

## NATIONAL SCIENCE FOUNDATION HONORARY AWARDS

### SUPPORTING STATEMENT FOR PAPERWORK REDUCTION ACT SUBMISSION (OMB Approval Number 3145-0035)

#### A. Justification

##### 1. Circumstances making the collection of information necessary.

The National Science Foundation (NSF) administers six external awards: the President's National Medal of Science; the Alan T. Waterman Award; the National Science Board (NSB) Vannevar Bush Award; the NSB Public Service Award; the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM); and Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST).

- **President's National Medal of Science.** Statutory authority for the President's National Medal of Science is contained in 42 U.S.C. 1881 (P.L. 86-209), which established the award and stated that "(t)he President shall . . . award the Medal on the recommendations received from the National Academy of Sciences or on the basis of such other information and evidence as . . . appropriate" (attached). More information about the President's National Medal of Science Award (established in 1959) can be found at the following Web-site: <http://www.nsf.gov/od/nms/medal.jsp>
- **Alan T. Waterman Award.** Congress established the Alan T. Waterman Award in August 1975 (42 U.S.C. 1881a (P.L. 94-86)) (attached) and authorized NSF to "establish the Alan T. Waterman Award for research or advanced study in any of the sciences or engineering" to mark the 25<sup>th</sup> anniversary of the National Science Foundation and to honor its first Director. The annual award recognizes up to three outstanding young researchers in any field of science or engineering supported by NSF. In addition to a medal, the awardee receives a grant of \$1,000,000 over a five-year period for scientific research or advanced study in the mathematical, physical, medical, biological, engineering, social, or other sciences at the institution of the recipient's choice. More information about the Alan T. Waterman Award can be found at the following Web-site: <http://www.nsf.gov/od/waterman/waterman.jsp>
- **Vannevar Bush Award.** The Vannevar Bush Award honors truly exceptional lifelong leaders in science and technology who have made substantial contributions to the welfare of the Nation through public service activities in science, technology, and public policy. The National Science Board established this award in 1980 in the memory of Vannevar Bush, who served as a science advisor to President Franklin Roosevelt during World War II, helped to establish Federal funding for science and engineering as a national priority during peacetime, and was behind the creation of the National Science Foundation. More information about the Vannevar Bush Award can be found at the following website: <http://www.nsf.gov/nsb/awards/bush.jsp>

- **NSB Public Service Award.** The National Science Board established the Public Service Award in November 1996 to honor individuals and groups that have made substantial contributions to increasing public understanding of science and engineering in the United States. These contributions may be in a wide variety of areas that have the potential of contributing to public understanding of and appreciation for science and engineering – including mass media, education and/or training programs, and entertainment. More information about the Public Service Award can be found at the following website: <http://www.nsf.gov/nsb/awards/public.jsp>
- **Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring.** The Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM) recognizes individuals and organizations for their mentoring of persons from groups underrepresented in science, technology, engineering, and mathematics (STEM), including racial and ethnic groups, women, persons with disabilities, persons from disadvantaged socioeconomic backgrounds, and early career scientists and engineers. The awards were established in 1995. More information about the PAESMEM award can be found at the following website: <https://nsf.gov/awards/presidential.jsp>. This award is managed at NSF by the Directorate for Education and Human Resources (EHR), on behalf of the White House.
- **Presidential Awards for Excellence in Mathematics and Science Teaching.** The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) are the highest honors kindergarten through 12th-grade mathematics or science (including computer science) teachers may receive for outstanding instruction in the United States. The awards were established in 1983. Each year, the President bestows up to 108 awards. In even-numbered years, nominations are accepted from elementary teachers (grades K-6); in odd-numbered years, secondary teachers (grades 7-12) are nominated. More information about the PAEMST award can be found at <https://nsf.gov/awards/presidential.jsp> and [www.nsf.gov/paemst](http://www.nsf.gov/paemst). This award is managed at NSF by the Directorate for Education and Human Resources (EHR) on behalf of the White House.

**2. How and By Whom the Information will be Used.** Each award has its own set of criteria and nomination procedures, as described below.

- **President's National Medal of Science.** Executive Order 10961 specified procedures for the award by establishing a President's National Medal of Science Committee which would receive recommendations from the National Academy of Sciences and “. . . similar recommendations made by any other nationally representative scientific or engineering organization.” On the basis of these recommendations, the Committee was directed to select its candidates and forward its recommendations to the President.

In 1962, to comply with these directives, the Committee initiated a solicitation form letter to invite these nominations. In 1979, the Committee initiated a nomination form as an attachment to the solicitation letter. A slightly modified

version of the nomination form was used in 1980. The Committee agreed that such a form standardized the nomination format, benefiting the nominator, making the Committee's review process more efficient and permitted better staff work in a shorter period of time. Form NSF-1122 (included with the attached nomination package) was used to further standardize the nomination procedures, thus continuing to allow for more effective committee review, and permitting better staff work in a shorter period of time. Since 2003, the nominations have been received primarily through the FastLane system. The FastLane system gathers the information requested in form NSF-1122 and allows for the faster review of nominations in addition to more confidentiality and less paper waste.

The Committee has established the following considerations for selection of candidates:

- a. The impact of an individual's body of work on the current state of his or her field of science or engineering;
- b. Whether the individual's achievements are of an unusually significant nature in relation to the potential effects on the development of thought in his or her field of science or engineering;
- c. Whether the nominee has demonstrated unusually distinguished service in the general advancement of science and/or engineering for the Nation, especially when accompanied by substantial contributions to the content of science;
- d. The recognition of the nominee by peers within his or her community, and whether s/he is recognized for substantial impact in fields in addition to his/her discipline;
- e. If the nominee has made contributions to innovation and industry;
- f. Whether the nominee has demonstrated sustained influence on education through publications, teaching activities, outreach, mentoring, etc. and;
- g. Whether the nominee's contributions have created significant positive impact for the Nation.

Nominations remain active for a period of three years, including the year of nomination. After that time, candidates must be re-nominated with a new nomination package for them to be considered by the Committee.

- **Alan T. Waterman Award.** The Alan T. Waterman Award Committee was established by NSF to comply with the directive contained in P.L. 94-86. The Committee solicits nominations from members of the National Academy of Sciences, National Academy of Engineering, academia, university presidents, college deans, scientific and technical organizations, and any other source, public or private, as appropriate.

In 1976, the Committee initiated a form letter to solicit these nominations. In 1980, a nomination form (NSF 1123) and reference form (NSF 1124) were used which standardized the nomination procedures, allowed for more effective Committee review, and permitted better staff

work in a short period of time. Both forms are included in the attached nomination package. Since 2003, the nominations have been received primarily through the FastLane system. The FastLane system gathers the information requested in forms NSF-1123 and NSF-1124 and allows for the faster review of nominations in addition to more confidentiality and less paper waste. On the basis of its review, the Committee forwards its recommendations to the Director, NSF.

Candidates must be U.S. citizens or permanent residents and must be 35 years of age or younger or not more than seven years beyond receipt of the Ph.D. degree by December 31 of the year in which they are nominated. Candidates should have demonstrated exceptional individual achievements in scientific or engineering research of sufficient quality to place them at the forefront of their peers. Criteria include originality, innovation, and significant impact on the field.

- **Vannevar Bush Award.** The Vannevar Bush Award recipient is selected annually by the National Science Board's Subcommittee on Honorary Awards (AWD), which is established to solicit nominations from scientific, engineering, and educational societies and institutions, in both the public and private sectors.

Candidates for the Vannevar Bush Award should have demonstrated outstanding leadership and accomplishment in meeting at least two of the following selection criteria:

1. Candidates must be U.S. citizens.
2. Distinguished himself/herself through public service activities in science and technology.
3. Pioneered the exploration, charting, and settlement of new frontiers in science, technology, education, and public service.
4. Demonstrated leadership and creativity that have inspired others to distinguished careers in science and technology.  
Contributed to the welfare of the Nation and mankind through activities in science and technology.

1. Demonstrated leadership and creativity that has helped mold the history of advancements in the Nation's science, technology, and education.

Nomination Submissions must include:

1. A current curriculum vita without publications (no more than 5 pages).
2. A narrative statement (no more than 8 pages) addressing the candidate's activities and contributions related to the selection criteria.
3. A proposed award citation addressing the candidate's activities in and contributions to national public service activities in science, technology, and public policy.
4. Contact information for award candidate and nominator (mailing address, email address, and phone number).
5. Two reference letters (no more than 2 pages each) from individuals familiar with the candidate's accomplishments, and not affiliated with the candidate's home institution.  
Letters should be submitted by email to [nsbawards@nsf.gov](mailto:nsbawards@nsf.gov) on letterhead as a PDF file.

Nominations remain active for three years, including the year of nomination. After that time, candidates must be re-nominated with a new nomination for them to be considered by the selection committee.

**NSB Public Service Award.** Eligibility includes any individual or group (company, corporation or organization) that has increased the public understanding of science or engineering.

Candidates for the NSB Public Service Award should have demonstrated outstanding leadership and accomplishment in meeting the following selection criteria:

1. Increased the public's understanding of the processes of science and engineering through scientific discovery, innovation, and its communication to the public.
2. Encouraged others to help raise the public understanding of science and technology.
3. Promoted the engagement of scientists and engineers in public outreach and scientific literacy.
4. Contributed to the development of broad science and engineering policy and its support.
5. Influenced and encouraged the next generation of scientists and engineers.
6. Achieved broad recognition outside of the candidate's area of specialization.
7. Fostered awareness of science and technology among broad segments of the population.

*Note: Members of the U.S. Government are not eligible for this award.*

Nomination Procedures:

Nominations for an **individual** must include:

1. A current curriculum vita without publications (no more than 3 pages).
2. A narrative statement (no more than 5 pages) addressing the following:
  - a. the candidate's public service activities in science and engineering, and
  - b. the candidate's contributions to public understanding of science and engineering, as they relate to the selection criteria.
3. Contact information of candidate and nominator (mailing address, email address, phone number).

Nominations must be submitted by email to: [nsbawards@nsf.gov](mailto:nsbawards@nsf.gov).

Nominations for a **group** must include:

1. A narrative statement (no more than 5 pages) addressing the following:
  - a. the group's activities, and how it accomplishes the selection criteria for the award,
  - b. length of years of the program,
  - c. number and type of individuals served by the group's activities; and
  - d. data on the success of the program (if available).
2. Contact information of candidate and nominator (mailing address, email address, phone number).
3. Reference letters are optional, and up to 3 letters (no more than 2 pages each) may be submitted on letterhead as a PDF file.

Nominations must be submitted by email to: [nsbawards@nsf.gov](mailto:nsbawards@nsf.gov).

Nominations remain active for three years, including the year of nomination. After that time, candidates must be re-nominated with a new nomination for them to be considered by the selection committee.

- **Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring.** Presidential Awardees serve as exemplars to their colleagues and are leaders in the national effort to more fully develop the Nation's human resources in STEM. Presidential Awardees receive a certificate signed by the President of the United States, a trip to Washington D.C. to attend a series of recognition events and professional development opportunities, and a \$10,000 award from the National Science Foundation.

Nomination Criteria:

A mentor may be nominated by the public or may self-nominate.

Eligibility Criteria:

- Applicants must have demonstrated outstanding and sustained mentoring and effective guidance to a significant number of persons historically underrepresented in STEM.
- The Individual or Organizational program must have served in the described mentoring role for at least five years prior to nomination.
- Individuals who have demonstrated outstanding and sustained mentoring and effective guidance to a significant number of students at the K-12, undergraduate, graduate or post doctoral level may apply.
- Applications for an "Individual Award" must clearly delineate the achievements of the individual as separate from those of the organization.
- An Individual applicant must be a U.S. citizen or permanent resident.
- An Individual applicant may be federal government employee except for those identified in the U.S. Code Title 5.
- Organizations (U.S. educational institutions or agencies, corporations, foundations, military or government agencies, or not-for-profit organizations) that, through their programming, have enabled a substantial number of students underrepresented in science, mathematics and engineering to successfully pursue and complete the relevant degree programs.
- Applications for an "Organizational Award" must reflect the achievements of the organization as distinct from those of individuals.
- Multiple programs or individuals from the same institution may apply; however, each program or individual may apply only one time per competition.
- Former recipients of the PAESMEM award are not eligible.

Application Process:

- Applications must include a summary and description of mentoring accomplishments not to exceed eight pages; a biographical profile of the nominee and a maximum of five letters supporting the nomination.

- **Presidential Awards for Excellence in Mathematics and Science Teaching**

Presidential Awardees serve as models for their colleagues, inspiration to their communities, and leaders in the improvement of mathematics and science education. Awardees receive a certificate signed by the President of the United States, a trip to Washington D.C. to attend a series of recognition events and professional development opportunities, and a \$10,000 award from the National Science Foundation.

Nomination Criteria:

A teacher may be nominated by a principal, another teacher, students, members of the community, or the general public. Self-nominations are allowed.

Eligibility

Applicants must:

- teach mathematics or science (including computer science) as part of their contracted teaching responsibilities at the K-6 grade level in a public (including charter) or private school;
- hold at least a bachelor's degree from an accredited institution;
- be full-time employees of the school or school district as determined by state and district policies, with responsibilities for teaching students no less than 50% of the school's allotted instructional time;
- have at least five years of full-time employment as a K-12 teacher during which mathematics or science (including computer science) has been a part of the applicant's teaching duties **prior to the 2017-2018 academic school year**;
- teach in one of the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the Department of Defense Education Activity schools, or the U.S. territories as a group (American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands);
- be U.S. citizens or permanent residents; and
- not have received the PAEMST award at the national level in any prior competition or category.

Application Process:

- Applicants complete a written document concerning five dimensions of outstanding teaching (content knowledge, pedagogy, assessment, leadership and professional development) and submit a video of one class lesson. Three letters of are required, along with a resume or biographical sketch.

### **3. Consideration of the Use of Information Technology.**

FastLane is being used for almost all of the National Science Foundation's Honorary Awards, as this promotes a secure method of electronic transaction. Other nomination submission possibilities include grants.gov, electronic mail, U.S. Postal Service, or submission through a secure portal external to NSF.

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

These awards are unique to NSF and are not duplicated elsewhere.

**5. Efforts to Minimize Burden on Small Entities.**

Small entities are not affected by this information collection.

**6. Consequences if Data Collection is Not Conducted.**

NSF collects these data to evaluate candidates for the highest science and engineering honors bestowed by a public agency in the United States. In order to recognize significant contributions to science (and as noted in A.1. above), three of these awards were legislatively enacted; two were created by the NSB, which is comprised of Presidential appointees; and one was created by the NSTC and OSTP, comprised of Presidential appointees and the science policy office of the White House. These data are collected in this format to provide as equitable an opportunity as possible for nominees and nominators to highlight scientific achievements.

**7. Circumstances Requiring Deviation from Guidelines of 5 CFR 1320.**

There are no deviations to 5 CFR 1320.

**8. Federal Register Announcement and Other Consultations Outside the Agency.**

The first notice was published in the *Federal Register* on April 11, 2014 at 79 FR 20244 and no comments were received.

**9. Payments to Respondents.**

Not applicable.

**10. Confidentiality.**

Respondents are assured that their responses are confidential, both in the solicitation and on the required forms. The President's Medal of Science, the Alan T. Waterman Award, the Vannevar Bush Award, the Public Service Award, the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring, and the Presidential Awards for Excellence in Mathematics and Science Teaching include statements about the Privacy Act.

**11. Sensitive Questions.**

No questions of a sensitive nature are asked.

**12. Response Burden Hours.**

These are annual award programs with application deadlines varying according to the program. Public burden also may vary according to the program; however, it is estimated that each

submission is averaged to be 10 hours per respondent for each program. If the nominator is thoroughly familiar with the scientific background of the nominee, time spent to complete the nomination may be considerably reduced.

Respondents include individuals, business or other for-profit organizations, universities, non-profit institutions, and Federal and State governments.

Estimated Annual Burden:

<b>Award</b>	<b>Estimated Number of Responses</b>	<b>Estimated Annual Burden Hours per Response</b>	<b>Total Estimated Annual Burden Hours</b>
President's National Medal of Science	80	20	1600
Alan T. Waterman Award	70	15	1050
Vannevar Bush Award	20	15	300
Public Service Award	30	15	450
PAESMEM	200	20	4000
PAEMST	1000	24	24,000
<b>Totals</b>	<b>1,800</b>		<b>31,400</b>

### **13. Burden Cost to Respondents.**

Not applicable.

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

The estimated, annualized cost of \$374,220 is broken down as follows:

#### NSF Employees

2 full-time = \$300,000 (NMS, Waterman, PAEMST, PAESMEM)

#### Reviewers<sup>1</sup>

#### **Waterman Award**

12 reviewers at \$1600 per reviewer (includes travel and accommodations for one day) = \$19,200

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<sup>1</sup> The Vannevar Bush award is reviewed during a National Science Board meeting as an agenda item and is not considered a separate cost for these purposes. The Public Service Award is reviewed via teleconferencing, and therefore does not incur any travel costs.

### **Medal of Science**

12 reviewers at \$1600 per reviewer (includes travel and accommodations for one day) = \$19,200

### **Presidential Awards for Excellence in Science Mathematics and Engineering Mentoring**

30 reviewers at \$400 per reviewer = \$12,000. Estimates are based on virtual panels.

### **Presidential Awards for Excellence in Mathematics and Science Teaching**

140 reviewers at \$400 per reviewer = \$56,000. Estimates are based on virtual panels.

### **FastLane Support**

Technical support and costs associated with the review of submitted applications is estimated to be \$50,000

The 2017 costs are as follows:

- Data Center Hosting of NSBO systems      \$12,000

### **15. Reasons for any Program Changes (Items 13 or 14).**

No notable changes.

### **16. Publication of Information.**

Not applicable.

### **17. Display of Expiration Date for OMB Approval.**

Not applicable.

### **18. Any Exceptions to the Certification Statement.**

There are no exceptions to the Certification Statement.

### **Part B: Collections of Information Employing Statistical Methods**

Not Applicable

#### **Supplemental Documents:**

42 U.S.C. 1881 (P.L. 86-209) (President's National Medal of Science)

42 U.S.C. 1881a (P.L. 94-86) (Alan T. Waterman Award)

42 U.S.C. 1881b (P.L. 100-570) (Presidential Awards for Excellence in Mathematics and Science Teaching)