013	$6,060	$34,674
2014	$5,492	$34,142
2015	$5,970	$35,889
2016	$5,894	$36,339
2017	$5,680	$36,700
2018	$5,838	$35,861
2019	$6,556	$39,633
2020	$6,342	$35,526
2021	$7,063	$38,743

Source: NSF Enterprise Information System, accessed 10/1/2021.
Notes: Amounts do not represent an average stipend amount paid per post-doctoral researcher. This table shows the average annual amount of post-doctoral researcher support requested in the proposal budgets for research awards divided, respectively, by the total number of research awards and by the subset of research awards that requested funding for post-doctoral researchers.

Table 26 - Average Number of Months of Budgeted PI/co-PI Salary Support, per Research Award, by Directorate or Office

Directorate/ Office	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
NSF	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.5	0.6
BIO	1.1	1.1	1.0	0.9	0.9	0.7	0.7	0.7	0.7	0.7
CISE	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.4	0.5
EHR	1.6	1.1	0.9	0.8	0.7	0.8	0.8	0.8	0.7	0.8
ENG	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
GEO	1.1	1.0	1.1	1.0	1.0	0.9	1.3	0.7	0.6	0.7
MPS	1.0	1.0	1.0	0.9	0.8	0.8	0.8	0.7	0.5	0.7
OIA	1.2	1.1	0.8	0.8	0.5	0.5	1.2	1.2	1.1	1.1
OISE	0.6	0.7	0.5	0.7	0.7	0.6	1.0	0.6	0.5	0.3
SBE	1.1	1.1	1.2	1.3	1.1	0.9	0.8	0.7	0.7	0.7

Source: NSF Enterprise Information System, accessed 10/1/2021.

IV. Appendix

A. Acronyms

BFA	Office of Budget, Finance and Award Management
BIO	Directorate for Biological Sciences
CISE	Directorate for Computer and Information Science and Engineering
COV	Committee of Visitors
DD	Division Director
EAGER	EArly-concept Grants for Exploratory Research
EHR	Directorate for Education and Human Resources
ENG	Directorate for Engineering
EIS	Enterprise Information System
EPSCoR	Established Program to Stimulate Competitive Research
FY	Fiscal Year (October 1 – September 30)
GDP	Gross Domestic Product
GEO	Directorate for Geosciences
IPA	Temporary employees hired through the Intergovernmental Personnel Act
MPS	Directorate for Mathematical and Physical Sciences
MSI	Minority-Serving Institution
NSB	National Science Board
NSF	National Science Foundation
OD	Office of the Director
OIA	Office of Integrative Activities
OISE	Office of International Science and Engineering
PAM	Proposal and Award Manual
PAPPG	Proposal and Award Policies and Procedures Guide
PI	Principal Investigator
RAISE	Research Advanced by Interdisciplinary Science and Engineering
RAPID	Grants for Rapid Response Research
SBE	Directorate for Social, Behavioral and Economic Sciences
SBIR	Small Business Innovative Research
STEM	Science, Technology, Engineering and Mathematics
US	United States

B.   Data Sources and Notes

The data tables in this report were produced using data from NSF's Enterprise Information System (EIS). EIS is an internal NSF system used for reporting. It is a compilation of data from NSF's transactional administrative systems that manage the proposal submission, review, and award process. At the end of the most recent fiscal year of the report, a data extract is saved for all proposals that were awarded or declined in the fiscal year. A proposal is included in a given fiscal year based on whether the action to award or decline the proposal was taken by NSF that year, not whether the proposal was received in that year

Real (i.e., inflation-adjusted) dollars were calculated using the Office of Management and Budget's "Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2026". FY 2021 is the reference year (one FY 2021 dollar equals one real dollar). https://www.whitehouse.gov/wp-content/uploads/2021/05/hist10z1_fy22.xlsx accessed on 12/2021.

Directorate-level details reflect the NSF organization structure in FY 2021.

To minimize the risk of revealing information that is confidential, sensitive, or otherwise protected (such as privacy-protected data and information about declined proposals), the Merit Review Digest generally combines table cells of three or fewer proposals or awards. In some instances (noted in the tables) smaller cells have not been combined because the amount of "Unknown" demographic data is large enough that protected data are not likely to be revealed.

NSF collects demographic data from PIs to better understand who is submitting proposals and receiving awards. NSF collects data on gender, ethnicity, race, and disability status as part of the PI's personal profile in Research.gov. [16] The demographic data collected are confidential and used for aggregate statistical reporting. They are not included in the proposal or shared with reviewers.

Racial and ethnic categories reported are those mandated by the Office of Management and Budget (OMB) in the Standards for the Classification of Federal Data on Race and Ethnicity (OMB Statistical Policy Directive No. 15). The standards have five categories for race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. There are two categories for data on ethnicity: "Hispanic or Latino," and "Not Hispanic or Latino".

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[16] Before the implementation of account management functions in Research.gov in FY 2019, demographic data were collected in FastLane.