SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS
2020 NOMINATION PROCEDURES AND GUIDELINES

INTRODUCTION

The mission of the United States Environmental Protection Agency (EPA) is to protect human health and the environment. Science at EPA provides the foundation for the credible decision making needed to achieve this mission. The Office of Research and Development (ORD) is the scientific research arm of EPA, whose leading-edge research helps provide the solid underpinning of science and technology for the Agency.

PROGRAM OVERVIEW

The Scientific and Technological Achievement Awards (STAA) program, sponsored by ORD, was initiated in 1980. The STAA program promotes and recognizes scientific and technological achievements by EPA employees Agency-wide. ORD provides and manages administrative oversight of the program, while EPA's Science Advisory Board (SAB) provides the scientific and technological evaluation.

RESEARCH CATEGORIES

Nominations may be submitted in the research categories listed below. (Note: Research category descriptions are provided as general guidance. They are not intended to exclude nominations that otherwise fit within the category title.) The nomination process will request primary, and, as appropriate, one or more secondary research categories in the nomination module (*secondary category notations are optional*). A nomination number using the primary research category will be assigned for administrative purposes; however, the SAB may use secondary categories in the review process. If the category receives nominations which do not meet the criteria for any award, then no award will be given.

1. Control Systems and Technology (CS): This category includes research on the development, design, testing, and deployment of treatment and disposal systems and on the adaptation of existing systems to new uses. The research may include the development of prototypes, model systems, operations and maintenance equipment, pilot systems, or performance evaluations.

2. Ecological Research (ER): This category includes experimental or field research, structure and functions of ecosystems research, interaction of organisms with their ecosystem, and stressors' effects and their interaction on ecosystems.

3. Health Effects Research and Human Health Risk Assessment (HE): This category includes laboratory and epidemiological analytical research for human health risk estimation and studies for improving human health risk assessment.

4. Monitoring and Measurement Methods (MM): This category includes research on developing indicators, monitoring systems, and designs for measuring the exposures of ecosystems to multiple stressors and the resultant response of ecosystems at local, regional, and national scales.
5. Transport and Fate (TF): This category includes research on the mechanisms and moderators of the movement of chemicals within and among environmental media, their transformations, and storage in the environment by chemical, physical, and biological processes. The research may include laboratory or field research and models.

6. Review Articles (RA): A review article may be in any disciplinary area. Review articles are expected to include a synthesis and a critical analysis of a previous body of literature that lead to a better understanding of the area. The article should provide an assessment on knowledge and future perspectives and provide new insight into a discipline.

7. Risk Management and Ecosystem Restoration (RM): This category consists of research that evaluates policy initiatives in ways that develop analysis and information to integrate science, engineering, and social science in support of environmental policy and regulatory decisions (e.g., standards). It includes developing prevention, management, adaptation, and remediation technologies to design, manage, restore, or rehabilitate ecosystems to achieve local, regional, and national goals.

8. Integrated Risk Assessment (IR): This category covers research (observation, experimental, and theoretical) directed towards the goal of integrating human health and ecological risk assessment methods and analysis. It includes processes and modeling research for developing the models to understand, predict, and assess the current and probable future exposure and response of ecosystems to multiple stressors at multiple scales. It also includes risk assessment research for developing and applying assessment methods, indices, and guidelines for quantifying risk to the sustainability and vulnerability of ecosystems from multiple stressors at multiple scales.

9. Environmental Policy and Decision-Making Studies (EP): This category covers research pertaining to EPA's policy formulation and regulatory and enforcement responsibilities. It specifically includes environmental policy, environmental justice, anthropology, psychology, sociology, decision making, economics, urban and community planning, transportation, and land-use planning.

10. Homeland Security (HS): This category includes both threat agent detection and decontamination, including rapid biosurveillance and detection systems, systems to detect emerging and advanced biological threats, software algorithms to improve detection, improved decontamination methods and restoration system tools, and decontamination technologies for removal of contaminants.

11. Industry and the Environment (IE): This category includes research in areas such as pollution prevention, design for the environment, green chemistry, green engineering, environmental management accounting, and organizational behavior. It also includes

systems analyses relating to products and/or industry such as life cycle assessment and material flow analysis.

12. Energy and the Environment (EE): This category includes research on effective and sustainable solutions to environmental problems associated with energy production. Specific research areas include improving energy efficiency and conservation and developing sustainable energy sources.

13. Sustainability and Innovation (SI): This category includes research that embodies the principles of sustainability. Sustainability is defined as the continued assurance of human health and well-being, environmental resource protection, and economic prosperity-today and for generations to come. Ideally, research that seeks sustainable solutions protects the environment, strengthens our communities and fosters prosperity. This category also includes research that employs particularly innovative approaches to provide expedient solutions to problems related to the achievement of sustainability and the protection of human health and the environment, as opposed to incremental solutions. This research may involve a new method or device and can take the form of wholly new applications or applications that build on existing knowledge and approaches for new uses.

14. Other Environmental Research (OR): This category covers other research supporting environmental protection that does not clearly fit within any of the above-noted research categories. Please be assured that nominations submitted to this category are carefully considered by the SAB STAA subcommittee. Nominations to this category also help guide decisions to add new categories to future STAA announcements.

The nomination packages are received by the Office of Resource Management (ORM), Human Capital Planning & Management Branch (HCPMB). After the nomination packages are screened for administrative compliance, they are provided to the SAB for review. The subcommittee members are selected based on their expertise in the categories of science and technology addressed by the nominated publications and serve for approximately three years. When necessary, the subcommittee obtains reviews from additional experts to ensure the credibility of the review process.

REVIEW CRITERIA:

1. The extent to which the work reported in the nominated publication(s) resulted in either new or significantly revised knowledge. The accomplishment is expected to represent an important advancement of scientific knowledge or technology relevant to environmental issues and EPA's mission.
2. The degree to which the accomplishment is a product of the originality, creativeness, initiative, and problem-solving ability of the researchers, as well as the level of effort required to produce the results.
3. The extent to which environmental protection has been strengthened or improved, whether of local, national, or international importance.

4. The extent of the beneficial impact of the accomplishment and the degree to which the accomplishment has been favorably recognized from outside EPA.
5. The nature and extent of peer review, including stature and quality of the peer-reviewed journal or the publisher of a book for a review chapter published therein.

Note: Nominations that are submitted to an inappropriate category will not be disqualified; they will be placed in the category the SAB subcommittee considers appropriate.

AWARD LEVELS

2020 STAA nominations will be considered by the following criteria:

Level I awardees will receive $10,000 to be divided among EPA authors, a certificate of appreciation, and a plaque.

A Level I STAA award:

- is highly relevant to EPA's mission, and has demonstrated a direct influence on EPA's mission and policies;
- recognizes the substantial creation or revision of a scientific or technological principle or procedure, or a highly significant improvement in the value of a device, activity, program, or service to the public;
- strengthens or improves environmental protection at the local, national, or international level;
- has timely consequences and is recognizable as a major scientific/technological achievement within its respective discipline to a degree that has been favorably recognized from outside EPA;
- significantly affects a relevant area of science/technology through publication by a high-quality publisher or in a high-quality journal;
- recognizes research resulting from substantial originality, creativeness, initiative, and problem-solving ability of the researchers, as well as substantial level of effort required to produce the results; and
- has national significance or a high impact on a broad area of science/technology.

Level II awardees will receive $5,000 to be divided among EPA authors and a certificate of appreciation.

A Level II STAA award:

- is highly relevant to EPA's mission and has contributed to EPA policy;
- recognizes a substantial revision or modification of a scientific/technological principle or procedure; or an important improvement to the value of a device, activity, program, or service to the public;
- strengthens or improves environmental protection at the local, national, or international level;
- has timely consequences and contributes an important scientific/technological achievement within its respective discipline to a degree that has been favorably recognized from outside EPA;
- significantly affects a relevant area of science/technology through publication by a high-quality publisher or in a high-quality journal; and

- recognizes research resulting from substantial originality, creativeness, initiative, and problem-solving ability of the researchers, as well as substantial level of effort required to produce the results.

Level III awardees will receive $2,000 to be divided among EPA authors and a certificate of appreciation.

A Level III STAA award:

- is relevant to EPA's mission;
- recognizes a substantial revision or modification of a scientific/technological principle or procedure; or an important improvement to the value of a device, activity, program, or service to the public;
- strengthens or improves environmental protection at the local, national, or international level; and
- significantly affects a relevant area of science/technology.

Honorable Mention *awardees will be recognized on the EPA Internet site.*

An Honorable Mention recognition:

- is relevant to EPA's mission; and either
- shows a promising achievement of research in an area that should be encouraged; or
- shows a promising achievement of research that is too preliminary to currently warrant a higher recommendation.

Any number of co-authors may share a single award. However, monetary awards are distributed based on the nominee's eligibility to receive monetary awards and the designated percentage of contribution. For example, if there are four authors in total who each contributed 25% on a $5,000 award, two are EPA authors (eligible to receive monetary awards), one is an EPA author in the Senior Executive Service (*not* eligible to receive a monetary award), and one is a non-EPA author (*not* eligible to receive a monetary award), there are two authors eligible to receive monetary awards. Monetary award amount is 25% of $5000 or $1,250 for each monetary award. In addition, regardless of percentage contributed, the minimum monetary award for any eligible author is $250 (e.g., an EPA author contributing 4% toward a $5,000 award will receive $250).

When more than one nomination with similar subjects and authors are submitted, the SAB may choose to combine these nominations into a single recommendation. Monetary awards are then distributed based on author contributions to the award (e.g., two nominations combined to receive a single Level II award will result in a single $5,000 monetary award for the combined nomination).

ELIGIBILITY CRITERIA

All nominations must meet the criteria below.

Publications nominated in a previous STAA submission are not eligible; however, previously nominated publications may be used as supplemental items to support a current nomination.

STAA nomination procedures and guidelines also require nominees to submit information on whether any of these previous nominations received STAA recognition. In addition, because many current STAA nominations build on work submitted for STAA recognition in previous years, each nomination should include information on previous STAA recognition received by authors and the impact of previously submitted nominations.

Nominations should describe how previously nominated publications in related topic areas may have provided a foundation for the current nomination, particularly if such nominations received any SAB recommendation.

The nominated publication(s) must have been published in a high-quality **peer-reviewed journal** (includes online journals and appropriately cited online preprints that are widely available on or before January 1, 2020. A single nomination, whether it is a single publication or multiple publications, must stand on its own merit. Journal publications are expected to be in journals that are professionally relevant to the field of work. Books or book chapters *must have undergone the same standard of peer review* that is used with established journals, including using external anonymous referees to evaluate the scientific merit of the book or chapter. **Standard test method papers (example, ASTM) are not eligible** due to the difficulty in ascribing and ascertaining authorship to such papers. For example, some Agency publications are initially drafted by a task group, then reviewed and revised sequentially through an intra-agency or inter-agency workgroup process. Subsequently, they undergo an intensive peer-review process during which substantial modifications suggested by the peer reviewers are made directly to the agency's publication. The original authors of the EPA publications may not be making such revisions to the agency's publication. In addition, peer reviews of EPA publications are often not blind reviews and are not conducted with the intent to accept or reject the publication. The peer review process for publication in journals is generally different, since peer review comments are provided to the original authors and they are responsible for making all revisions to the manuscript which ensures direct ownership of all content by the authors.

Authorship: **The principal author must have been an EPA employee** (includes Public Health Service [PHS] employees assigned to EPA) when the relevant research was conducted. A **principal author** of a publication is the primary writer, leader, integrator, and creator of the publication. The principal author is responsible for the quality assurance, quality control, presentation, and defense of everything contained in the publication. A contributing author is a major substance provider to the research product. A contributing author is responsible for the quality assurance, quality control, and integrity of the input to the publication, but does not have primary responsibility for the overall publication. A contributing author may or may not write the publication in part but must be a substantive expert reviewer for the representations made in the publication. Note: All co-authors are contributing authors; each co-author must be attributed a minimum of 1% "total effort."

Authorship Eligibility: Authorship Eligibility is based on when the research was conducted. **At least 50% of the work must be attributed to people who were EPA employees** at the time the research was conducted. That is, EPA authors must have collectively contributed a minimum of 50% toward the publication(s). Note: Contractors, grantees and their employees, fellows, and

non- federal employees working for the EPA when the relevant research was conducted, are not eligible for financial awards. Employees who are an SES, ST, SL as well as PHS are ***not eligible*** for financial awards. Category C- Supervisory Title 42 employees and Category D – Senior Advisor Title 42 employees are ***not eligible*** for financial awards. Category A – Staff Scientist and Category B – Senior Scientists are eligible for financial awards.

Timing: Publications are eligible for **five years** based on publication date. The nominated publication(s) must have been published on or before January 1, 2020 and on or after January 1, 2015. (This includes online journals and appropriately cited online preprints that are publicly available on or before January 1, 2020.) ***It may be to your advantage to wait a few years before submitting your nomination, allowing the importance and the impact on the ability of the Agency to better accomplish its mission to be more fully realized.***

1. Nominations may include **no more than three eligible publications**. Multiple publications with similar subjects and authors should be submitted as one nomination; however, a strong link between the subject matter should be apparent to justify combining the publications. This link should be thoroughly described in the Justification section of the nomination form. Additional publications beyond the three eligible for the nomination may be included as supplemental items.

2. Submission of more than two (2) nominations (includes both individual and multiple publication nominations) from a single principal author in a given year requires concurrence from the STAA Coordinator. There is no limit to the number of nominations that may be submitted as a contributing author. However, authors submitting multiple nominations on very similar topics must provide adequate justification on how each nomination differs and provides a unique contribution to advancement of scientific knowledge for the topic. Note: Multiple related nominations from the same principal author are likely to be combined into a single award, as appropriate.

REQUIRED APPROVALS

Nomination packages may be initiated and prepared by any EPA scientist or engineer (or PHS employee or Federal postdoc assigned to EPA) at any organizational level, including the publication author(s). However, an author cannot serve as the Nominating Official for their own publication. As noted in the Nomination section of the electronic nomination module, the Nominating Official attests that the nomination is placed in the appropriate Research Category.

Within ORD: The Nominating Official must be the Division Director. If the Division Director is an author, the Laboratory or Center Director must be the Nominating Official. If the nomination is from an ORD headquarters office, the Nominating Official must be the Office or Center Director. If the Office Director is an author, the Nominating Official will be the Assistant Administrator. If a Staff member of a National Program Director (NPD) is the author, the NPD will be the Nominating Official. If an NPD is an author, the DAA for Science will be the Nominating Official.

Outside of ORD: The Nominating Official must be at the Division Director or equivalent level. If the Division Director or Office Director is an author, then the laboratory, center, or office must select an appropriate Nominating Official.

NOMINATION PROCEDURES

After the annual STAA award cycle is announced, any EPA employee (or PHS employee assigned to EPA) may initiate the preparation of a nomination package. **Nomination packages may only be submitted using the electronic STAA Nomination System** https://epaoei.lightning.force.com. Once the nomination has been submitted revisions are no longer permitted.

Requirement to have the following for a complete nomination:

- Record of Percentage Agreement: The nomination package must include a Record of Percentage Agreement document from each author listed on the nomination form. This document may be submitted in the form of an e-mail or signed letter, which states that the co-author agrees with the total percentage of effort listed beside his or her name entered in the nomination form. The document should list "Record of Percentage Agreement" in the subject line, followed by the coauthor's first and last name. The body of the document should contain the co-author's name and organization, the nominee's name, the title(s) of the nominated publication(s), and a brief statement that the author agrees with his or her designated percentage of contribution. (Note: A Record of Percentage Agreement document is required for single-author nominations.)

Nominated Publication(s): **No more than three nominated publications will be accepted per nomination**. Please edit all submission information completely. All publications must be an attachment to the nomination. Note: While not eligible for this year's competition, publications nominated in earlier STAA competitions may be submitted as "Supplemental Items."

- Bibliometric journal statistics (i.e., impact factor, immediacy index, and citation half-life) are required for all nominated publications and must be provided in the nomination *if available*. The EPA Library in Research Triangle Park has access to resources and can assist with obtaining the needed bibliometric information. Requests for this information may be submitted through their website at http://intranet.epa.gov/rtplibrary/staaprogram.html. (This link is also provided in the nomination module.) Most journals list the impact factors on their websites. Impact factors are also found at Web of Science, http://www.webofknowledge.com/, which is available to all EPA employees. Thomson's Science Citation Index and Journal Citation Reports are also useful tools for obtaining this data. EPA libraries can assist with retrieving bibliometric journal statistics. Before alternate methods of documenting the impact of the publication(s) are used, please obtain approval from the STAA Coordinator.

Supplemental Items: **All** supplemental information sent to journals to support the nominated publications must be included as an attachment in the nomination package. Additional supplemental material may include patent documents, other publications relating to the

nominated publication's achievement, other publications from the series but not part of the nomination, or selected excerpts or abstracts from other sources relevant to the achievement. A brief description is required explaining why each supplemental attachment is included in the nomination package. Supplementary materials should be distinguished by submitting them under separate headings, e.g., ***"Supplemental materials provided to journals along with the nominated publications" and/or "Additional materials in support of the nomination."*** Letters of recommendation should not be listed as supplemental items (see Justification 3).

- Justification: Provide a **complete** description of why the nominated publication(s) deserves Agency-wide recognition and how it is relevant to the EPA's mission. The description should be written so that a non-expert in the field of the publication(s) will understand its importance and impact on the ability of the Agency to better accomplish its mission. Provide evidence to support any statements made describing the scientific merit of the nominated publication(s).

- For Justification 3: Provide
    1. Citations for each publication nominated
    2. If research has been invited for presentation at national/international societies
    3. Unique source of funding for research
    4. Any awards Internal/External to EPA that were received for the research
    5. Number of times the publication has been downloaded/viewed
    6. How many times it has been cited (Google Scholar)
    7. Letters of Recommendation

  If multiple publications are submitted jointly, a comprehensive explanation should be given identifying the links and relationship between the publications and why they were included prepared as a single nomination.

  List the previous ***six years nominated publications for each EPA author separately***. Include the publication title, year, and award level for each publication. Provide a description of how the current nomination's publication(s) differ from previous nomination(s).

  If authors are submitting multiple concurrent nominations on very similar subjects and topics, adequate justification should be provided on how each nomination is sufficiently different and provides a unique contribution to the advancement of scientific knowledge for that topic.

- Citation: Be sure to provide a citation that does not exceed 120 characters, including spaces. Plain language and careful editing for readability are recommended for the citation.

ELECTRONIC SUBMISSION

Electronic Submission – Hard Copies Not Accepted. https://epaoei.lightning.force.com