

**SUPPORTING STATEMENT FOR PAPERWORK REDUCTION SUBMISSION**  
**Program Monitoring Data Collections for the National Science Foundation (NSF)**  
**Non-Academic Research Internships for Graduate Students (INTERN) Program**

**Section A. Justification**

This request is for approval of information collections intended to monitor outputs, short-term and intermediate outcomes of the NSF investments in the Non-Academic Research Internships for Graduate Students ([INTERN](#)) Program.

With rapidly accelerating changes in technology-driven global and national economies, today's graduate students will have a wide choice of career paths to pursue over their professional lives. NSF has been investing in a number of programs to better support graduate student preparedness and adaptation for today's Science, Technology, Engineering, and Mathematics (STEM) workforce; the NSF INTERN Program is one of them.

The NSF INTERN Program is designed as a funding supplement to provide graduate students with experiential learning opportunities through research internships. These internships can take place in startup businesses, government agencies and national laboratories, museums, science centers, policy think tanks, and non-profit organizations. Through the internships, participants of the Program are expected to augment academic knowledge, gain relevant experience, as well as acquire core professional competencies and skills that will help them become successful for a broad range of academic and non-academic career paths in any sector of the U.S. economy.

Participants usually enter the Program by way of the Principal Investigators (PIs) of active NSF awards requesting supplemental funding through the INTERN Program. It is expected that the graduate student and the PI on the NSF grant work together to identify innovative experiences that add the most educational value for the graduate student through activities that are not already available at the student's academic institution. Further, the internship is expected to be research-focused in a STEM field or in STEM education research, and to be on-site at the host organization unless a specific exception to this is granted due to extenuating circumstances by the cognizant NSF program officer. The funding covers up to six months of support of the internship, and an additional six months could also be requested for a maximum of 12 months stay at the host organization.

In addition to deep and broad preparation in their technical areas of expertise, the INTERN Program also provides students the opportunity and experience building collaborative skills through working in teams and with diverse individuals, enhancing skills and knowledge in the areas of research, innovation, communication, networking, entrepreneurship, leadership and management, as these transferrable skills have become increasingly valuable for all sectors of the STEM workforce. Moreover, the INTERN Program is also designed with the aim for job market and/or career exploration, to allow graduate students to pursue new activities that will broaden their perspectives, expand their professional network, and increase their awareness in terms of existence and breadth of other possible career pathways (in addition to academia) so they can make more informed career decisions after graduation. Finally, the Program is also tailored to and oriented towards infusing and blending academic and industry research—for

students to bring new academic ideas into industry, and also for students to bring back professional knowledge, skills, and industry's best practices back to academic laboratories.

The survey questionnaire, designed and tailored specifically for the INTERN Program will provide essential information for program monitoring. Data collected will be used for program planning, management, and evaluation. Summaries of monitoring data are used to respond to queries from Congress, the public, NSF's external merit reviewers who serve as advisors, including Committees of Visitors (COVs), and NSF's Office of the Inspector General. These data are needed for effective administration, monitoring, evaluation, and for measuring attainment of NSF's program and strategic goals, as identified by the President's Accountable Government Initiative, the Government Performance and Results Act Modernization of 2010, Evidence-Based Policymaking Act of 2018, and NSF's Strategic Plan. The program-specific collection included in this request is also designed to assist in management of the INTERN Program, which engages multiple directorates across NSF.

### **A.1 Circumstances Requiring the Collection of Data**

The ***NSF INTERN Program Survey -- Students*** was designed and specifically tailored to collect information on **Workforce Development, Internship Experience/Outcomes, Job Market/Career Exploration, and Partnership with Industry**. This request for data collection stems from the following: (1) the desire to obtain the best data possible directly from graduate students who participated in the INTERN Program, and (2) the need for increased transparency and accountability for the Program. Since the INTERN Program is categorized as a supplemental funding to active NSF grants, the outcomes and feedback pertaining to the Program would not have been captured under the current [NSF annual report requirements](#). Thus, the surveys in this collection (this is the first out of three surveys we plan to design and implement) would be used as an instrument to collect feedback and responses from Program participants and key stakeholders. The data collected would provide evidence to assess its ongoing efforts as well as to consider changes for the future.

To enable effective oversight of its investment and fulfill its monitoring and management responsibilities, NSF needs current and standardized information about the short-term and intermediate outcomes of the INTERN Program. Here, project oversight is especially important given the complexity of the funding model, as the INTERN Program is a supplement to active NSF grants managed by various directorates, the activities as requested in the [INTERN solicitation](#) will need more governance, management, and oversight than awards from other conventional and more straightforward research projects funded by NSF core programs.

In this survey, NSF asks all student participants of the INTERN Program to submit information and feedback pertaining to their internship experience, along with any research outcomes and career decisions the students made after participation.

The *NSF INTERN Program Survey -- Students* contains 48 items presented in 8 sections of the questionnaire:

1. Background Information about the Student Participant
2. Logistics of the Internship
3. Host Organization

4. Activities during the Internship
5. Impact of the Internship
6. Impact of COVID-19 pandemic on the Internship (For FY 2020 and 2021 participants)
7. Gender, Demographics, Disability, and Veteran status (Optional)
8. Comments & Feedback (Optional)

## **A.2 Purposes and Use of the Data**

The *NSF INTERN Program Survey -- Students* was created to primarily assess and address whether the goals, expectations, and objectives of the Program have been met. The data collected are focused on program-specific qualitative and quantitative indicators.

Collection of these data serves several purposes, including:

- Providing information on NSF investments in terms of workforce development, partnership with academia and industry, and advancements in science, innovation, and technology
- Monitoring the participation of graduate students from underrepresented groups such as women, persons with disabilities, underrepresented minorities in science, technology, engineering, and mathematics (STEM), veterans, and persons from economically disadvantaged backgrounds
- Collect structured responses and feedback from participants to identify areas of strengths and improvements for the Program
- Identify outputs, impacts, and success stories for outreach and reporting

The information collected allow managing Program Directors of the INTERN supplements to ensure that the awards are in good standing, and that the student, PI, and the university are complying with Program requirements as specified in the solicitation. Data collected is also used for recommending changes to improve and strengthen the Program. The INTERN Program uses this information to remain responsive to the nation's changing science, technology, and economic environment, to secure future Program funding, and to continue Program growth. Information is also used for internal reports, impact assessments, trend analyses, and historical comparisons.

## **A.3 Use of Information Technology to Reduce Burden**

All components in the collection will utilize electronic forms to minimize data errors and respondent burden. In some cases, Program Directors, NSF staff, and/or NSF authorized representatives may contact the respondents for clarifications or follow-up questions to ensure quality assurance, and use these conversations to increase the robustness on the data.

## **A.4 Efforts to Identify Duplication**

The *NSF INTERN Program Survey -- Students* does not duplicate other efforts undertaken by NSF, other federal agencies, or other data collection agents.

## **A.5 Small Business**

N/A

## **A.6 Consequences of Not Collecting the Information**

Data collected for this clearance will be used primarily to manage the INTERN Program, monitor progress, inform program evaluations, coordinate with federal and non-federal partners, provide Congress with information about government-supported activities, and report for GPRA and other requirements.

If the information were not collected, NSF would be unable to (1) meet its accountability requirements, (2) assess the degree to which Program are meeting its designed objectives and targeted goals over time, and (3) document outcomes and impacts of the INTERN Program.

## **A.7 Special Circumstances Justifying Inconsistencies with Guidelines in 5 CFR 1320.6**

Data collected for the *NSF INTERN Program Survey -- Students* will comply with 5 CFR 1320.6. All data under this collection ask program participants to respond once (upon completion of the Program), and occasionally at longer intervals for post-award monitoring. As many potential outcomes and impacts of investments in the INTERN Program realized sometimes years after the award supplement is made, it is necessary to capture some of these outcomes and impacts via post-award monitoring. In the case of the *Student* survey, we expect to collect post-award data after their participation of the INTERN Program, with the possibility to capture more data points 1 year to 3 years after they participated. This is because most important indicators for outcomes and impacts may become apparent at shorter intervals post-participation.

These data collections are voluntary.

## **A.8 Federal Register Notice and Consultation Outside the Agency**

The agency's notice, as required by 5 CFR 1320.8(d), was published in the *Federal Register* on June 25, 2020, at 85 FR 13680, and no comments were received.

## **A.9. Payments or Gifts to Respondents**

Not applicable.

## **A.10. Assurance of Confidentiality**

Respondents will be informed that any information on specific individuals is maintained in accordance with the Privacy Act of 1974. Every data collection instrument will display both OMB and Privacy Act notices.

Respondents will be told that data collected are available to NSF officials and staff, and authorized contractors and/or grantees, who manage the data and data collection software.

Data will be processed according to federal and state privacy statutes. The system will limit access to personally identifiable information to authorized users. Data submitted will be used in accordance with criteria established by NSF for monitoring research and education grants and in response to Public Law 99-383 and 42 USC 1885c.

### **A.11 Questions of a Sensitive Nature**

In the *NSF INTERN Program Survey -- Students*, information from survey correspondents (also the student participant of the INTERN Program), including name, affiliated organization, enrollment status, highest academic degree seeking, and email address are requested. These data are collected for verification, as well as for connecting the student's participation to the corresponding NSF grant number in case further clarification is needed from the PI (of the award).

Questions pertaining to gender, demographics, disability, and veteran status are strictly voluntary.

Individual-level data that are collected will be provided only to managing Program Directors, NSF senior management, and supporting staff conducting analyses using the data as authorized by NSF. Any public reporting of data will be in aggregate form, and all personal identifiers will be removed.

### **A.12 Estimates of Response Burden**

#### ***A.12.1. Number of Respondents, Frequency of Response, and Annual Hour Burden***

**Table 1. Respondents, Responses, and Annual Hour Burden**

<b>Collection Component</b>	<b>Number of Respondents</b>	<b>Annual Number of Hours per Respondent</b>	<b>Annual Hour Burden (Hours)</b>
<i>NSF INTERN Program Survey – Students [Pilot (First) Year]</i>	1000	0.33	330 hours
<i>NSF INTERN Program Survey – Students [Subsequent Years thereafter]</i>	250	0.33	83 hours
<b>Total</b>			413 hours/year

As shown in Table 1 above, the annual response burden for the collections under this request is 83 hours per year, which include reading the instructions, completing the questionnaire, and submitting the survey. Since we tried to capture all the former Program participants, so in the pilot (first) year when this survey is being implemented, we expect to send out the survey to no more than 1000 (former) participants.

The respondents are graduate students that have at least completed their first year of their graduate curricula.

### ***A.12.2. Estimates of Annualized Cost to Respondents for the Hour Burdens***

The following table shows the annualized estimate of costs to the respondents, who are generally graduate students. This estimated hourly rate is based on an article published in [Science](#) that a typical annual stipend for graduate students in the sciences is around \$20,000 to \$30,000.

If we take the midpoint of that range, \$25,000, and divided that by the number of standard annual work hours (2,080), this calculates to approximately \$12 per hour.

**Table 2. Annuitized Cost to Respondents**

<b>Respondent Type</b>	<b>Number of Respondents</b>	<b>Total Burden (Hours)</b>	<b>Average Hourly Rate</b>	<b>Estimated Annual Cost</b>
Graduate Student ( <a href="#">Pilot phase</a> )	1000	330	\$12	\$3,960
Graduate Student (Subsequent Years)	250	83	\$12	\$990
Total				\$4,950

### **A.13 Estimate of Total Capital and Startup Costs/Operation and Maintenance Costs to Respondents or Record Keepers**

Not applicable.

### **A.14 Estimates of Costs to the Federal Government**

The analyst(s) assigned to the project will initially need to spend about 5 hours of work every year (~120 - 180 minutes to code the questionnaire, and pre-test it on a web survey platform, and 120 minutes to clean and format the (response) data prior to any data analysis). Assuming the salary of an analyst is \$75,000, divided that by the number of standard annual work hours (2,080), this calculates to approximately \$36 per hour, which means it would cost the government \$180.

### **A.15. Changes in Burden**

Not applicable.

### **A.16. Plans for Publication, Analysis, and Schedule**

Not applicable.

### **A.17. Approval to Not Display Expiration Date**

Not applicable.

**A.18 Exceptions to Item 19 of OMB Form 83-I**

No exceptions apply.

**Part B.**

Not applicable.