NATIONAL SCIENCE FOUNDATION SCIENCE HONOR AWARDS

SUPPORTING STATEMENT FOR PAPERWORK REDUCTION ACT SUBMISSION

A. Justification

1. Circumstances making the collection of information necessary.

The National Science Foundation (NSF) administers several honorary awards, among them 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, and, with this information collection request, the addition of the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) program.

- **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 25th anniversary of the National Science Foundation and to honor its first Director. The annual award recognizes an outstanding young researcher in any field of science or engineering supported by NSF. In addition to a medal, the awardee receives a grant of $500,000 over a three-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 NSB established the Vannevar Bush Award in 1980 to honor Dr. Bush's unique contributions to public service. The annual award recognizes an individual who, through public service activities in science and technology, has made an outstanding "contribution toward the welfare of mankind and the Nation." More information about the Vannevar Bush Award can be found at the following Web-site: http://www.nsf.gov/nsb/awards/bush.jsp

- **Public Service Award**. The NSB established the Public Service Award in November 1996. This annual award recognizes people and organizations who have increased the public understanding of science or engineering. The award may be given to an individual and to a group (company, corporation, or organization), but not to members of the U.S.

Government. More information about the Public Service Award can be found at the following Web-site: http://www.nsf.gov/nsb/awards/public.jsp

- **Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring.** In 1996, the White House, through the National Science and Technology Council (NSTC) and the Office of Science and Technology Policy (OSTP), established the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) program. The program, administered on behalf of the White House by the National Science Foundation, seeks to identify outstanding mentoring efforts or programs (individual, company, corporation or organization) designed to enhance the participation of groups (women, minorities and persons with disabilities) underrepresented in science, mathematics and engineering. More information about the PAESMEM Award can be found at the following Web-site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5473&org=DUE&from=home

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 is 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 following guidelines have been established for selection of candidates:

1. Principal criterion: the total impact of an individual's work on the current state of physical, biological, mathematical, engineering or social and behavioral sciences.
2. Achievements of an unusually significant nature in relation to the potential effects on the development of scientific thought.
3. Unusually distinguished service in the general advancement of science and engineering, especially when accompanied by substantial contributions to the content of science. Recognition by peers within the scientific community.

4. Contributions to innovation and industry.
5. Influence on education through publications, teaching activities, outreach, mentoring, etc.
6. Must be a U.S. citizen or permanent resident who has applied for citizenship.

Nominations remain active for a period of three years, including the year of nomination. After that time, candidates must be renominated 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 Committee is annually established by the NSB to solicit nominations from selected scientific engineering and educational societies, among others. Candidates must be a senior stateperson who is an American citizen and who meets two or more of the following criteria:

    1. Who has distinguished him/herself through public service activities in science and technology.
    2. Who has pioneered the exploration, charting and settlement of new frontiers in science, technology, education and public service.
    3. Whose leadership and creativity have inspired others to distinguished careers in science and technology.
    4. Who has contributed to the welfare of the Nation and mankind through activities in science and technology.

5. Whose leadership and creativity have helped mold the history of advancements in the Nation's science, technology, and education.

Nomination submissions must be in letter format, accompanied by at least two letters of support, a biography or CV, and a brief citation summarizing the nominee's scientific or technological contributions to our national welfare in promotion of the progress of science. Nominations remain active for three years, including the year of nomination.

- **Public Service Award.** Eligibility includes any individual or group (company, corporation or organization) that has increased the public understanding of science or engineering. Members of the U.S. Government are not eligible for consideration.

Candidates for the individual and group (company, corporation or organization) award must have made contributions to public service in areas other than research, and should meet one or more of the following 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 scientist and engineers.
6. Achieved broad recognition outside the nominee's area of specialization.
7. Fostered awareness of science and technology among broad segments of the population.

Nomination procedures:

1. Prepare a summary of the nominee's activities as they relate to the selection criteria. Include the nominator's name, address and telephone number, and the name, address, and telephone number of the nominee, as well as the nominee's vita, if appropriate (no more than three pages).
2. The selection committee recommends the most outstanding candidate(s) for each category to the NSB, which approves the awardees.
3. Nominations remain active for a period of three years, including the year of nomination. After that time, candidates must be renominated for them to be considered by the selection committee.
4. Nominations should be mailed or faxed to the NSB Public Service Award Advisory Committee. Electronic mail does not protect confidentiality and should not be used for this purpose.

- **Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring.** The awardees will serve as exemplars to their colleagues and will be leaders in the national effort to more fully develop the Nation's human resources in science,

mathematics and engineering. An honorarium in the amount of $10,000 will accompany the award along with a commemorative Presidential certificate. Awards will be made to: (1) 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 or (2) Organizations (institutions, companies or corporations) 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. It is anticipated that each award will be used to continue the recognized activity.

Eligibility includes:
An Individual nominee must be a U.S. citizen or permanent resident. Nominees may be federal government employees except for those identified in the U.S. Code Title 5.

Nominees must have demonstrated outstanding and sustained mentoring and effective guidance to a significant number of underrepresented persons. The Individual or Organizational program must have served in the described mentoring role for at least five years prior to nomination. Nominations for an "Individual Award" must clearly delineate the achievements of the individual as separate from those of the organization; nominations 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 be nominated; however each program or individual may be nominated only one time per competition. An individual may self nominate.

Former recipients of the PAESMEM award are not eligible.

Nomination Process:

1. Applications must be submitted electronically via FastLane.
2. Applications must include a Summary and Description of mentoring accomplishments not to exceed 8 pages; a Biographical Profile of the nominee and a maximum of 5 letters supporting the nomination.
3. Applications will be reviewed by a panel of three to 10 persons outside NSF who are experts in mentoring underrepresented individuals involved in science, mathematics and engineering.
4. A list of recommended individuals and organizations will be submitted to the White House Office of Science and Technology Policy (OSTP) by NSF.
5. OSTP will contact nominees recommended for award.

3. Consideration of the Use of Information Technology.

FastLane is being used for all of the National Science Foundation's Honor Awards, as this promotes a secure method of electronic transaction. To date, nearly all of the nominations for all of the awards were submitted via FastLane. Nominators and supporters of nominations are given the option of submitting through FastLane, Grants.gov or via regular mail.

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 this data to evaluate candidates for the highest science honors bestowed by a public agency. As noted in A.1. above, two 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; to recognize significant contributions to science. This data is 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 14, 2011 (76 FR 21073) and no substantial 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 and the Presidential Award for Excellence in Science Mathematics and Engineering Mentoring Award 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:

Award	**Estimated Number of Responses**	**Estimated Annual Burden Hours per Response**	**Total Estimated Annual Burden Hours**
President's National Medal of Science	55	20	1100
Alan T. Waterman Award	60	20	1200
Vannevar Bush Award	12	15	180
Public Service Award	20	15	300
PAESMEM	60	20	1,200
Totals	**207**	**70**	**3,980**

13. Burden Cost to Respondents.

Not applicable.

14. Annualized Cost to the Federal Government.

The estimated, annualized cost of $370,600 is broken down as follows:

NSF Employees

1 full-time = $140,000 (NMS and Waterman)

Reviewers[1]

Waterman Award

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

[1] 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 Award for Excellence in Science Mathematics and Engineering Mentoring Award

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

FastLane Support

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

The 2010 costs are as follows:

- FastLane (NSB honorary awards) $113,000
- Data Center Hosting of NSBO systems $10,000
- Total $123,000

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

The change in burden hours is due to a more accurate estimate of time needed to complete the nomination process.

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)