SCIENCE ADVISORY BOARD
A Federal Advisory Committee to the U.S. Environmental Protection Agency

November 14, 2024

EPA-SAB-25-003

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: Transmittal of the Science Advisory Board Report titled "SAB Recommendations for EPA's FY 2024 Scientific and Technological Achievement Awards"

Dear Administrator Regan,

The EPA Science Advisory Board (SAB) is pleased to transmit its recommendations for the EPA's FY 2024 Scientific and Technological Achievement Awards (STAA). The STAA program, sponsored by EPA's Office of Research and Development (ORD), was initiated in 1980 to promote and recognize 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. Additional objectives of the STAA program include making the general public more aware of the quality and depth of EPA science and improving the credibility of the science underpinning Agency decisions. ORD requested the SAB to review EPA's nominated scientific publications and make recommendations for awards. The SAB is pleased to continue to serve in this important role.

The SAB STAA Panel's review consisted of an independent review of each STAA nomination by two Panel members followed by a Panel discussion of all nominations. Each nomination included a maximum of three publications for consideration of STAA recognition. This year, the SAB reviewed a total of 122 nominations within 12 review topic categories.

The SAB commends the EPA staff for their publications. The SAB recommends: 0 nominations for Level I; 11 nominations for Level II; 33 nominations for Level III; and 55 nominations for Honorable Mention. The SAB's award recommendations are provided in the enclosed report.

The SAB appreciates the efforts that the Agency has made to implement SAB's previous recommendations for improving the nomination procedures and administration of the STAA program. To further improve the review process, the SAB recommends:

- ORD provide greater clarity regarding previous award winners. In addition to requiring nominators to list the previous awards (level, award year, and publication titles), the journal in which the awarded publications were published should also be included.
- ORD conduct a quality administrative review for compliance of the nomination packages. Several nomination packages were unreadable, missing information or publications, or found to be ineligible for review according to ORD's STAA procedures and guidelines.
- ORD conduct an enhanced screen on packages that have significant author overlap and/or reflect successive work. This year there was an increase in nominations with significant overlap that appeared to build off the work of another body of research. While ORD has approved the bundling of nomination packets, the practice is counter to ORD's STAA procedures and guidelines which limit the number of publications per nomination. If the SAB considers two or more nominations as a bundled package, we are effectively considering more than 3 nominated papers, which allows an unfair advantage, as nominees can demonstrate their work among additional publications. ORD should ensure that nominators designate the pertinent publications for nomination and list other publications as supplemental (p. B-6). Furthermore, nominators should be encouraged to submit similar publications under a single nomination. Similar publications would be those that capture/utilize similar test methods/concepts, have substantial overlap in authors and/or are conducted by the same lead authors.

The SAB is open to meeting with ORD to discuss these recommendations and ways to incorporate them ahead of the next review cycle.

The SAB commends the Agency for successfully conducting this year's STAA program and applauds the EPA's public recognition of the scientific and technological achievements of EPA staff who publish their research in peer-reviewed literature. Thank you for the opportunity to assist the Agency with this important program.

Sincerely,

/s/

Kimberly Jones, Ph.D.
Chair
EPA Science Advisory Board

/s/

David Keiser, Ph.D.
Chair
EPA SAB 2024 STAA Panel

NOTICE

This report has been written as part of the activities of the EPA Science Advisory Board, a public advisory committee providing extramural scientific information and advice to the Administrator and other officials of the Environmental Protection Agency. The Board is structured to provide balanced, expert assessment of scientific matters related to problems facing the Agency. This report has not been reviewed for approval by the Agency and, hence, the contents of this report do not represent the views and policies of the Environmental Protection Agency, nor of other agencies in the Executive Branch of the Federal government, nor does mention of trade names or commercial products constitute a recommendation for use. Reports of the EPA Science Advisory Board are posted on the EPA website at http://www.epa.gov/sab.

The SAB is a chartered federal advisory committee, operating under the Federal Advisory Committee Act (FACA; 5 U.S. Code 10). The committee provides advice to the Administrator of the U.S. Environmental Protection Agency on the scientific and technical underpinnings of the EPA's decisions. The findings and recommendations of the Committee do not represent the views of the Agency, and this document does not represent information approved or disseminated by EPA.

U.S. Environmental Protection Agency
Science Advisory Board
2021-2024 Scientific and Technological Achievement Awards (STAA) Panel

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SAB Recommendations for EPA's FY 2024 Scientific and Technological Achievement Awards (STAA)

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Acronyms and Abbreviations

AO	Office of the Administrator
EPA	U.S. Environmental Protection Agency
FACA	Federal Advisory Committee Act
OP	Office of Policy
ORD	Office of Research and Development
SAB	EPA Science Advisory Board
STAA	Scientific and Technological Achievement Awards

INTRODUCTION

The Environmental Protection Agency (EPA) Scientific and Technological Achievement Awards (STAA) program was established in 1980 to promote and recognize scientific and technological achievements by EPA employees. EPA's Office of Research and Development (ORD) provides and manages administrative oversight of the program, while EPA's Science Advisory Board (SAB) provides the scientific and technological evaluation.

This year, the SAB was asked to review the submitted nominations and make recommendations for STAA awards in consideration of the 2024 nomination guidelines[1]. The Guidelines describe the award levels, eligibility criteria, and factors that the SAB considers during its review of STAA nominations. Publications from the previous seven years were eligible to receive STAA awards. (i.e., nominated publication(s) must have been published on or after January 1, 2017, and on or before January 1, 2024).

The Agency's charge to the SAB was to consider which nominations for the 2024 STAA program deserved recognition. The SAB considered the following criteria defined by the Agency for STAA recognition:

- Level I Awards are for nominees who have accomplished an exceptionally high-quality research or technological effort that is highly relevant to EPA's mission and has demonstrated a direct influence on EPA's mission and policies. The awards recognize the creation or general 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. The award 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. Awarded research is of national significance or has high impact on a broad area of science/technology. In addition, the awarded research has timely consequences and is recognizable as a major scientific/technological achievement within its discipline or field of study.

- Level II Awards are for nominees who have accomplished a notably excellent research or technological effort that has qualities and values similar to, but to a lesser degree, than those described under Level I. Awarded research has timely consequences and contributes as an important scientific/technological achievement within its discipline or field of study.

- Level III Awards are for nominees who have accomplished an unusually notable research or technological effort. The awards are for 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. Awarded research relates to

[1] Scientific and Technological Achievement Awards 2024 Nominations Procedures and Guidelines. See Appendix B.

a mission or organizational component of the EPA, or significantly affects a relevant area of science/technology.

- Honorable Mention Awards acknowledge research efforts that are noteworthy but do not warrant a Level I, II or III award. Honorable Mention applies to research efforts that: (1) may not quite reach the level described for a Level III award; (2) show a promising area of research that should be encouraged; or (3) show an area of research that is too preliminary to warrant an award recommendation at this time.

As described in the Agency's Nomination Procedures and Guidelines, the SAB reviewed the nomination packages in consideration of the above criteria and the following factors:

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 outside of 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.

In response to the EPA's request, the 2021-2024 SAB Scientific and Technological Achievement Awards Panel (the SAB STAA Panel) held closed virtual meetings on July 8, July 19, August 8, and August 12, 2024, to review the nominations submitted by the Agency. The meetings were closed to the public because the deliberations involved the identity of employees and the relative merits of the scientific contributions of EPA's STAA nominees. Such disclosure is considered a personnel matter with privacy concerns, which is exempt from public disclosure pursuant to section 10(d) of the Federal Advisory Committee Act (FACA) and sections (c)(2) and (c)(6) of the Government in the Sunshine Act. Detailed information about the review procedures is provided in this report. A Federal Register Notice announcing the closed meetings was published on 06/10/2024 and is available on the SAB website.[2] The Chartered SAB reviewed and approved this report on November 13, 2024.

[2] SAB Federal Register Notice: https://sab.epa.gov/ords/sab/r/sab_apex/sab/meeting?p19_id=1020&clear=19&session=5282477107073.

SAB REVIEW PROCEDURES

The nominated publications, along with the evaluation criteria, were provided to the SAB STAA Panel in advance of their meeting. ORD submitted 122 nominations within 12 science and technology research categories for consideration. Four nominations were not evaluated due to incomplete or ineligible publications. Table 1 presents the number of EPA nominations submitted in each category.

Table 1. Number of STAA nomination packages received and evaluated by category in FY24.

Award Categories:	Number of Nominations Submitted
Ecological Research	19
Environmental Policy and Decision-Making Studies	14
Health Effects Research and Human Health Risk Assessment	25
Homeland Security	2
Industry and the Environment	1
Integrated Risk Assessment	5
Monitoring and Measurement Methods	8
Other Environmental Research	7
Review Articles	20
Risk Management & Ecosystem Restoration	4
Sustainability and Innovation	6
Transport & Fate	11
Total	**122**

Panelists were assigned between 15 and 20 nomination packages to review based on their availability, preferences, and expertise. Preliminary review information was distributed to all panelists. Each nomination was independently reviewed by two panelists prior to the meeting. Panelists were directed to provide preliminary recommendations for nomination, which included written summaries of their preliminary assessments taking into consideration the award and evaluation criteria.

Deliberations:

The FY24 STAA review consisted of a two-step process: an initial independent review of each nomination by two panelists, followed by a full Panel discussion and vote for award determination. To avoid an appearance of bias or a loss of impartiality, members with recusals noted for nominations were not permitted to engage in the Panel's discussion or voting. The specific steps followed include:

1. The assigned panelists (two) presented their summaries of the nomination and an initial ranking.

2. If assigned panelists were more than 1-degree apart on their initial rating, the panel chair asked each assigned panelist for additional feedback for their positions.
3. The Panel at large discussed the nomination.
4. The Panel took a vote on the level of award to recommend.
5. If the panel vote was not distinguished by a minimum of two votes, a third reviewer was assigned, and the nomination was scheduled for a second discussion.

During the full discussion, the Panel acknowledged that several nominations were very similar in content, focus, and authorship. Following the initial review and voting for each of those nominations, the Panel l compared the authorship, topic, and publications information for each. The Panel then held a vote to determine if bundling was appropriate and if so, a second discussion and vote to determine the bundled award if any. The bundled award decision subsequently replaced the award determination for the individual nomination packages. A total of 9 nomination packages were bundled.

Panelists also discussed programmatic and administrative recommendations for EPA to further strengthen the STAA program, facilitate the SAB review of future STAA nominations, and refine the overall review process. This year, the SAB recommends that:

- ORD provide greater clarity regarding previous award winners. In addition to requiring nominators to list the previous awards (level, award year, and publication titles), the journal in which the awarded publications were published should also be included.
- ORD conduct a quality administrative review for compliance of the nomination packages. Several nomination packages were unreadable, missing information or publications, or found to be ineligible for review according ORD's own STAA guidelines.
- ORD conduct an enhanced screen on packages that have significant author overlap and/or reflect successive work. This year there was an increase in nominations with significant overlap that appeared to build off the work of another body of research. While ORD has approved the bundling of nomination packets, the practice is counter to ORD's STAA procedures and guidelines which limit the number of publications per nomination. If the SAB considers two or more nominations as a bundled package, we are effectively considering more than 3 nominated papers, which allows an unfair advantage, as nominees can demonstrate their work among additional publications. ORD should ensure that nominators designate the pertinent publications for nomination and list other publications as supplemental (p. B-6). Furthermore, nominators should be encouraged to submit similar publications under a single nomination. Similar publications would be those that capture/utilize similar test methods/concepts, have substantial overlap in authors and/or are conducted by the same lead authors.

The SAB is open to meeting with ORD to discuss these recommendations and ways to incorporate them ahead of the next review cycle.

AWARD RECOMMENDATIONS

The SAB has agreed upon the following award recommendations and ranking for the FY 2024 STAA program: Level 2 Award: 11; Level 3 Award: 33; Honorable Mention: 55. Fourteen nominations were not recommended for an award and 4 nominations were not evaluated due to package incompleteness or ineligibility. A total of 9 nomination packages were bundled resulting in 4 awards. Award levels for bundled nominations were included under the topic area of the nomination with the lowest nominations package identification number. Table 2 presents the award recommendations for the current year and past 5 evaluation years. Table 3 summarizes the distribution of FY2024 award recommendations by category for all nominations reviewed by the STAA Panel. Appendix A lists the EPA nominations recommended for each of the award levels.

Table 2. Comparison of Recommendations Over the Last 5 Review Cycles.

	FY 2016	FY 2017	FY 2018-2019	FY 2020	FY 2021	FY 2024
Total Nominations Reviewed	75	58	53	54	44	113
Level I	0 (0%)	3[a] (5%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)
Level II	8 (11%)	4 (7%)	3 (6%)	6 (11%)	5 (11%)	11 (11%)
Level III	13 (17%)	18 (32%)	16[a] (31%)	14 (26%)	15 (34%)	33[a] (33%)
Honorable Mention	32 (43%)	18 (32%)	24 (46%)	24 (44%)	19 (43%)	55[a] (55%)
Total Not Recommended for an Award	22 (29%)	14 (24%)	8 (15%)	10 (19%)	5 (11%)	14 (14%)

[a]Bundled awards included.

Table 3. Summary of Award Recommendations by Category for FY2024

Research Categories	Award Levels			Honorable Mention	No Award	Total Nominations Reviewed
	I	II	III			
Ecological Research (ER)	0	1	6[1]	8	3	18
Environmental Policy and Decision-Making (EP) Studies	0	1	5	6	1	13
Health Effects Research and Human Risk Assessment (HE)	0	2	7	11[2]	3	23
Homeland Security (HS)	0	0	1	1	0	2
Industry and the Environment (IE)	0	0	1	0	0	1
Integrated Risk Assessment (IR)	0	1	1	1[3]	0	3
Monitoring and Measurement Methods (MM)	0	1	3	3	1	8
Other Environmental Research (OR)	0	0	4[4]	3	0	7
Review Articles (RA)	0	3	2	11	2	18
Risk Management and Ecosystem Restoration (RM)	0	0	0	3	1	4
Sustainability and Innovation (SI)	0	0	2	2	2	6
Transport and Fate (TF)	0	2	1	6	1	10
TOTALS:	**0**	**11**	**33**	**55**	**14**	**113***

[1]Two ER topic area nominations bundled.
[2]Two HE topic area nominations bundled.
[3]Three IR topic area nominations bundled.
[4]Bundled with one HE topic area nomination.
*Total number of nominations reviewed was reduced due to incomplete/ineligible packages (-4) and bundled nominations (-5).

APPENDIX A: RECOMMENDATIONS FOR FY2024 STAA AWARDS

Note: The percentages given after each name represent the percent of the total level of effort as documented in the EPA nomination. Author names and publication titles are presented as documented in the EPA nomination.

Recommendations for 2024 STAA Awards			
Nomination ID	**Author Names**	**Publication Title**	**Office Name**
Nominations Recommended for Level II Award – Total of 11			
24-4967	EPA: Ken M. Fritz - 11%; Katharine A. (Kate) Schofield - 15%; Charles R. Lane - 15%; Bradley C. (Brad) Autrey - 7%; Heather E. Golden - 3%; Stephen D. Leduc - 7%; Michael G. McManus - 3%; Caroline E. Ridley - 3%; Amina I. Pollard - 3%; NonEPA	1. Hydrological, Physical, and Chemical Functions and Connectivity of Non-Floodplain Wetlands to Downstream Waters: A Review 2. Biota Connect Aquatic Habitats throughout Freshwater Ecosystem Mosaics 3. Physical and Chemical Connectivity of Streams and Riparian Wetlands to Downstream Waters: A Synthesis	ORD
24-4989	EPA: Blake A. Schaeffer - 47%; Darryl J. Keith - 5%; Robyn N. Conmy - 5%; Michael O. (Mike) Galvin - 10%; Kurt L. Wolfe - 5%; John M. Johnston - 8%; Ross Lunetta - 5%; Rajbir S. Parmar - 5%; NonEPA: Sean Bailey - 2%; Amber Ignatius - 2%; Ric	Mobile device application for monitoring cyanobacteria harmful algal blooms.	ORD
24-5017	EPA: Pamela D. Noyes - 12%; Katie P. Friedman - 10%; Jonathan T. (Jon) Haselman - 8%; Mary E. Gilbert - 8%; Michael W. Hornung - 8%; Stanley (Stan) Barone - 8%; Tammy E. Stoker - 8%; Steven O. (Steve) Simmons - 2%; Joseph E. (Joe) Tietge - 2%; Sigmund J	Evaluating chemicals for thyroid disruption: Opportunities and challenges with in vitro testing and adverse outcome pathway approaches	ORD
24-5038	EPA: Chunming Su - 25%; Andrew H. Byro - 5%; Richard G.	Nano-enabled pesticides for sustainable agriculture and	ORD

	Zepp - 5%; Endalkac (Sahle) Sahle-Demessie - 5%; Robert M. Burgess - 5%; Todd P. Luxton - 5%; Kay T. Ho - 5%; NonEPA: Dengjun Wang - 20%; Navid Saleh - 10%; Markus Flury - 5%; Jason Whi	global food security	
24-5120	EPA: Endalkac (Sahle) Sahle-Demessie - 32%; Richard G. Zepp - 10%; Eunice Varughese - 13%; Bradley W. (Brad) Acrey - 5%; Mary J. Davis - 2%; NonEPA: Emmanuel Ruggiero - 3%; Wendel Wohlleben - 5%; Changseok Han - 23%; Hsin-Se Hsieh - 2%; Hogl	1. Fragmentation of polymer nanocomposites: modulation by dry and wet weathering, fractionation, and nanomaterial filler 2. Fragmentation and release of pristine and functionalized carbon nanotubes from epoxy-nanocomposites during accelerated weathering 3. Polypropylene–MWCNT composite degradation, and release, detection and toxicity of MWCNTs during accelerated environmental aging	ORD
24-5168	EPA: Marina G. Evich - 8%; Bradley W. (Brad) Acrey - 4%; Benjamin J. Washington - 4%; Mary J. Davis - 4%; William M. (Matthew) Henderson - 4%; James P. McCord - 12%; Andrew N. (Drew) Pilant - 4%; Caroline T. Stevens - 4%; Mark J. Strynar - 8%; Brittany	1. Nontargeted mass-spectral detection of chloroperfluoropolyether carboxylates in New Jersey soils 2. Emerging Chlorinated Polyfluorinated Polyether Compounds Impacting the Waters of Southwestern New Jersey Identified by Use of Nontargeted Analysis	ORD
24-5175	EPA: Elizabeth G. Radke-Farabaugh - 70%; Kristina A. (Kris) Chialton - 1%; Rebecca M. (Becky) Nachman - 5%; Audrey Galizia - 5%; NonEPA: Barbara Glenn - 3%; Glinda Cooper - 15%; Joseph Braun - 1%;	1. Phthalate exposure and female reproductive and developmental outcomes: a systematic review of the human epidemiological evidence 2. Phthalate exposure and neurodevelopment: A systematic review and meta-analysis of human	ORD

		epidemiological evidence 3. Phthalate exposure and metabolic effects: a systematic review of the human epidemiological evidence	
24-5264	EPA: Justin M. Conley - 25%; Leon E. Gray - 20%; James P. McCord - 5%; Christy R. Lambright - 18%; Nicola Evans - 11%; Mark J Strynar - 5%; Donna E. Jenkins-Hill - 2%; Elizabeth K. Medlock Kakaley - 4%; NonEPA: Mary Cardon - 2%; Phillip Hart	1. Adverse maternal, fetal, and postnatal effects of hexafluoropropylene oxide dimer acid (GenX) from oral gestational exposure in Sprague-Dawley rats 2. Hexafluoropropylene oxide-dimer acid (HFPO-DA or GenX) alters maternal and fetal glucose and lipid metabolism and produces neonatal mortality, low birthweight, and hepatomegaly in the Sprague-Dawley rat	ORD
24-5282	EPA: Jake J. Beaulieu - 12%; Sarah M. Waldo - 11%; David A. (Adam) Balz - 11%; Alexander W. Hall - 11%; Karen M. White - 11%; NonEPA: William Barnett - 11%; Michelle Platz - 11%; Tonya DelSontro - 11%; John Downing - 11%;	1. Methane and Carbon Dioxide Emissions From Reservoirs: Controls and Upscaling 2. Eutrophication will increase methane emissions from lakes and impoundments during the 21st century 3. Greenhouse gas emissions from lakes and impoundments: Upscaling in the face of global change.	ORD
24-5314	EPA: Matthew A. (Matt) Etterson - 16%; Nathan H. Schumaker - 12%; Allen F. Brookes - 12%; Jennifer E. Connolly - 12%; Kristina V. Garber - 12%; Steven P. (Steve) Lennartz - 12%; NonEPA: Andrew Kanarek - 12%; Edward Odenkirchen - 12%;	1. A spatially explicit model for estimating risks of pesticide exposure to bird populations 2. Mechanistic modeling of insecticide risks to breeding birds in North American agroecosystems 3. HexSim: a modeling environment for ecology and conservation	ORD
24-5328	EPA: Stephen R. Pacella - 40%;	Seagrass habitat	ORD

	Cheryl A. Brown - 15%; Rochelle G. Labiosa - 15%; NonEPA: George Waldbusser - 15%; Burke Hales - 15%;	metabolism increases short-term extremes and long-term offset of CO_2 under future ocean acidification	
Nominations Recommended for Level III Award – Total of 33			
24-4971	EPA: Michael W. (Worth) Calfee – 20%; Joseph P. Wood – 20%; Shannon D. Serre – 20%; Lukas J. Oudejans – 20%; NonEPA: William Richter – 5%; Michelle Sunderman – 5%; Zachary Willenberg – 5%; Megan Fulton – 5%;	Decontamination efficacy of common liquid disinfectants against non-spore-forming biological agents in soil matrices	ORD
24-4990	EPA: Tyler D. Sowers – 16%; Karen D. Bradham – 16%; Kirk G. Scheckel – 16%; Matthew D. Blackmon – 8%; Matthew R. (Matt) Noerpel – 10%; NonEPA: David Thomas – 6%; Albert Juhasz – 3%; Clay Nelson – 2%; Gary Diamond – 5%; Marissa Jerden – 1%; A	1. Plumbojarosite Remediation of Soil Affects Lead Speciation and Elemental Interactions in Soil and in Mice Tissues 2. Successful Conversion of Pb-Contaminated Soils to Low-Bioaccessibility Plumbojarosite Using Potassium-Jarosite at Ambient Temperature 3. Bioavailable soil Pb minimized by in situ transformation to plumbojarosite	ORD
24-5026	EPA: Holly M. Mortensen – 60%; Antony J. Williams – 2%; NonEPA: Jonathan Senn – 4%; Trevor Levey – 5%; Liang Mei – 1%; Phillip Langley – 2%; Marvin Martens – 8%; Jason Moore – 1%; Egon Willighagen – 2%; Chris Evelo – 1%; Thomas Exner – 1%; J	1. The 2021 update of the EPA's adverse outcome pathway database 2. Exploring genetic influences on adverse outcome pathways using heuristic simulation and graph data science 3. The AOP-DB RDF: Applying FAIR Principles to the Semantic Integration of AOP Data Using the Research Description Framework	ORD
24-5050	EPA: Jacqueline R. (Renee) Brooks – 30%; Jay R. Christensen – 10%; William D.	Estimating Wetland Connectivity to Streams in the Prairie Pothole Region:	ORD

	Rugh – 10%; Scott G. Leibowitz – 8%; NonEPA: David M. Mushet – 10%; Melanie K. Vanderhoof – 15%; Brian P. Neff – 5%; Donald O. Rosenberry – 5%; Laurie C. Alexander	An Isotopic and Remote Sensing Approach	
24-5079	EPA: Yongping Yuan – 50%; Anna M. Jalowska – 1%; NonEPA: Ruoyu Wang – 34%; Ellen Cooter – 4%; Limei Ran – 3%; Dongmei Yang – 3%; Prasad Daggupati – 3%; Raghavan Srinivasan – 2%;	Integrating multimedia models to assess nitrogen losses from the Mississippi River basin to the Gulf of Mexico	ORD
24-5102	EPA: James K. (Kevin) Summers – 55%; Linda C. Harwell – 13%; NonEPA: Andrea Lamper – 25%; Courtney McMiilion – 7%;	1. Observational Verification of the Cumulative Resilience Screening Index (CRSI) Using Hurricanes, Inland Floods, and Wildfires From 2016 to 2019 2. Observed Changes in the Frequency, Intensity, and Spatial Patterns of Nine Natural Hazards in the United States from 2000 to 2019	ORD
24-5104	EPA: Krista L. Christensen – 20%; Chelsea A. Weitekamp – 21%; Laura M. Carlson – 10%; Nicole M. (Nikki) Deluca – 4%; Elaine A. Cohen-Hubal – 4%; Geniece M. Lehmann – 23%; Rachel M. Shaffer – 4%; Catheryne L. (Katie) Chiang – 4%; NonEPA: Lind	1. A state-of-the-science review of polychlorinated biphenyl exposures at background levels: relative contributions of exposure routes 2. The role of epidemiology studies in human health risk assessment of polychlorinated biphenyls 3. An evidence map of polychlorinated biphenyl exposure and health outcome studies among residents of the Akwesasne Mohawk Nation	ORD
24-5170	EPA: David G. Wahman – 90%; Matthew T. Alexander – 10%;	1. Chlorinated Cyanurates Review of Water Chemistry and Associated Drinking	ORD

		Water Implications 2. A Drinking Water Relevant Water Chemistry Model for the Free Chlorine and Cyanuric Acid System from 5 to 35 °C 3. First Acid Ionization Constant of the Drinking Water Relevant Chemical Cyanuric Acid from 5 to 35 °C	
24-5171	EPA: Colette N. Miller – 27%; Janice A. Dye – 16%; Urmila P. Kodavanti – 8%; Mette C. (Mette C) Schladweiler – 5%; Brian N. Chorley – 5%; Aimen K. Farraj – 5%; Wanda C. Williams – 5%; Mehdi S. Hazari – 3%; Danielle L. Freeborn – 3%; Prasada R. (Prasada	1. Ozone Exposure During Implantation Increases Serum Bioactivity in HTR-8/Svneo Trophoblasts 2. Fetal growth outcomes following peri-implantation exposure of Long-Evans rats to noise and ozone differ by sex 3. Ozone-induced fetal growth restriction in rats is associated with sexually dimorphic placental and fetal metabolic adaptation	ORD
24-5173	EPA: Wesley W. (Wes) Ingwersen – 40%; Catherine I. Birney – 5%; David E. Meyer – 5%; NonEPA: Yi Yang – 15%; Troy Hawkins – 3%; Jorge Vendries – 5%; Ben Young – 5%; Mo Li – 20%; Michael Srocka – 2%;	1. USEEIO: A New and Transparent United States Environmentally-Extended Input-Output Model 2. USEEIO v2.0, the US Environmentally-Extended Input-Output Model v2.0 3. *useeior:* An Open-Source R Package for Building and Using US Environmentally-Extended Input–Output Models	ORD
24-5174	EPA: Tammy E. Stoker – 14%; Angela R. Buckalew – 14%; Ashley S. Murr – 14%; Daniel R. Hallinger – 14%; Steven O. (Steve) Simmons – 10%; Chad R. Deisenroth – 3%; Susan C. Laws – 14%; NonEPA: Jun Wang – 14%; Wendy Stewart – 3%;	1. Evaluation of potential sodium-iodide symporter (NIS) inhibitors using a secondary Fischer rat thyroid follicular cell (FRTL-5) radioactive iodide uptake (RAIU) assay 2. Development of a screening approach to	ORD

		detect thyroid disrupting chemicals that inhibit the human sodium iodide symporter (NIS) 3. High-Throughput Screening and Quantitative Chemical Ranking for Sodium-Iodide Symporter Inhibitors in ToxCast Phase I Chemical Library	
24-5179	EPA: Daiwen Kang – 40%; Rohit Mathur – 15%; Kristen M. Foley – 10%; Cheung N. (David) Wong – 10%; Shawn Roselle – 5%; George A. Pouliot – 5%; Robert C. Gilliam – 5%; NonEPA: Kenneth E. Pickering – 5%; Dale J. Allen – 5%;	1. Simulating lightning NO production in CMAQv5.2: evolution of scientific updates 2. Simulating lightning NO production in CMAQv5.2: performance evaluations 3. Significant ground-level ozone attributed to lightning-induced nitrogen oxides during summertime over the Mountain West States	ORD
24-5189	EPA: Orin C. Shanks – 22%; Jessica R. Willis – 20%; Manohari (Mano) Sivaganesan – 20%; Richard A. (Rich) Haugland – 3%; Amanda M. Ronan – 2%; Regina K. Klepikow – 2%; Marirosa Molina – 1%; Stephanie A. Eytcheson – 1%; Stephanie A. Dean – 2%;	1. Performance of NIST SRM® 2917 with 13 recreational water quality monitoring qPCR assays 2. Interlaboratory performance and quantitative PCR data acceptance metrics for NIST SRM® 2917	ORD
24-5200	EPA: Ahjond S. Garmestani – 84%; Tarsha N. Eason – 1%; NonEPA: Dirac Twidwell – 1%; Melinda Knutson – 1%; David Angeler – 1%; Shana Sundstrom – 1%; Chris Barichievy – 1%; Brian Chaffin – 1%; Nick Graham – 1%; Dean Granholm – 1%; Lance Gunder	Panarchy: opportunities and challenges for ecosystem management	ORD
24-5206	EPA: Richard S. (Rich) Fulford – 30%; James D. (Jim) Hagy – 10%; Marc J. Russell – 10%; NonEPA: Avery Delmaine – 9%; Wei Wu – 7%; Denise Breitburg	1. Managing estuaries for ecosystem function 2. Models help set ecosystem baselines for restoration management	ORD

	– 8%; Madison Myers – 10%; Megan Malish – 9%; Shelia JJ Heymans – 7%;	3. Mathematical modeling for ecosystem-based management and ecosystem goods and services assessment	
24-5216	EPA: Kyle D. Buck – 60%; James K. (Kevin) Summers – 5%; Lisa M. Smith – 5%; NonEPA: Rebecca Dunn – 15%; Mary Bennett – 15%;	1. Investigating the relationship between environmental quality, socio-spatial segregation and the social dimension of sustainability in US urban areas 2. Influence of cross-scale measures on neighborhood resilience	ORD
24-5221	EPA: Erik M. Pilgrim – 20%; Nathan J. Smucker – 20%; Christopher T. (Chris) Nietch – 20%; John Darling – 10%; Marirosa Molina – 7.5%; Brent R. Johnson – 5%; Lester L. Yuan – 5%; John W. Martinson – 5%; NonEPA: Huiyun Wu – 7.5%;	1. Developing indicators of nutrient pollution in streams using 16S rRNA gene metabarcoding of periphyton-associated bacteria 2. Characterizing temporal variability in streams supports nutrient indicator development using diatom and bacterial DNA metabarcoding 3. DNA metabarcoding effectively quantifies diatom responses to nutrients in streams	ORD
24-5224	EPA: Jesse O. Bash – 1%; John T. Walker – 19%; Gregory M. Beachley – 19%; Havala O. Pye – 1%; Xi Chen – 1%; Anne W. Rea – 1%; Melissa A. Puchalski – 1%; NonEPA: Donna Schwede – 5%; Rich Scheffe – 1%; Gary Lear – 2%; Ryan Daly – 1%; Taylor Ma	1. Toward the improvement of total nitrogen deposition budgets in the United States 2. Aspects of uncertainty in total reactive nitrogen deposition estimates for North American critical load applications 3. A review of measurements of air-surface exchange of reactive nitrogen in natural ecosystems across North America	ORD

24-5227	EPA: Ana G. Rappold – 23%; Cavin K. Ward-Caviness – 4%; NonEPA: Lauren Wyatt – 23%; Linda Wei – 5%; Patil Amrita – 3%; West Jason – 3%; Henderson Sarah – 5%; Marc Serre – 3%; Cleland Stephanie – 28%; Paul Naman – 3%;	1. Short-Term Exposure to Wildfire Smoke and PM2.5 and Cognitive Performance in a Brain-Training Game: A Longitudinal Study of U.S. Adults 2. Long-term exposure to ambient O3 and PM2.5 is associated with reduced cognitive performance in young adults: A retrospective longitudinal repeated measures study in adults aged 18–90 years	ORD
24-5229	EPA: Hodon Ryu – 25%; Laura A. Boczek – 16%; Jennifer L. Cashdollar – 6%; Nichole E. Brinkman – 6%; NonEPA: Yoontaek Oh – 7%; Sara Beck – 10%; Kelsie Carlson – 2%; Samuel Hayes – 2%; Kaitlyn Jeanis – 2%; Oliver Lawal – 2%; Karl Linden – 10%;	1. Evaluating UV-C LED disinfection performance and investigating potential dual-wavelength synergy 2. Inactivation efficacy and mechanisms of wavelength-specific UV sources for various strains of *Legionella pneumophila* serogroup 1 3. Efficacy of Inactivation of Human Enteroviruses by Dual-Wavelength Germicidal UVC-LEDs	ORD
24-5230	EPA: Kristin K. Isaacs – 9%; Russell S. Thomas – 5%; John Wambaugh – 9%; Antony J. Williams – 7%; Katherine Phillips – 17%; Jon R. Sobus – 5%; Ann M. Richard – 5%; Christopher M. (Chris) Grulke – 6%; NonEPA: Charles Lowe – 17%; Alice Yau – 7	1. Suspect Screening Analysis of Chemicals in Consumer Products 2. Chemical Characterization of Recycled Consumer Products Using Suspect Screening Analysis	ORD
24-5237	EPA: Heather E. Klemick – 40%; Karen A. Sullivan – 25%; NonEPA: Henry Mason – 35%;	Superfund Cleanups and Children's Lead Exposure	AO
24-5239	EPA: Nichole E. Brinkman – 20%; Shawn D. Siefring – 4%; Scott P. Keely – 20%; Emily A. Wheaton – 4%; Michael A. Jahne – 10%; Roy W. Martin – 4%; Jay L. Garland – 4%; Ryan A.	Geospatial Patterns of Antimicrobial Resistance Genes in the US EPA National Rivers and Streams Assessment Survey	ORD

	Hill – 10%; NonEPA: Manju Varma – 4%; Scott Leibowitz – 4%; Richard		
24-5259	EPA: Jingrang Lu – 46%; Ian Struewing – 12%; Larry J. Wymer – 3%; Daniel R. (Dan) Tettenhorst – 3%; Jody A. Shoemaker – 3%; Hubert J. (Joel) Allen – 18%; NonEPA: Xiaodi Duan – 5%; Chiqian Zhang – 8%; Xiang Li – 2%;	1. Use of qPCR and RT-qPCR for Monitoring Variations of Microcystin Producers and as an Early Warning System to Predict Toxin Production in an Ohio Inland Lake 2. Cyanotoxin-encoding genes as powerful predictors of cyanotoxin production during harmful cyanobacterial blooms in an inland freshwater lake: Evaluating a novel early-warning system	ORD
24-5270	EPA: Nathan J. Smucker – 40%; Jake J. Beaulieu – 30%; Christopher Nietch – 26%; NonEPA: Jade Young – 4%;	Increasingly severe cyanobacterial blooms and deep-water hypoxia coincide with warming water temperatures in reservoirs	ORD
24-5293	EPA: Timothy J. Shafer – 6%; Kelly E. Carstens – 21%; Theresa M. Freudenrich – 4%; Kathleen Wallace – 4%; Seline S. Choo – 1%; Amy F. Carpenter – 1%; Marci G. Smeltz – 4%; Matthew S. (Scott) Clifton – 4%; William M. (Matthew) Henderson – 4%; Ann M. Rich	1. Integrating Data From In Vitro New Approach Methodologies for Developmental Neurotoxicity 2. Integration of toxicodynamic and toxicokinetic new approach methods into a weight-of-evidence analysis for pesticide developmental neurotoxicity assessment: A case-study with DL- and L-glufosinate. 3. Evaluation of Per- and Polyfluoroalkyl Substances (PFAS) In Vitro Toxicity Testing for Developmental Neurotoxicity	ORD
24-5300	EPA: Christopher M. Clark – 50%; NonEPA: Sam Simkin – 24%; William Bowman – 2%; Jane	Potential vulnerability of 348 herbaceous species to atmospheric deposition of nitrogen and sulfur in the	ORD

	Belnap – 2%; Carly Stevens – 2%; Donald Waller – 2%; Matthew Brooks – 2%; Linda Geiser – 2%; Linda Pardo – 2%; Bethany Schultz – 2%; Scott Collins – 2%; Fra	United States	
24-5309 + 24-5322	24-5309: EPA: Jennifer H. Olker – 25%; Jonathan T. (Jon) Haselman – 12%; Michael W. Hornung – 5%; Sigmund J. Degitz – 15%; NonEPA: Kelby Donnay – 3%; Patricia Kosian – 5%; Joseph Korte – 13%; Phillip Hartig – 10%; Mary Cardon – 5%; Chad Blanksma – 7% 24-5322: EPA: Jennifer H. Olker – 25%; Sigmund J. Degitz – 5%; Michael W. Hornung – 20%; NonEPA: Carsten Knutsen – 4%; Joseph Korte – 15%; Jeffrey Denny – 10%; Jessica Christensen – 3%; Phillip Hartig – 10%; Mary Cardon – 5%; Paige Kent – 3%;	24-5309: 1. Evaluating Iodide Recycling Inhibition as a Novel Molecular Initiating Event for Thyroid Axis Disruption in Amphibians 2. In Vitro Screening for Chemical Inhibition of the Iodide Recycling Enzyme, Iodotyrosine Deiodinase 3. Cross-species comparison of chemical inhibition of human and Xenopus iodotyrosine deiodinase 24-5322: 1. Screening the ToxCast Phase 1 chemical library for inhibition of deiodinase type 1 activity 2. Screening the ToxCast Phase 1, Phase 2, and e1k Chemical Libraries for Inhibitors of Iodothyronine Deiodinases	ORD
24-5311	EPA: Elaine A. Cohen-Hubal – 25%; Nicole M. (Nikki) Deluca – 48%; Michelle M. Angrish – 10%; Amy C. (Amina) Wilkins – 5%; Jeffrey M. Minucci – 5%; Rachel J. Slover – 2%; Ashley S. Mullikin – 2%; Kristina A. (Kris) Chialton – 3%;	1. Human exposure pathways to PFAS from indoor media: A systematic review protocol 2. Human exposure pathways to PFAS from indoor media: A systematic review	ORD
24-5312 + 24-5315	24-5312: EPA: John F. Carriger – 55%; Mace G. Barron – 45%; 24-5315: EPA: John F. Carriger – 50%; Randy A. Parker – 50%	24-5312: A Bayesian network approach to refining ecological risk assessments: Mercury and the Florida panther *(Puma concolor coryi)* 24-5315: Conceptual Bayesian networks for contaminated site	ORD

		ecological risk assessment and remediation support	
24-5317	EPA: Erin E. McDuffie – 40%; William N. (Bill) Irving – 1%; John R. Steller – 2%; Melissa Weitz – 5%; Christopher J. Sherry – 1%; Marcus C. Sarofim – 8%; Karl M. Seltzer – 4%; Barron H. Henderson – 1%; Neal L. Fann – 4%; NonEPA: Jim Anderton	1. The social cost of ozone-related mortality impacts from methane emissions 2. A Gridded Inventory of Annual 2012-2018 U.S Anthropogenic Methane Emissions	OAR
24-5338	EPA: Xabier Arzuaga Andino – 40%; Catherine F. Gibbons – 4%; Erin E. Yost – 4%; Andrew K. Hotchkiss – 4%; NonEPA: Martyn T Smith – 4%; Niels E Skakkebæk – 4%; Brandiese E J Beverly – 4%; Russ Hauser – 4%; Rodrigo L Pagani – 4%; Gail S Prins	Proposed Key Characteristics of Male Reproductive Toxicants as an Approach for Organizing and Evaluating Mechanistic Evidence in Human Health Hazard Assessments	ORD
24-5341	EPA: Robin R. Jenkins – 20%; Patrick J. Walsh – 20%; NonEPA: Dennis Guignet – 40%; Matthew Ranson – 20%;	Contamination and Incomplete Information: Bounding Implicit Prices using High-Profile Leaks at Underground Storage Tanks	AO/OP
This Nominations Recommended for Honorable Mention (HM) – Total of 55			
24-4957	EPA: Heather E. Golden - 80%; NonEPA: Nahal Hoghooghi - 20%;	Green infrastructure and its catchment-scale effects: an emerging science	ORD
24-4998	EPA: Heather E. Klemick - 25%; Patrick J. Walsh - 25%; Charles W. Griffiths - 25%; Dennis Guignet - 25%;	Adaptation, Sea Level Rise, and Property Prices in the Chesapeake Bay Watershed	AO
24-4999	EPA: Joseph P. Wood - 60%; NonEPA: Alden C. Adrion - 40%;	Review of Decontamination Techniques for the Inactivation of Bacillus anthracis and Other Spore-Forming Bacteria Associated with Building or Outdoor Materials	ORD
24-5000	EPA: Michael W. (Worth) Calfee - 11%; Sangdon (Sang Don) Lee - 8%; Shawn P. Ryan - 10%; Lukas J. Oudejans - 8%; Katherine M. Ratliff - 8%; Michael J. Stewart - 8%; Susan	1. Virucidal efficacy of antimicrobial surface coatings against the enveloped bacteriophage Φ6 2. Inactivation of MS2	ORD

	M. Lawrence - 4%; Kristen L. Willis - 8%; NonEPA: Mariela Monge - 4%; A	bacteriophage on copper film deployed in high touch areas of a public transport system 3. Residual Antimicrobial Coating Efficacy Against SARS-CoV-2.	
24-5002	EPA: Nicole E. Olson - 40%; Katie L. Boaggio - 15%; Richard B. (Byron) Rice - 15%; Kristen M. Foley - 10%; Stephen D. Leduc - 20%;	Wildfires in the western United States are mobilizing PM2.5-associated nutrients and may be contributing to downwind cyanobacteria blooms	ORD
24-5033	EPA: Kathryn M. Drisco - 15%; Cheryl J. Hankins - 60%; Elizabeth M. (Beth) Moso - 10%; NonEPA: Danielle Lasseigne - 5%; Allyn Duffy - 10%;	1. Scleractinian coral microplastic ingestion: Potential calcification effects, size limits, and retention 2. Microplastics impair growth in two atlantic scleractinian coral species, *Pseudodiploria clivosa* and *Acropora cervicornis*	ORD
24-5051	EPA: Brandon M. Jarvis - 60%; Yongshan Wan - 5%; James J. Pauer - 3%; James D. (Jim) Hagy - 3%; NonEPA: Richard Greene - 3%; John Lehrter - 8%; Lisa Lowe - 5%; Cody Simmons - 5%; Wilson Melendez - 5%; Dong Ko - 3%;	1. Inter-model comparison of simulated Gulf of Mexico hypoxia in response to reduced nutrient loads: effects of phytoplankton and organic matter parameterization 2. Contiguous Low Oxygen Waters between the Continental Shelf Hypoxia Zone and Nearshore Coastal Waters of Louisiana, USA: Interpreting 30 Years of Profiling Data and Three-Dimensional Ecosystem Modeling 3. Measuring and modeling diel oxygen dynamics in a shallow hypereutrophic estuary: Implications of low oxygen exposure on aquatic life	ORD

24-5092	EPA: Yong Ho Kim - 25%; Ingrid J. George - 5%; Janice A. Dye - 2%; Wanda C. Williams - 5%; Mette C. (Mette C) Schladweiler - 5%; Michael D. Hays - 3%; Mark A. Higuchi - 3%; Stephen H. Gavett - 20%; Matthew (Ian) Gilmour - 20%; NonEPA: Samuel	1. Computational Approach to Link Chemicals in Anthropogenic Smoke Particulate Matter with Toxicity 2. Chemistry, Lung Toxicity and Mutagenicity of Burn Pit Smoke-related Particulate Matter 3. Contributions of particulate and gas phases of simulated burn pit smoke exposures to impairment of respiratory function	ORD
24-5125	EPA: Chunming Su - 20%; Richard T. (Rick) Wilkin - 8%; Molly R. Sexton - 2%; NonEPA: Anna Rose Wallace - 40%; Wenjie Sun - 23%; Eunsung Kan - 5%; Yong-Keun Choi - 2%;	1. Removal of Arsenate and Arsenite in Equimolar Ferrous and Ferric Sulfate Solutions through Mineral Coprecipitation: Formation of Sulfate Green Rust, Goethite, and Lepidocrocite 2. Evaluation of the Immobilization of Coexisting Heavy Metal Ions of Pb2+, Cd2+ , and Zn2+ from Water by Dairy Manure-Derived Biochar: Performance and Reusability 3. Removal of fluoride from water using a calcium-modified dairy manure-derived biochar; Adsorptive removal of fluoride from water using nanomaterials of ferrihydrite, apatite, and brucite:	ORD
24-5127	EPA: Christopher C. (Chris) Moore - 20%; Paul C. (Chris) Dockins - 20%; Nathalie B. Simon - 20%; NonEPA: Dennis Guignet - 20%; Kelly Maguire - 20%;	Valuing Ecological Improvements in the Chesapeake Bay and the Importance of Ancillary Benefits	AO

24-5131	EPA: Cody W. Simmons - 10%; Elizabeth Paulukonis - 25%; Susan H. Yee - 55%; Marc J. Russell - 2%; Kyle Buck - 2%; Linda Harwell - 2%; Lisa M. Smith - 2%; Richard S. (Rich) Fulford - 2%;	1. Contributions of Ecosystem Services to Human Well-being in Puerto Rico 2. Projecting effects of land use change on human well-being through changes in ecosystem services 3. Downscaling a human well-being index for environmental management and environmental justice applications in Puerto Rico	ORD
24-5138	EPA: Endalkac (Sahle) Sahle-Demessie - 45%; Stephen M. Harmon - 5%; NonEPA: Abdul Mannan Zafar - 12%; Ashraf Aly Hassan - 30%; Amro El Badawy - 5%; Muhammad Asad Javed - 3%;	1. Bio-desalination of brackish and seawater using halophytic algae 2. Biodesalination using halophytic cyanobacterium Phormidium keutzingianum from brackish to the hypersaline water	ORD
24-5154	EPA: Heather E. Klemick - 20%; Dennis Guignet - 20%; Ronald Shadbegian - 40%; NonEPA: Linda Bui - 20%;	Early childhood lead exposure and the persistence of educational consequences into adolescence	AO
24-5156	EPA: Karoline K. Barkjohn – 39%; Andrea L. Clements – 13%; Amara L. Holder – 28%; Brett D. Gantt – 3%; Kirk R. Baker – 2%; Robert A. Elleman – 2%; Dena M. Vallano – 2%; Anna K. Mebust – 3%; NonEPA: Kathleen E. Stewart – 2%; Michael R. McGown	1. Field evaluation of low-cost particulate matter sensors for measuring wildfire smoke 2. Development and application of a United States-wide correction for PM2.5 data collected with the PurpleAir sensor 3. Correction and Accuracy of PurpleAir PM2. 5 Measurements for Extreme Wildfire Smoke	ORD
24-5181	EPA: Lisa J. Melnyk - 20%; James M. (Jim) Lazorchak - 10%; John T. Lin - 5%; Katherine H. (Katie) Pugh - 2%; Michael A. Stover - 15%; NonEPA: Daniel Kusnierz - 15%;	1. Risks from Mercury in Anadromous Fish Collected from Penobscot River, Maine 2. One Health Assessment of Persistent Organic	ORD

	Raghuraman Venkatapathy - 2%; Gary Perlman - 10%; Devi Sundaravadivelu - 2%;	Chemicals and PFAS for Consumption of Restored Anadromous Fish	
24-5184	EPA: Leah M. Sharpe - 60%; Matthew C. (Matt) Harwell - 10%; NonEPA: Connie Hernandez - 10%; Chloe Jackson - 20%;	1. Integrated stakeholder prioritization criteria for environmental management 2. Prioritizing Stakeholders, Beneficiaries, and Environmental Attributes: A Tool for Ecosystem-Based Management	ORD
24-5193	EPA: Peter S. Byrley - 70%; Michelle A. (Ariel) Wallace - 20%; William K. (Will) Boyes - 5%; Kim R. Rogers - 5%;	Particle and volatile organic compound emissions from a 3D printer filament extruder	ORD
24-5194	EPA: Brian C. Crone - 40%; Thomas F. Speth - 10%; David G. Wahman - 10%; Eric J. Kleiner - 5%; Jonathan G. Pressman - 10%; NonEPA: Samantha Smith - 15%; Gulizhaer Abulikemu - 10%;	Occurrence of per- and polyfluoroalkyl substances(PFAS) in source water and their treatment in drinking water	ORD
24-5202	EPA: Avanti V. Shirke - 15%; Laura M. Carlson - 15%; Elizabeth G. Radke-Farabaugh - 15%; Laura V. Dishaw - 3%; Michelle M. Angrish - 3%; Andrew D. Kraft - 1%; Ingrid L. Druwe - 2%; Richard S. Judson - 1%; Grace Y. Patlewicz - 1%; Xabier Arzuaga Andino -	1. Systematic Evidence Map for Over One Hundred and Fifty Per- and Polyfluoroalkyl Substances (PFAS) 2. Epidemiology Evidence for Health Effects of 150 per- and Polyfluoroalkyl Substances: A Systematic Evidence Map	ORD
24-5203	EPA: Vladilen (Vlad) Isakov - 25%; Richard W. (Rich) Baldauf - 30%; NonEPA: Parikshit Deshmukh - 25%; Russell Logan - 5%; Akula Venkatram - 5%; Bo Yang - 5%; K. Max Zhang - 5%;	The effects of roadside vegetation characteristics on local, near-road air quality	ORD

24-5208 + 24-5218 + 24-5219	**24-5208:** EPA: Xin (Cissy) Ma - 50%; Jennifer L. Cashdollar - 8%; Jay L. Garland - 2%; NonEPA: Xiaobo Xue Romeiko - 15%; Sam Arden - 15%; Sarah Cashman - 2%; Anthony Gaglione - 2%; Janet Mosley - 2%; Lori Weiss - 2%; Mark Brown - 2%; **24-5218:** EPA: Xin (Cissy) Ma - 34%; Jay L. Garland - 2%; Jason A. Turgeon - 30%; Diana R. Bless - 5%; Michael B. (Mike) Nye - 5%; NonEPA: Ben Morelli - 20%; Lauren Fillmore - 2%; Sarah Cashman - 2%; **24-5219:** EPA: Xin (Cissy) Ma - 55%; Jay L. Garland - 3%; NonEPA: Janet Mosley - 5%; Sarah Cashman - 20%; Brian Crone - 15%; Xiaobo X Romeiko - 2%;	**24-5208:** 1. Holistic analysis of urban water systems in the Greater Cincinnati region: (1) life cycle assessment and cost implications 2. Holistic analysis of urban water systems in the Greater Cincinnati region: (2) resource use profiles by emergy accounting approach **24-5218:** Effect of Nutrient Removal and Resource Recovery on Life Cycle Cost and Environmental Impacts of a Small Scale Water Resource Recovery Facility **24-5219:** Energy and Greenhouse Gas Life Cycle Assessment and Cost Analysis of Aerobic and Anaerobic Membrane Bioreactor Systems: Influence of Scale, Population Density, Climate, and Methane Recovery	ORD
24-5211	EPA: Matthew S. (Matt) Landis - 55%; NonEPA: Eric Edgerton - 10%; Emily M. White - 10%; Greg Wentworth - 10%; Amy Sullivan - 10%; Ann Dillner - 5%;	1. The impact of the 2016 Fort McMurray Horse River Wildfire on ambient air pollution levels in the Athabasca Oil Sands Region, Alberta, Canada 2. Impacts of a large boreal wildfire on ground level atmospheric concentrations of PAHs, VOCs and ozone	ORD
24-5212	EPA: Jonathan J. Halama - 30%; Robert B. (Bob) McKane - 20%; Allen F. Brookes - 10%; NonEPA: bradleybarnhart@gmail.com - 10%; Paul Pettus - 5%; Kevin Djang - 10%; Vivian Phan - 5%; Sonali M. Chokshi - 5%; James	Improved urban runoff prediction using high-resolution land-use, imperviousness, and stormwater infrastructure data applied to a process-based ecohydrological model	ORD

	Graham - 5%;		
24-5213 + 24-5320	**24-5213:** EPA: Cynthia J. Wolf - 35%; Carmen R. Wood - 15%; NonEPA: Carrie Becker - 20%; Hunter Fitzpatrick - 20%; Jessica Smith - 10%; **24-5320:** EPA: Cynthia J. Wolf - 25%; Kaberi P. Das - 10%; Carmen R. Wood - 15%; NonEPA: Barbara Abbott - 10%; David Belair - 10%; Carrie Becker - 10%; Judy Schmid - 10%; Sierra Moorefield - 10%;	**24-5213:** An improved multicellular human organoid model for the study of chemical effects on palatal fusion **24-5320:** 1. Development of an organotypic stem cell model for the study of human embryonic palatal fusion 2. A Three-Dimensional Organoid Culture Model to Assess the Influence of Chemicals on Morphogenetic Fusion	ORD
24-5215	EPA: Michael Griffith - 50%; Michael G. McManus - 50%;	1. Consideration of spatial and temporal scales in stream restorations and biotic monitoring to assess restoration outcomes: A literature review, part 1 2. Consideration of spatial and temporal scales in stream restorations and biotic monitoring to assess restoration outcomes: A literature review, part 2	ORD
24-5217	EPA: Xin (Cissy) Ma - 60%; NonEPA: Sam Arden - 40%;	Constructed wetlands for greywater recycle and reuse: A review	ORD
24-5222	EPA: Justin J. Bousquin - 100%;	Discrete Global Grid Systems as scalable geospatial frameworks for characterizing coastal environments	ORD
24-5228	EPA: Maryann (Ann) Wolverton - 50%; Nathalie B. Simon - 25%; NonEPA: Ann Ferris - 25%;	Retrospective Evaluation of the Costs of Complying with Light-Duty Vehicle Surface Coating Requirements	AO
24-5232	EPA: Richard C. (Rick) Kolanczyk - 25%; Mark A. Tapper - 25%; NonEPA: Patricia Schmieder - 15%; Jeffrey S. Denny - 15%; Barbara Sheedy - 15%; Ben Johnson - 5%;	1. Estrogenic Activity of Perfluoro Carboxylic and Sulfonic Acids in Rainbow Trout Estrogen Receptor Binding and Liver Slice Vtg mRNA Expression Assays	ORD

		2. Estrogenic activity of multicyclic aromatic hydrocarbons in rainbow trout (*Oncorhynchus mykiss*) in vitro assays	
24-5235	EPA: Aabir Banerji - 32%; Michael A. Jahne - 17%; Nichole E. Brinkman - 17%; Scott P. Keely - 17%; NonEPA: Michael P. Herrmann - 17%;	Bringing community ecology to bear on the issue of antimicrobial resistance	ORD
24-5236	EPA: Richard C. (Rick) Kolanczyk - 40%; Mark A. Tapper - 20%; Jose A. Serrano - 20%; NonEPA: Patricia Schmieder - 10%; Megan Saley - 5%; Sara Daley - 5%;	1. A comparison of fish pesticide metabolic pathways with those of the rat and goat. 2. PFAS Biotransformation Pathways: A Species Comparison Study.	ORD
24-5241	EPA: David W. Herr - 11%; Cina M. Mack - 9%; Andrew F. (Andy) Johnstone - 10%; Timothy J. Shafer - 5%; Prasada R. (Prasada Rao) Kodavanti - 5%; Garyn L. Jung - 10%; Katherine L. (Kathy) McDaniel - 8%; NonEPA: Fjodor Melnikov - 10%; Brian Geo	1. Application of the hard and soft, acids and bases (HSAB) theory as a method to predict cumulative neurotoxicity 2. Acute in vitro effects on embryonic rat dorsal root ganglion (DRG) cultures by in silico predicted neurotoxic chemicals: Evaluations on cytotoxicity, neurite length, and neurophysiology 3. In vivo neurophysiological assessment of in silico predictions of neurotoxicity: Citronellal, 3,4-dichloro-1-butene, and benzyl bromoacetate	ORD
24-5243	EPA: Christopher D. (Chris) Knightes - 31%; William M. (Matthew) Henderson - 5%; NonEPA: Dermont Bouchard - 31%; Richard G Zepp - 5%; Brian Avant - 12%; Yanlai Han - 12%; Hsin-Se Hseih - 1%; Xiaojun Chang - 1%; Bradley Acrey - 1%;	1. Simulating graphene oxide nanomaterial phototransformation and transport in surface water 2. Simulating Multiwalled Carbon Nanotube Transport in Surface Water Systems Using the Water Quality	ORD

	Jessica Sp	Analysis Simulation Program (WASP) 3. Environmental fate of multiwalled carbon nanotubes and graphene oxide across different aquatic ecosystems	
24-5248	EPA: Michael Lawrinenko - 60%; Richard T. (Rick) Wilkin - 20%; NonEPA: Sudershan Kurwadkar - 20%;	Long-term performance evaluation of zero-valent iron amended permeable reactive barriers for groundwater remediation – A mechanistic approach	ORD
24-5254	EPA: Susan M. Cormier - 40%; Glenn W. Suter - 40%; Mace G. Barron - 20%;	1. A weight of evidence framework for environmental assessments: Inferring qualities 2. A weight of evidence framework for environmental assessments: Inferring quantities	ORD
24-5258	EPA: Justin M. Conley - 26%; Leon E. Gray - 25%; Christy R. Lambright - 20%; Nicola Evans - 15%; Elizabeth K. Medlock Kakaley - 2%; NonEPA: Vickie Wilson - 2%; Johnathan Furr - 8%; Mary Cardon - 2%;	1. Mixed "antiandrogenic" chemicals at low individual doses produce reproductive tract malformations in the male rat 2. A mixture of 15 phthalates and pesticides below individual chemical no observed adverse effect levels (NOAELs) produces reproductive tract malformations in the male rat	ORD
24-5261	EPA: James M. Samet - 30%; Haiyan Tong - 30%; Robert B. Devlin - 1%; Martin W. Case - 17%; Ana G. Rappold - 10%; David Diazsanchez - 1%; Tracey S. Montilla - 1%; NonEPA: Hao Chen - 1%; Wan Shen - 1%; Martha Almond - 1%; Heather Wells - 1%; N	1. Fish oil blunts lung function decrements induced by acute exposure to ozone in young healthy adults: A randomized trial 2. Omega-3 fatty acids attenuate cardiovascular effects of short-term exposure to ambient air pollution	ORD

		3. Lung Function and Short-Term Ambient Air Pollution Exposure: Differential Impacts of Omega-3 and Omega-6 Fatty Acids	
24-5263	EPA: Richard C. (Rick) Kolanczyk - 23%; Mark A. Tapper - 23%; Jose A. Serrano - 23%; NonEPA: Patricia Schmieder - 8%; Barbara Sheedy - 13%; Dean Hammermeister - 5%; Brett Blackwell - 5%;	1. In vitro metabolism of imidacloprid and acetamiprid in rainbow trout and rat. 2. Metabolism of Diazinon in rainbow trout liver slices. 3. *In vitro* metabolism assessment of thiacloprid in rainbow trout and rat by LC-UV and high resolution-mass spectrometry	ORD
24-5265	EPA: Mallikarjuna N. Nadagouda - 50%; Rajender Varma - 20%; NonEPA: Sanny Verma - 20%; Nasir Baig - 10%;	1. Fixation of carbon dioxide into dimethyl carbonate over titanium-based zeolitic thiophene-benzimidazolate framework 2. Porous nitrogen-enriched carbonaceous material from marine waste: chitosan-derived carbon nitride catalyst for aerial oxidation of 5-hydroxymethylfurfural (HMF) to 2,5-furandicarboxylic acid 3. Visible light-mediated and water-assisted selective hydrodeoxygenation of lignin-derived guaiacol to cyclohexanol	ORD
24-5267	EPA: Haiyan Tong - 35%; James M. Samet - 35%; NonEPA: Hao Chen - 25%; Philip Bromberg - 5%;	Cardiovascular health impacts of wildfire smoke exposure	ORD
24-5272	EPA: Jose A. Serrano - 20%; Mark A. Tapper - 18%; Richard C. (Rick) Kolanczyk - 18%; Barbara R. Sheedy - 5%; Jeffrey S. (Jeff) Denny - 5%; Dean	1. Phenone, Hydroxybenzophenone, and Branched Phenone Estrogen Receptor Binding and Vitellogenin Agonism in	ORD

	Hammermeister - 5%; Tylor J. (Ty) Lahren - 8%; Patricia A. (Pat) Kosian - 4%; Michael W. Hornung - 4%; Grace	Rainbow Trout *In Vitro* Models 2. Increased endocrine activity of xenobiotic chemicals as mediated by metabolic activation 3. Characterization and analysis of estrogenic cyclic phenone metabolites produced in vitro by rainbow; Metabolism of cyclic phenones in rainbow trout in vitro assays	
24-5273	EPA: Robert D. Sabo - 35%; Jana E. Compton - 20%; Christopher M. Clark - 17%; Jesse O. Bash - 1%; Anne W. Rea - 2%; Michael J. (Jason) Todd - 3%; Robyn R. Polinsky - 2%; Stephen D. Leduc - 2%; Diana E. Greiner - 2%; Meridith M. Fry - 2%; NonE	1. Decadal Shift in Nitrogen Inputs and Fluxes Across the Contiguous United States: 2002–2012 2. Phosphorus Inventory for the Conterminous United States (2002–2012) 3. Considerations when using nutrient inventories to prioritize water quality improvement efforts across the US	ORD
24-5281	EPA: Chunming Su - 100%;	Environmental implications and applications of engineered nanoscale magnetite and its hybrid nanocomposites: A review of recent literature	ORD
24-5284	EPA: John F. Wambaugh - 25%; Caroline L. Ring - 18%; Peter P. Egeghy - 4%; Kristin K. Isaacs - 12%; Katherine A. Phillips - 4%; Paul S. Price - 4%; Woodrow Setzer - 5%; NonEPA: Jon Arnot - 4%; Deborah Bennett - 4%; Peter Fantke - 4%; Hyeong-	Consensus Modeling of Median Chemical Intake for the U.S. Population Based on Predictions of Exposure Pathways	ORD
24-5285	EPA: Joel C. Hoffman - 30%; Kathleen C. (Katie) Williams - 30%; Theodore R. (Ted) Angradi - 30%; David W. Bolgrien - 10%;	1. Goals, beneficiaries, and indicators of waterfront revitalization in Great Lakes Areas of Concern and coastal communities 2. Remediation to	ORD

		Restoration to Revitalization: Engaging Communities to Support Ecosystem-Based Management and Improve Human Wellbeing at Clean-up Sites 3. Learning in AOCs – connecting remediation, restoration, and revitalization	
24-5286	EPA: Vladilen (Vlad) Isakov - 20%; Michael S. Breen - 44%; James M. Samet - 2%; Haiyan Tong - 2%; NonEPA: Ronald Williams - 5%; Robert B. Devlin - 2%; Miyuki Breen - 5%; Alexandra Schneider - 5%; Yadong Xu - 5%; Catherine Seppanen - 5%; Sara	1. Development of TracMyAir Smartphone Application for Modeling Exposures to Ambient PM2.5 and Ozone 2. Modeling individual exposures to ambient PM2.5 in the diabetes and the environment panel study (DEPS)	ORD
24-5288	EPA: Jingrang Lu - 42%; Jorge W. Santo Domingo - 5%; Ian Struewing - 4%; Hubert J. (Joel) Allen - 12%; NonEPA: Shunshan Duan - 1%; Kai Wang - 9%; Bo Zhu - 3%; Ning Xu - 1%; Huansheng Cao - 13%; Gaoyang Li - 1%; Wei Du - 1%; Haiwei Gu - 1%; M	1. Biodiversity and dynamics of cyanobacterial communities during blooms in temperate lake (Harsha Lake, Ohio, USA) 2. Co-occurring microorganisms regulate the succession of cyanobacterial harmful algal blooms	ORD
24-5289	EPA: Michael C. Brooks - 40%; Junqi Huang - 20%; NonEPA: Eunice Yarney - 40%;	Strategies for Managing Risk due to Back Diffusion	ORD
24-5295	EPA: John F. Wambaugh - 10%; Michael F. Hughes - 8%; Caroline L. Ring - 11%; Denise K. Macmillan - 10%; Jermaine L. Ford - 10%; Nisha S. Sipes - 3%; Barbara Wetmore - 3%; Woodrow Setzer - 3%; Robert Pearce - 3%; Jane E. Simmons - 3%; Russell Thomas - 8%	Evaluating In Vitro-In Vivo Extrapolation of Toxicokinetics	CCTE / ORD

24-5298	EPA: Andrew Lindstrom - 20%; John H. Offenberg - 20%; Theran P. Riedel - 20%; Mark J Strynar - 20%; NonEPA: Johnsie Lang - 20%;	Environmental Science and Technology Letters	ORD
24-5306	EPA: Janice S. Lee - 4%; Jerry A. (Allen) Davis - 25%; Jeffrey S. (Jeff) Gift - 25%; Ingrid L. Druwe - 2%; Ila Cote - 2%; NonEPA: Bruce Allen - 19%; Kan Shao - 10%; Cara Henning - 1%; William Mendez Jr. - 1%; Kevin Hobbie - 11%;	1. Use of study-specific MOE-like estimates to prioritize health effects from chemical exposure for analysis in human health assessments 2. Systematic Dose-Response of Environmental Epidemiologic Studies: Dose and Response Pre-Analysis 3. Bayesian hierarchical dose-response meta-analysis of epidemiological studies: Modeling and target population prediction methods	ORD
24-5308	EPA: Daniel L. (Dan) Villeneuve - 16%; Gerald T. Ankley - 8%; Brett R. Blackwell - 8%; Jenna E. Cavallin - 8%; Kathleen M. Jensen - 8%; Michael D. Kahl - 6%; NonEPA: ilse.heinis - 3%; Rconolly - 3%; Wan Yun Cheng - 5%;	1. Case study in 21st century ecotoxicology: using in vitro aromatase inhibition data to predict short term in vivo responses in adult female fish 2. Case Study in 21st-Century Ecotoxicology: Using In Vitro Aromatase Inhibition Data to Predict Reproductive Outcomes in Fish In Vivo	ORD
24-5313	EPA: Patrick J. Walsh - 25%; Julie A. Hewitt - 25%; David M. (Matt) Massey - 25%; NonEPA: Steve Newbold - 25%;	Using structural restrictions to achieve theoretical consistency in benefit transfers	AO
24-5319	EPA: Urmila P. Kodavanti - 20%; Thomas W. Jackson - 20%; Mette C Schladweiler - 11%; Stephen H. Gavett - 2%; Andrew J. Ghio - 2%; Rachel D. Grindstaff - 2%; Aimen K. Farraj - 2%; Cavin K. Ward-Caviness -	1. Stress Drivers of Glucose Dynamics during Ozone Exposure Measured Using Radiotelemetry in Rats. 2. The dynamicity of acute ozone-induced systemic leukocyte trafficking and	ORD

	1%; Colette N. Miller - 3%; Mehdi S. Hazari - 1%;	adrenal-derived stress hormones 3. Multi-tissue transcriptomic and serum metabolomic assessment reveals systemic implications of acute ozone-induced stress response in male Wistar Kyoto rats	
24-5335	EPA: Ivan R. Piletic - 50%; Mohammed Jaoui - 24%; Tadeusz E. (Tad) Kleindienst - 11%; Michael Lewandowski - 2%; Surender M. Kaushik - 2%; Edward Edney - 2%; Theran P. Riedel - 1%; NonEPA: Libero Bartolotti - 4%; Richard Howell - 2%; Rafal Sz	1. Multigenerational Theoretical Study of Isoprene Peroxy Radical 1–5-Hydrogen Shift Reactions that Regenerate HOx Radicals and Produce Highly Oxidized Molecules 2. Rapid production of highly oxidized molecules in isoprene aerosol via peroxy and alkoxy radical isomerization pathways in low and high NOx environments: Combined laboratory, computational and field studies 3. Rates and Yields of Unimolecular Reactions Producing Highly Oxidized Peroxy Radicals in the OH-Induced Autoxidation of α-Pinene, β-Pinene, and Limonene	ORD/ CEMM/AESMD/ACAB

APPENDIX B: SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS 2024 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 that do not meet the criteria for any award, then no award will be given.

Control Systems and Technology (CS): This category includes research on the development, design, testing, and deployment of treatment and disposal systems and 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.

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.

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.

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.

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.

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 leads to a better understanding of the area. The article should provide an assessment of knowledge and future perspectives and provide new insight into a discipline.

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.

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.

Environmental Policy and Decision-Making Studies (EP): This category covers research about 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.

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.

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.

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.

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.
Other Environmental Research (OR): This category covers other research supporting environmental protection that does not 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 Division (HCD), and Workforce Management & Operations Branch A (WMOBA). After the nomination packages are screened for administrative compliance, they are forwarded 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:

- 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.
- 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.
- The extent to which environmental protection has been strengthened or improved, whether of local, national, or international importance.
- The extent of the beneficial impact of the accomplishment and the degree to which the accomplishment has been favorably recognized from outside EPA.
- 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
2024 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 by 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 the 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 by 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 the 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% of 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. The monetary award amount is 25% of $5000 or $1,250 for each monetary award. In addition, regardless of the 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 is 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 after January 1, 2017, and on or before January 1, 2024. A single nomination, whether it is a single publication or multiple publications, must stand on its 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 (for 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 be a current EPA employee** (including 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 a 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 **seven years** based on publication date. The nominated publication(s) must have been published on or before January 1, 2024, and on or after January 1, 2017. (This includes online journals and appropriately cited online preprints that are publicly

available on or before January 1, 2024.) ***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 accomplish its mission to be more fully realized.***

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.

Submission of more than two (2) nominations (including both individual and multiple publication nominations) from a single principal author in any 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 the 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 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 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.

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.

The 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

- Citations for each publication nominated
- If research has been invited for presentation at national/international societies
- Unique source of funding for research
- Any awards Internal/External to EPA that were received for the research
- Number of times the publication has been downloaded/viewed
- How many times it has been cited (Google Scholar)

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 ***five years' nominated publications for each EPA author separately***. Include the publication title, year, and award level for each publication. Describe how the current nomination's publication(s) differ from the 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

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Electronic Submission – Hard Copies Not Accepted.
https://epabap.lightning.force.com/lightning/page/home

The User Provisioning Guide instructions can be found here:
Business Automation Platform Community Site - BAP-Type-3-Navigation-and-User-Provisioning-Guide.pdf - All Documents (sharepoint.com)

The STAA User Guide provides some additional context. You can find it here.
Microsoft Word - STAA_User_Guide_20201218.docx (sharepoint.com)