# Supporting Statement for Paperwork Reduction Submission

## Grantee Reporting Requirements for Research Experiences for Undergraduates (REU) Program Module – OMB Clearance No. 3145-0224

## A. Justification

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

The Research Experiences for Undergraduates (REU) program, consisting of REU Sites and REU Supplements, is an NSF-wide program that is coordinated by the Directorate for Education and Human Resources and managed by a committee of representatives from directorates, offices, and divisions across the Foundation. As stated in the program solicitation (publication NSF 19-582):

> "The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. [The program] features two mechanisms for support of student research: (1) *REU Sites* are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU Sites may be based in a single discipline or academic department or may offer interdisciplinary or multi-department research opportunities with a coherent intellectual theme.... (2) *REU Supplements* may be included as a component of proposals for new or renewal NSF grants or cooperative agreements or may be requested for ongoing NSF-funded research projects."

In NSF's current strategic plan (*Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research: NSF Strategic Plan for Fiscal Years 2022–2026,* publication NSF 22-068), the REU program contributes most directly to NSF's Strategic Goal to "[e]mpower STEM talent to fully participate in science and engineering" (p. 29). Specifically, it contributes to the Strategic Objective to "[g]row a diverse STEM workforce to advance the progress of science and technology" (pp. 32-33), and it is also aligned with the Strategic Objective to "[i]ncrease the involvement of communities underrepresented in STEM and enhance capacity throughout the nation" (pp. 30-31). Participation in undergraduate research is known to enhance the learning experience of students in STEM, to increase retention in STEM, and to boost students' confidence in their ability to

do STEM. By providing research experiences to an intentionally diverse array of undergraduates, the REU program "supports the development of a new generation of researchers, scholars, and knowledge workers that better represents our pluralistic society" (p. 31).

NSF funds approximately 200 new REU Site grants each year. Most grants for REU Sites have a duration of three years; some operate for up to five years. Approximately 6,000 students from colleges and universities around the nation participate in REU Sites each year. Most REU Sites operate for eight to ten weeks during the summer. The majority of students participate in the summer before their junior or senior year in college, but the program encourages the involvement of students at earlier stages during their undergraduate careers. The REU Sites receive funds from NSF to provide the students with research experiences, stipends, room and board, and travel expenses. Some students may be recruited from the institution hosting the REU site; however, REU Sites are required to recruit a significant fraction of their students from other institutions, and at least half of the students must come from institutions where research opportunities in STEM are limited (including two-year colleges). The REU program also strongly encourages the recruitment of underrepresented minorities, women, and persons with disabilities.

NSF also funds approximately 1,600 requests for REU Supplements each year. These allow investigators with active NSF research grants to support typically one or two undergraduate students to participate in the research.

Investigators having an REU Site or REU Supplement award are required to complete the REU Program Module as part of their annual and final project reports, which are submitted using the Project Reports Module in Research.gov. The information that the REU Program Module collects about REU student participants complements the information that the generic Research.gov Project Reports Module collects about *all* personnel who have worked on a project. The latter information includes demographic information for the personnel and is covered by a separate OMB clearance (Research Performance Progress Reporting, OMB Control No. 3145-0221).

Specifically, in the REU Program Module, the investigator (Principal Investigator [PI] or Co-Principal Investigator [Co-PI]) provides the following information for each REU student participant:
- Year of schooling completed (freshman, sophomore, junior, pre-college teacher, other)

- Home institution

- Federal Fiscal Year(s) during which the REU participant was supported

In addition, the investigator provides the number of REU student applications received during the reporting period and the number of REU applicants who were selected and who agreed to participate during the reporting period. This information about the degree of competition for REU positions enables NSF to determine whether adequate resources are being allocated to the program.

## A.2. Purpose and Use of Data

The information collected in the REU Program Module, when combined with the information collected in the generic Research.gov Project Reports Module (which includes demographic information on participants and is covered by a separate OMB clearance), will be used to:

- Monitor the REU program's contribution to NSF's objectives to enhance STEM capacity and grow a diverse STEM workforce.

- Make funding decisions. NSF staff use information from the REU Program Module, together with other information from annual and final project reports, to make decisions on continuation of funding, level of funding, distribution of awards across disciplines and research topics, and the quality of the undergraduate research experiences.

- Respond to reporting requirements and requests. NSF staff must respond to periodic requests for information about programs from the U.S. Government Accountability Office (GAO), the Office of Science and Technology Policy (OSTP), the Office of Management and Budget (OMB), Congress, and other interested parties. These requests range from providing data for annual surveys of Federal investments in STEM education to answering specific questions about programmatic activities and participants during a particular year.

- Provide information for future program evaluations. The information from the REU Program Module and the generic Research.gov Project Reports Module is a foundational data resource for any future evaluations of the program. Each year's information provides a basic profile of the student participants: the number of participants, their demographic characteristics, the institutions they represent, and the types of research activities they conduct.

- The questions and requirements have not changed since the REU Module was first introduced in Research.gov. The questions covered by this clearance are the red-circled ones on the screen shots at the end. The other questions on those screens are covered by the other clearance for the Research.gov "Participants" section (OMB clearance 3145-0221).

**A.3. Use of Automation**

All data are submitted electronically.

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

No other Federal agencies or organizations within NSF collect data pertaining to NSF's REU program and its participants.

**A.5. Small Business Consideration**

N/A

**A. 6. Consequences of Less Frequent Collection**

The reports and tables generated by the annual data collection constitute the primary means for monitoring the REU program's contribution to NSF's Strategic Objectives concerning the development of STEM talent. In addition, data from this collection are used to respond to requests for information by program stakeholders both inside and outside NSF. If NSF cannot collect information about undergraduate student participants in research, NSF will have no other means to consistently document the number and diversity of participants, the types of research they conduct, the types of institutions they represent, and the REU program's potential impact on the STEM workforce.

Less frequent data collection would preclude NSF's annual monitoring and documentation of the progress of each REU Site, and thus would impede informed decision-making about funding and the timely correction of any weaknesses identified in a project's activities.

**A.7. Special Circumstances for Collection**

N/A

**A. 8. Federal Register Notice and Outside Consultation**

The first notice was published in the Federal Register at 87 FR 4957 on January 31, 2022, and no comments were received.

In addition, the reporting requirements and estimates of the hourly burden were discussed with program officers who oversee REU Site awards.

**A. 9. Gifts or Remuneration**

N/A

**A.10. Assurance of Confidentiality**

Data are collected through the REU Program Module, which is a component of the Project Reports Module in Research.gov. NSF staff can view the data through the annual and final project reports. Annual and final reports are for use by NSF and are not routinely released to the public; however, information in these reports may be made available to the public through the Freedom of Information Act (FOIA).

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

No questions of a sensitive nature are used.

**A. 12. Estimate of Burden**

This request pertains to the approximately 3,900 active NSF awards per year that have received either REU Site or REU Supplement funding. Those approximately 3,900 investigators will be asked to respond to this request annually during the period of their award. Each investigator is required to enter data into the REU Program Module at the same time that he or she prepares an annual or final project report in Research.gov. We estimate the annual burden as follows: 10 minutes per investigator, and 650 total hours for all investigators.

**ANNUALIZED COST TO RESPONDENTS**

The overall annualized cost to the respondents is estimated as follows:

| Expense Category | Unit Cost | Units | Total Cost |
|---|---|---|---|
| 1. Principal Investigator | $99.92 per hour* | 1/6 hour | $16.65 |
| **Total cost per project** | $99.92 per hour** | 1/6 hour | $16.65 |
| *Total cost for 3,900 projects* | *$99.92 per hour* | *650 hours* | ***$64,935*** |

\* Salary estimate for Principal Investigators is based on the average salary for full professors on 9-month contracts, plus fringe benefits estimated at 25% of salary. Salary information is taken from "Characteristics of Postsecondary Faculty," in *Condition of Education*, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 2022; retrieved May 9, 2022, from https://nces.ed.gov/programs/coe/indicator/csc.

\*\* Total cost per project is based on one investigator responding per project.

**A. 13. Annual cost burden [not included in hour cost]**

There are no additional costs beyond the estimated hours of burden shown above.

**A. 14. Annualized Cost to the Federal Government**

The reports that are submitted by the investigators are reviewed by the NSF program officers who oversee REU Site and REU Supplement awards for the purposes of overall program management and documentation of progress of individual projects. The information from the REU Program Module is a small component of each project report. The following estimates are based on the time required for program officers to review *just the information from the REU Program Module* within annual and final reports, the time required for program officers to answer questions from investigators about that portion of the project report, and the time required for the lead program officer to provide oversight and management related to the REU Program Module. The annual estimate for these activities is as follows:

| Expense Category | Unit Cost | Units | Total Cost |
|---|---|---|---|
| 1. Lead Program Officer | $114.75 per hour | 16 hours | $1,836 |
| 2. Program Officers – Report Review | $114.75 per hour | 195 hours | $22,376 |
| 3. Program Officers – Questions/Guidance | $114.75 per hour | 19.5 hours | $2,238 |
| *Total cost for 3,900 projects* | | *230.5 hours* | ***$26,450*** |

**A. 15. Changes in Burden**

For respondents, the estimate of total hour burden has increased by 267 hours because the estimated number of annual respondents has increased.  The burden time on the respondents has not changed. The associated total cost burden has increased by $28,460. For the Federal Government, the estimate of annual burden has increased by 88 hours and $11,158 compared with the estimate used in the previous clearance.

**A. 16 Publication of Collection**

N/A

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

N/A

**A. 18 Exception to Item 19 of OMB Form 83-I Certification Statement**

N/A

**B. STATISTICAL METHODS**

N/A

**Attachments**

**Attachment I**.  Screen captures of REU Program Module