



SCIENCE ADVISORY BOARD

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

May 17, 2022

EPA-SAB-22-004

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 2021 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 2021 Scientific and Technological Achievement Awards (STAA). The STAA program was established by the Agency in 1980 to recognize EPA employees who made outstanding contributions to the advancement of science and technology through their publications in peer-reviewed journals, books, or EPA reports. 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. The SAB has been asked by EPA’s Office of Research and Development (ORD) 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 44 nominations within 12 research categories.

The SAB commends the EPA scientists and engineers for their publications and finds that the 2021 STAA nominations were of high quality. The SAB recommends: 0 nominations for Level I,

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the highest award; 5 nominations for Level II; 15 nominations for Level III; and 19 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. In Section 4 of this report, programmatic and administrative recommendations are provided to further strengthen and improve the STAA program. In particular, the SAB recommends that the EPA:

- Evaluate why during the last decade there has been over a 60% decrease in STAA nominations and identify actions to further promote the STAA program, if deemed appropriate.
- Consider expanding the STAA program to include additional evaluation criteria appropriate for research carried out by early career scientists and engineers, similar to programs in other federal research agencies. The SAB STAA Panel is willing to assist EPA with operationalizing this recommendation.
- Consider developing additional criteria appropriate for evaluating research that is not disseminated in peer-reviewed journals, including research disseminated in EPA reports which can be highly impactful. The SAB is willing to assist EPA with operationalizing this recommendation.
- Continue improving its internal procedures to ensure all STAA nominations are complete and clearly state justifications that support SAB evaluation using EPA's award criteria and guidelines.

The SAB commends the Agency for successfully conducting its annual STAA program and applauds the EPA's public recognition of the scientific and technological achievements of EPA scientists and engineers who publish their technical research in peer-reviewed literature. Thank you for the opportunity to assist the Agency with this important program. The SAB looks forward to reviewing the FY 2022 STAA nominations.

Sincerely,

/s/

Alison C. Cullen, Sc.D.
Chair
EPA Science Advisory Board

/s/

C. Marjorie Aelion, Ph.D.
Chair
EPA SAB 2021-2024 STAA Panel

Enclosure

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2021-2024 Scientific and Technological Achievement
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**SAB Recommendations for EPA’s FY 2021 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
OAR	Office of Air and Radiation
ORD	Office of Research and Development
PDF	Portable Document Format
SAB	EPA Science Advisory Board
STAA	Scientific and Technological Achievement Awards

1. INTRODUCTION

EPA's Scientific and Technological Achievement Awards (STAA) program was established in 1980 to recognize the Agency's scientists and engineers who publish their technical work in peer-reviewed literature. The STAA program is administered and managed by the EPA's Office of Research and Development (ORD). This year, the EPA Science Advisory Board (SAB) was asked to review the nominated scientific publications and make recommendations for STAA awards in consideration of the EPA's evaluation criteria.

On April 1, 2021, the EPA announced the opening of the 30-day electronic nomination period for the 2021 STAA program to senior managers and employees. The nomination period closed on April 30, 2021. ORD screened the nominations for conformance with EPA's STAA Nomination Procedures and Guidelines (Guidelines) (EPA 2021). The Guidelines describe the award levels, eligibility criteria, and factors that the SAB considers during its review of STAA nominations. Publications from the previous five years were eligible to receive STAA awards. (i.e., nominated publication(s) must have been published on or after January 1, 2016, and on or before January 1, 2021)

The Agency's charge to the SAB was to consider which nominations for the 2021 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 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 (EPA 2021), 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 a closed virtual meeting on March 14-15, 2022, to review the nominations submitted by the Agency. This meeting was closed to the public because the deliberations involved the identification of employees, including 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 this closed meeting was published on February 9, 2022 and is available at:
<https://www.govinfo.gov/content/pkg/FR-2022-02-09/pdf/2022-02706.pdf>.

2. SAB REVIEW PROCEDURES

In October 2021, the SAB Staff Office formed the 2021-2024 SAB STAA Panel to review EPA's STAA nominations. The Panel was formed by the SAB Staff Office Director in accordance with the SAB process described in the SAB 2002 publication, *Panel Formation Process: Immediate Steps to Improve Policies and Procedures* (U.S. EPA Science Advisory Board, 2002).

ORD submitted to the SAB Staff Office a total of 44 nominations for FY2021 STAA recognition within 12 science and technology research categories. Tables 1 and 2 show the number of EPA nominations submitted in each category. The nominated publications, along with the evaluation criteria, were provided to the SAB STAA Panel in advance of the Panel's review meeting.

The STAA Panel review consisted of a two-step process: an initial independent review of each nomination by two panelists, followed by a full Panel discussion and review of all nominations. The Chair of the STAA Panel assigned 4 – 6 nominations to each panelist for review based on their expertise and preferences. Each nomination was independently reviewed by two panelists prior to the meeting, with one panelist assigned to be the lead discussant. Panelists assigned to complete the initial review of each nomination provided their preliminary recommendations for STAA recognition, which included written summaries of their preliminary assessments taking into consideration the EPA's award criteria and additional factors described above. This preliminary review information was distributed to all panelists before the March 14-15, 2022 Panel meeting.

During the SAB STAA Panel's closed virtual meeting on March 14-15, 2022, the Panel discussed the award recommendations for the EPA's FY2021 STAA program. As previously mentioned, the Panel's deliberations were closed to the public because they concerned identification of employees who should receive awards, a personnel matter with privacy concerns. Disclosure of this information would be a clear unwarranted invasion of personal privacy. Such information 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.

At the March 14-15, 2022 STAA Panel meeting, each nomination was discussed separately by panelists using the following process:

1. The panelist assigned as lead discussant presented a summary of the nomination and an initial ranking;
2. The second reviewer also provided an evaluation of the nomination and an initial ranking;
3. The Panel at large discussed the nomination with the aim of reaching consensus; and,
4. The Panel took a vote on the level of award to recommend.

Process Implemented for Some Panel Votes: Two nominations received a tie vote for Honorable Mention and Not Recommended. For these nominations, the Panel decided to grant the higher rating to the nomination. A third nomination received a spread of votes across four categories of awards with the highest number of votes going to the Not Recommended category. However, the total of votes for Honorable Mention and above exceeded the number of votes for Not Recommended. Thus, for this case, the Panel decided to revote removing the Level I and Level II categories for further consideration. Based on the revote, the Panel recommended an Honorable Mention award for this nomination. Finally, on a separate nomination, to avoid an appearance of bias or a loss of impartiality, two members were recused from the Panel deliberations.

During the meeting, the Panelists 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. The STAA Panel Chair requested that panelists submit their recommendations by email following the discussion. Those recommendations are summarized in Section 4 and presented in more detail in the meeting minutes.

The Chartered SAB reviewed and approved the FY2021 report of the SAB STAA Panel on May 11, 2022.

3. AWARD RECOMMENDATIONS

The STAA Panel agreed upon the final rankings and recommendations for awards during the meeting held on March 14-15, 2022. Table 1 summarizes previous recommendations for STAA awards by year, including the recommendations for this review cycle. The SAB STAA Panel recommends: 0 nominations for Level I, the highest award; 5 nominations for Level II; 15 nominations for Level III; and 19 nominations for Honorable Mention with the remaining 5 nominations not recommended for award recognition. Table 2 summarizes the distribution of FY2021 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 1. Comparison of Award Recommendations Over Time

Award Level	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018-2019	FY 2020	FY 2021
Nominations Reviewed	130	109	121	130	104	117	72	116	75	58	53	54	44
Level I	5 (4%)	3 (3%)	5 (4%)	3 (2%)	4 (4%)	0	1 (1%)	1 (1%)	0	3 ^a (5%)	1 (2%)	0	0 (0%)
Level II	16 (12%)	22 (20%)	14 (12%)	13 (10%)	10 (10%)	10 (9%)	2 (3%)	3 (3%)	8 (11%)	4 (7%)	3 (6%)	6 (11%)	5 (11%)
Level III	30 (21%)	31 (28%)	42 (35%)	35 (27%)	29 (28%)	27 (23%)	20 (28%)	38 (33%)	13 (17%)	18 (32%)	16 ^a (31%)	14 (26%)	15 (34%)
Honorable Mention	43 (33%)	25 (23%)	33 (27%)	44 (34%)	36 (35%)	45 (38%)	29 (40%)	42 (36%)	32 (43%)	18 (32%)	24 (46%)	24 (44%)	19 (43%)
Not Recommend-ed	36 (28%)	28 (26%)	27 (22%)	35 (27%)	25 (24%)	35 (30%)	20 (28%)	32 (27%)	22 (29%)	14 (24%)	8 (15%)	10 (19%)	5 (11%)

Table 2. Summary of Award Recommendations by Category for FY2021

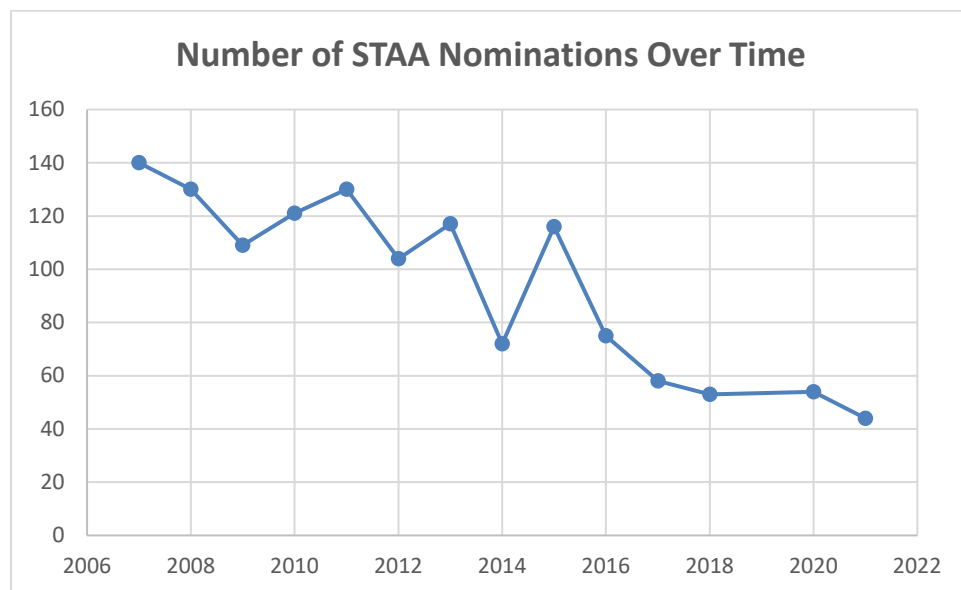
Research Categories	Total Nominations Reviewed	Award Levels			Honorable Mention
		I	II	III	
Risk Management and Ecosystem Restoration	1				1
Ecological Research	8		1	3	3
Environmental Policy and Decision-Making Studies	2			2	
Health Effects Research and Human Risk Assessment	7		2	2	2
Industry and the Environment	1				1
Monitoring and Measurement Methods	5			2	3
Other Environmental Research	4				4
Review Articles	6			2	3
Sustainability and Innovation	5		1	2	1
Transport and Fate	5		1	2	1
TOTALS:	44		5	15	19

4. PROGRAMMATIC AND ADMINISTRATIVE RECOMMENDATIONS

The SAB appreciates and commends the Agency's efforts to implement recommendations provided during previous SAB review cycles of STAA nominations. The SAB concludes that the substantial majority of the 2021 nominations adhered to existing STAA program guidelines, and that these guidelines helped the STAA Panel conduct a well-informed and balanced review of each nomination. The SAB has the following programmatic and administrative recommendations to further strengthen the STAA program in future years:

Programmatic Recommendations

Assess Decreasing Trend in Number of STAA Nominations: The total number of STAA nominations has been steadily decreasing over the past decade. The graph below reflects this trend. The SAB suggests that the EPA assess reasons for this trend. To help inform the decrease in submissions for STAA recognition, the SAB suggests that the EPA survey STAA nominees and other appropriate EPA scientists and engineers to gather information on actions that could be taken to encourage future nomination submissions.



Expand STAA program to better include research by early-career scientists: The SAB encourages EPA to consider expanding the STAA program to include research by early career scientists and engineers, similar to programs in other federal research agencies. The current STAA criteria for evaluation are more geared to senior scientists and long-term research programs. Criteria and current award compensation could be revised so that they are more in line with expectations for early career scientists or engineers. If EPA is willing to consider this expansion, members of the SAB STAA Panel could assist EPA in developing an additional set of review criteria and awards oriented specifically for early career researchers.

Expand STAA Program to better include research not disseminated in journals: The SAB recognizes the excellent research that is carried out by EPA scientists, and appropriately disseminated in EPA reports which can be highly impactful. The SAB encourages EPA to consider expanding the STAA program to include an additional set of evaluation criteria for research that is not disseminated in peer-reviewed journals. The current criteria and award compensation could be revised so that they are more in line with expectations for non-journal publications such as EPA reports. If EPA is willing to consider this expansion, members of the SAB STAA Panel could assist EPA in developing an additional set of evaluation criteria specifically for research that is not disseminated in journals.

Administrative Recommendations

Ensure Completeness and Clarity of Nominations: The EPA has incorporated an automated nomination and award processing system to improve the STAA nomination and award process. This system has improved the consistency and accessibility of nomination packages for SAB review. Further, with each review cycle, there are fewer occurrences of incomplete nominations and the SAB commends ORD for this process enhancement. Nevertheless, some packages were still found to be incomplete during this review cycle. To further improve the process, the SAB recommends that the EPA or contractor staff perform the functions noted below:

- Ensure that each nomination provides all information required to be included within a complete nomination package. The SAB continues to encourage ORD to review each nomination for completeness to identify submission gaps and resolve them in a timely manner. This step should be completed after the nomination period ends but before the consolidated PDF files are submitted to the SAB for review.
- Remove materials that are not necessary for STAA Panel review. The compiled nominations are lengthy and not all information is relevant for the review process. If the application process allows, do not include information, such as the email string confirming the percent contribution of each author to the research, in materials provided to the SAB Panel.
- Encourage nominators to provide a description of nomination's impact and significance in science or technology advancement. This is an area that should be reported more uniformly. Some nominations demonstrated sound science but the contribution to EPA's mission was not clear. Nominees should clearly state how their work relates to SAB evaluation using EPA's award criteria and guidelines. As part of the impact description included in the submission package, nominations should mention the specific EPA programs or efforts that have benefited from the research. Moreover, impact descriptions should include, but not be limited to, the following:
 1. Short- and long-term impacts of the research on EPA's goals;
 2. Level of impact on a broad area of science and technology; and,
 3. Detailed information on national and international significance.

The SAB notes that indicators of external impact vary significantly across nominations (i.e., from providing the number of citations in the peer reviewed literature to extensive description of multiple levels of indicators including when publications were referenced in newspapers and social media outlets). The SAB encourages the applicants to use multiple indicators, in addition to citations, including the EPA library services for illustrating impact for each publication.

- Encourage nominators to identify novel insights and scientific contribution of review articles submitted as part of a nomination. Review articles do not lend themselves to current evaluation criteria. As such the STAA Panel evaluates review articles based on the extent to which these nominations: represent a critical synthesis and evaluation of the literature; identify key knowledge gaps; and provide current and future perspectives to advance the field (U.S. EPA SAB, 2016). While review articles that summarize a body of literature are useful and important, review articles that critically synthesize and evaluate information and lead to new insights are most consistent with the criteria established by the STAA program. The SAB recommends that nominations containing one or more review articles include an additional justification to demonstrate: a critical synthesis and evaluation of the literature; evidence that the nominated review article provides novel insights and scientific contributions to a particular research field based on this synthesis; and a commentary on future perspectives, including scientific recommendations that guide research to advance the field.

Other Recommendations

Provide Information on Previous Five Years STAA Nominations: During the 2016-2017 STAA program review, a master index (an Excel file) of the previous five-year STAA nominations was provided to the SAB listing all nominations and identifying whether a STAA award was conferred for each current-year author. The STAA Nomination Procedures and Guidelines (EPA 2021) prohibit resubmission of publications nominated for STAA recognition in prior years. The SAB recommends that the EPA provide a master index for future STAA review Panels to ensure compliance with this STAA requirement.

Furthermore, since nominated STAA research is evaluated based on its contribution beyond previously nominated work on the same research topic/area, this master index will assist the Panel members in their review. The master index will help the Panel assess the innovativeness and novelty of the authors' nominated research, whether the nomination represents a continuation of previous research, and whether publications nominated in prior years have been resubmitted. The master index should be sorted alphabetically by author and indicate any author who has been nominated more than once during the previous five years (and in such cases, note the titles of that author's previously nominated publications). The SAB continues to emphasize the importance of this recommendation.

Feedback to Improve the Review Process: Additional programmatic and administrative recommendations to the SAB Staff Office to improve the program and review process are provided in the STAA Panel's meeting minutes.

REFERENCES

- U.S. EPA SAB (U.S. Environmental Protection Agency Science Advisory Board). 2002. EPA Science Advisory Board (SAB) Panel Formation Process: Immediate Steps to Improve Policies and Procedures. (EPA-SAB-EC-COM-02-003) EPA Science Advisory Board, Washington, DC.
- U.S. EPA SAB (U.S. Environmental Protection Agency Science Advisory Board). 2016. SAB Recommendations for EPA's FY 2016 Scientific and Technological Achievement Awards. (EPA-SAB-17-001) EPA Science Advisory Board, Washington, DC.
- U.S. EPA (U.S. Environmental Protection Agency). 2021. Office of Research and Development, Scientific and Technological Achievement Awards 2021 Nomination Procedures and Guidelines. Available at: <https://intranet.ord.epa.gov/awards/staa-nomination-procedures-and-guidelines>. Retrieved on 03/17/22.

APPENDIX A: RECOMMENDATIONS FOR FY2021 STAA AWARDS

Note: The percentages given after each name represent the percent of the total level of effort as documented in the EPA nomination.

Recommendations for 2021 STAA Awards				
Nomination ID	STAA Panel Recommendation	Author Names	Publication Title	Office Name
Nominations Recommended for Level II Award – Total of 5				
21-167	II	EPA: Linda Harwell - 17%; J. Kevin Summers - 30%; Maria V. (Vicky) Salazar - 18%; David M. Olszyk - 18%; Allen F. Brookes - 17%	The Development of DISC (Decision Integration for Strong Communities): An Agile Software Application	ORD
21-169	II	EPA: Timothy J. (Tim) Wade - 12%; Swinburne A. (Jason) Augustine - 12%; Shannon M. Griffin - 12%; Andrey I. Egorov - 6%; Alfred P. Dufour - 10%; Tarsha N. Eason - 8%; Elizabeth Sams - 10%; Kevin H. Oshima - 4%; Larry J. Wymer - 4%; Ann C. Grimm - 3%; Mary See - 4%; Alfred Dufour - 10%; Clarissa Curioso - 4%; G. Shay Fout - 3%; Kaneatra Simmons - 8%	1. Asymptomatic norovirus infection associated with swimming at a tropical beach: A prospective cohort; 2. Immunoprevalence to Six Waterborne Pathogens in Beachgoers at Boquerón Beach, Puerto Rico	ORD
21-194	II	EPA: Stephanie A. Deflorio-Barker - 20%; Ana G. Rappold - 27%; Wayne E. Cascio - 7% Non-EPA: Jeanette Reyes - 5%; Zachary Wettstein - 20%; Sumi Hoshiko - 10%; Jahan Fahimi - 3%; Robert Harrison - 3%; James Crooks - 5%	1. Cardiopulmonary Effects of Fine Particulate Matter Exposure among Older Adults, during Wildfire and Non-Wildfire Periods in the U.S. 2008-2010; 2. Cardiovascular and Cerebrovascular Emergency Department Visits Associated with Wildfire Smoke Exposure in California in 2015	ORD
21-200	II	EPA: John W. Washington - 53%; David G. Lynch - 3%; Edward L. (Laurence) Libelo - 3%; Michael J. (Mike) Cyterski - 18%; Non EPA: Keegan Rankin - 17%; Thomas Jenkins - 2%; Scott Mabury - 4%;	1. A Global Survey of Perfluoroalkyl Carboxylates (PFCAs) and Perfluoroalkane Sulfonates (PFSA) 2. Determining global background soil PFAS loads and the fluorotelomerbased polymer degradation rates	ORD

21-212	II	<p>EPA: Kathleen M. Jensen - 5%; Gerald T. Ankley - 15%; Brett R. Blackwell - 8%; Jeffrey S. (Jeff) Denny - 5%; Michael D. Kahl - 5%; Richard C. (Rick) Kolanczyk - 8%; Carlie A. Lalone - 5%; Mark A. Tapper - 15%; Daniel L. (Dan) Villeneuve - 5%; Michael Kahl - 5%; Richard Kolanczk - 8%; Carlie Lalone - 5%</p> <p>Non-EPA: Shane Poole - 6%; Eric Randolph - 5%; Jenna Cavallin - 5%; Travis Saari - 5%; David Feifarek - 8%</p>	<p>1. Re-evaluating the Significance of Estrone as an Environmental Estrogen; 2. A potential confounding factor in assessing risks of environmental estrogens to fish</p>	ORD
Nominations Recommended for Level III Award – Total of 15				
21-166	III	<p>EPA: Endalkac Sahle-Demessie - 40%; Stephen M. Harmon - 5%; Chun C. Lee - 5%;</p> <p>Non-EPA: Bineyam Mezgebe - 25%; Yonggui Shan - 5%; Joshua Dietrich - 20%;</p>	<p>Material recovery from electronic waste using pyrolysis: Emissions measurements and risk assessment</p>	ORD
21-172	III	<p>EPA: Heather E. Klemick - 25%; Charles W. Griffiths - 25%;</p> <p>Non-EPA: Dennis Guignet - 25%; Patrick Walsh - 25%</p>	<p>1. Modeling the Property Price Impact of Water Quality in 14 Chesapeake Bay Counties; 2. The Implicit Price of Aquatic Grasses; 3. Improving Water Quality in an Iconic Estuary: An Internal Meta-analysis</p>	AO
21-177	III	<p>EPA: Blake A. Schaeffer - 25%; John Darling - 20%; John M. Johnston - 15%;</p> <p>Non-EPA: John Clark - 15%; Erin Urquhart - 15%; Amber Ignatius - 2%; Mark Myer - 2%; Keith Loftin - 2%; P. Jeremy Werdell - 2%; Richard Stumpf - 2%</p>	<p>Satellite monitoring of cyanobacterial frequency in recreational and drinking waters.</p>	ORD

21-180	III	<p>EPA: Havala O. Pye - 49%; Rohit Mathur - 1%;</p> <p>Non-EPA: Emma D'Ambro - 10%; Jin Liao - 1%; Ben Lee - 7%; Siegfried Schobesberger - 5%; asayuki Takeuchi - 1%; Jiumeng Liu - 1%; John Shilling - 4%; Yue Zhao - 1%; Felipe Lopez-Hilfiker - 1%; Joel Thornton -10%; Jia Xing - 1%; Ann Middlebrook-1%; Andre Welti - 1%; Martin Graus- 1%; Carsten Warneke - 1%; Ilana Pollack- 1%; Joost de Gouw - 1%; John Holloway - 1%; Thomas Ryerson - 1%</p>	Anthropogenic enhancements to production of highly oxygenated molecules from autoxidation	ORD
21-184	III	<p>EPA: Heather E. Golden - 24%; Laurie C. Alexander - 12%; Jay R. Christensen - 12%; Charles R. Lane - 12%;</p> <p>Non-EPA: Irena F Creed - 4%; Genevieve Ali - 4%; Nandita B. Basu - 4%; Brian P. Neff - 4%; Mark C. Rains - 4%; Daniel L. McLaughlin - 4%; Ali Ameli – 4%; Grey Evenson – 4%; Charles Jones – 4%; Megan Lang – 4%</p>	Integrating geographically isolated wetlands into land management decisions	ORD
21-199	III	<p>EPA: Daniel L. (Dan) Villeneuve - 14%; Gerald T. Ankley - 8%; Justin E. Housenger - 3%; Carlie A. Lalone - 15%; Brett R. Blackwell - 3%; Michael D. Kahl - 3%; Kristina V. Garber - 3%; Keith G. Sappington - 3%; Nathan L. Pollesch - 13%; Kathleen M. Jensen – 3%</p> <p>Non-EPA: Jenna Cavallin – 3%; Rebecca Milsk – 3%; Judy Wu-Smart – 3%; Jason O'Brien – 13%; Travis Saari – 2%; Eric Randolph – 2%; Shane Poole – 2%; David Feifarek – 2%; Jon Doering – 2%</p>	1. Weight of evidence evaluation of a network of adverse outcome pathways linking activation of the nicotinic acetylcholine receptor in honey bees to colony death. 2. Extracting and benchmarking emerging adverse outcome pathway knowledge; 3. Adverse outcome pathway network-based assessment of the interactive effects of an androgen receptor	ORD
21-205	III	<p>EPA: Rohit Mathur - 15%; Christian Hogrefe - 15%; Robert C. Gilliam - 10%; Golam Sarwar - 10%; Jonathan E. (Jon) Pleim - 5%; George A. Pouliot - 5%; Shawn Roselle - 5%; Tanya L. Spero - 5%; Cheung N. (David) Wong - 5%; Jeffrey Young – 5%</p> <p>Non-EPA: Jia Xing - 10%; Liu Peng – 4%; Johannes Flemming – 2%; Lin Meiyun Lin – 2%; Rokjin Park – 2%</p>	1. Extending the Community Multiscale Air Quality (CMAQ) modeling system to hemispheric scales; 2. Impacts of different characterizations of large-scale background on simulated regional-scale ozone.	ORD

21-240	III	<p>EPA: Marguerite C. (Peg) Pelletier - 25%; Treda S. Grayson - 13%; David Gillett - 20%;</p> <p>Non-EPA: Anna Hamilton - 13%; Virginia Hansen - 13%; Erik Leppo - 13%; Steve Weisberg - 2%; Anjel Borja - 1%;</p>	Adaptation and application of multivariate AMBI (M-AMBI) in US coastal waters	ORD
21-245	III	<p>EPA: James D. (Jim) Hagy - 40%;</p> <p>Non-EPA: Marcus W. Beck - 50%; Chengfeng Le - 10%;</p>	Quantifying Seagrass Light Requirements Using Algorithm to Spatially Resolve Depth of Colonization	ORD
21-246	III	<p>EPA: Margaret H. Zawacki - 20%; Kenneth F. (Ken) Davidson - 26%; Neal Fann - 13%; Kirk R. Baker - 13%; Sharon B. Phillips - 3%; Charles M. Fulcher - 13%;</p> <p>Non-EPA: Philip Wolfe - 12%;</p>	1. Mobile source contributions to ambient ozone and particulate matter in 2025; 2. Monetized health benefits attributable to mobile source emission reductions across the United States; 3. The recent and future health burden of the U.S. mobile sector apportioned by source	OAR
21-249	III	<p>EPA: Justin J. Bousquin - 50%; Marisa J. Mazzotta - 27%; Walter J. Berry - 5%; Richard A. (Rick) McKinney - 2%;</p> <p>Non-EPA: Claudette Ojo - 3%; Caroline Gottschalk Druschke - 2%; Kristen Hychka - 11%;</p>	1. Evaluating the ecosystem services and benefits of wetland restoration by use of the rapid benefit indicators approach; 2. A geospatial assessment of flood vulnerability reduction by freshwater wetlands—a benefit indicators approach; 3. Rapid benefit indicator tools	ORD
21-251	III	<p>EPA: Cavin K. Ward-Caviness - 68%; Anne M. Weaver - 12%; David Diazsanchez - 3%; Lucas M. Neas - 3%; Robert B. Devlin - 3%; Wayne E. Cascio - 3%;</p> <p>Non-EPA: Matthew Buranosky - 2%; Emily Pfaff - 2%; Joel Schwartz - 2%; Qian Di - 2%;</p>	Associations Between Long-Term Fine Particulate Matter Exposure and Mortality in HF Patients	ORD

21-254	III	EPA: Cheryl J. Hankins - 25%; Mace Barron - 10%; William S. (Bill) Fisher - 5%; Deborah N. (Debbie) Vivian - 5%; Elizabeth M. Moso - 5%; Sandra (Sandy) Raimondo - 5%; Non-EPA: Laura Enzor - 40%; Madison Hamilton-Frazier - 5%	1. Calcification continues in Caribbean reef-building corals at high pCO ₂ levels in a recirculating ocean acidification exposure system 2. Elevated pCO ₂ and hypoxia alter the acid-base regulation of developing sheepshead minnows <i>Cyprinodon variegatus</i>	ORD
21-256	III	EPA: John F. Wambaugh - 35%; Woodrow Setzer - 10%; Barbara Wetmore - 5%; Non-EPA: Robert Pearce - 20%; Caroline Ring - 20%; Cory Strope - 5%; Nisha Sipes - 5%;	httk: R package for high-throughput toxicokinetics	ORD
21-265	III	EPA: Donna E. Jenkins-Hill - 35%; Neil Chernoff - 40%; Judith Schmid - 1%; Witold M. Winnik - 10%; Non-EPA: Deacqunita Diggs - 5%; Brenda Faison - 1%; Bettina Francis - 1%; Johnsie Lang - 3%; Madeleine Larue - 1%; Thao Le - 1%; Keith Loftin - 2%; Joaquin Lugo - 1%	A critical review of the postulated role of the non-essential amino acid, β -N-methylamino-L-alanine,	ORD
Nominations Recommended for Honorable Mention (HM) – Total of 19				
21-174	HM	EPA: Yongping Yuan - 50%; Ellen Cooter - 4%; Limei Ran - 3%; Non-EPA: Ruoyu Wang - 34%; Prasad Daggupati - 3%; Dongmei Yang - 3%; Raghavan Srinivasan - 2%; Anna Jalowska - 1%	Integrating multimedia models to assess nitrogen losses from the Mississippi River basin to the Gulf	ORD
21-176	HM	EPA: Jingrang Lu - 65%; Non-EPA: Bo Zhu - 16%; Ian Struewing - 13%; Ning Xu - 3%; Shunshan Duan - 3%;	Nitrogen–phosphorus-associated metabolic activities during the development of a cyanobacterial bloom revealed by metatranscriptomics	ORD
21-178	HM	EPA: Matthew E. (Matt) Hopton - 20%; Ahjond S. Garmestani - 14%; Haynes C. Goddard - 9%; Non-EPA: Sheri Shiflett - 15%; Adam Berland - 20%; William Shuster - 13%; Dustin Herrmann - 9%;	The role of trees in urban stormwater management	ORD

21-179	HM	<p>EPA: Matthew E. (Matt) Hopton - 18%; Ahjond S. Garmestani - 17%;</p> <p>Non-EPA: William Shuster - 16%; Olivia Green - 18%; Sandra Albro - 6%; Natalie C. Ban - 5%; Adam Berland - 5%; Caitlin E. Burkman - 4%; Mary M. Gardiner - 4%; Michael Schoon - 4%</p>	Adaptive governance to promote ecosystem services in repurposed vacant urban spaces	ORD
21-190	HM	<p>EPA: Lisa M Smith - 30%; Linda Harwell - 20%; J Kevin Summers - 15%; Justin J. Bousquin - 15%; James E. Harvey - 10%; Kyle Buck - 5%</p> <p>Non-EPA: Michelle McLaughlin - 5%;</p>	Using Re-Scaled Resilience Screening Index Results and Location Quotients for Socio-Ecological Characteristics in U.S. Coastal Regions	ORD
21-198	HM	<p>EPA: Elin M. Ulrich - 18%; Jon R. Sobus - 22%; Antony J. Williams - 8%; Christopher M. (Chris) Grulke - 10%; Ann M. Richard - 8%; Seth R. Newton - 8%; Mark J. Strynar - 2%;</p> <p>Non-EPA: Alex Chao - 5%; Jarod Grossman - 10%; Andrew McEachran - 2%; Randolph Singh - 5%; Kamel Mansouri - 2%</p>	1. EPA's non-targeted analysis collaborative trial (ENTACT): genesis, design, and initial findings; 2. Using prepared mixtures of ToxCast chemicals to evaluate non-targeted analysis method performance	ORD
21-201	HM	<p>EPA: Michael J. Pennino - 40%; Jana E. Compton - 17.5%; Scott G. Leibowitz - 17.5%;</p> <p>Non-EPA: Stephanie A. Foster - 20%; Molly Kile - 5%</p>	1. Trends in Drinking Water Nitrate Violations Across the United States; 2. Arsenic Drinking Water Violations Decreased across the United States Following Revision of the Maximum Contaminant Level	ORD
21-202	HM	<p>EPA: Sandra (Sandy) Raimondo - 40%; Daniel W. (Wade) Lehmann - 10%; Andrew R. Kanarek - 10%; Matthew A. (Matt) Etterson - 10%; Nathan L. Pollesch - 10%; Kristina V. Garber - 10%; Jill A. Awkerman - 10%</p>	A framework for linking population model development with ecological risk assessment objectives	ORD
21-238	HM	<p>EPA: James M. Samet - 40%; Haiyan Tong - 20%;</p> <p>Non-EPA: Emily E. Sickbert-Bennett - 10%; William D. Bennett - 10%; Philip W. Clapp - 10%; Jon Benrtsen - 3%; Kirby L. Zeman - 3%; David J. Weber - 1%; Deverick J. Anderson - 1%; Hao Chen - 2%;</p>	1. Filtration Efficiency of Hospital Face Mask Alternatives Available for Use During the COVID-19 Pandemic; 2. Evaluation of Cloth Masks and Modified Procedure Masks as Personal Protective Equipment for the Public	ORD
21-241	HM	<p>EPA: Eric S. Hall - 100%;</p>	Comparison of Five Modeling Approaches to Quantify and Estimate the Effect of Clouds on the Radiation	ORD

21-244	HM	EPA: Xiaoyu Liu - 60%; Non-EPA: Matthew R. Allen - 20%; Nancy F. Roache - 20%;	Characterization of Organophosphorus Flame Retardants' Sorption on Building Materials and Consumer Products	ORD
21-247	HM	EPA: Raymond L. (Ray) Smith - 2%; William M. (Bill) Barrett - 12%; Michael A. Gonzalez - 12%; David E. Meyer - 12%; Wesley W. (Wes) Ingwersen - 6%; Paul M. Randall - 12%; Gerardo J. Ruiz-Mercado - 12%; John P. Abraham - 12%; Non-EPA: Sarah A Cashman - 5% Ashley N. Edelen - 5%	1. Mining Available Data from the United States Environmental Protection Agency to Support Rapid Life Cycle Inventory Modeling of Chemical Manufacturing 2. Coupling Computer-Aided Process Simulation and Estimations of Emissions and Land Use for Rapid Life Cycle Inventory Modeling	ORD
21-252	HM	EPA: Roman F. Mezencev - 80%; Ravi P. Subramaniam - 20%;	The use of evidence from high-throughput screening and transcriptomic data in human health risk assessment	ORD
21-253	HM	EPA: Brandon M. Jarvis - 17%; Yongshan Wan - 2%; James D. (Jim) Hagy - 2%; Non-EPA: Marcus Beck - 18%; John Lehrter - 29%; Lisa Lowe - 14%; Dong S. Ko - 7%; Bradley Penta - 7%; Michael Murrell - 2%; Rick Gould - 2%;	Modeling spatiotemporal patterns of ecosystem metabolism and organic carbon dynamics affecting hypoxia on the Louisiana Continental Shelf	ORD
21-255	HM	EPA: Antony J. Williams - 20%; Christopher M. (Chris) Grulke - 20%; Ann M. Richard - 20%; Jeffery S. (Jeff) Edwards - 16%; Grace Y. Patlewicz - 3%; Imran A. Shah - 3%; John F. Wambaugh - 3%; Richard S. Judson - 6% Non-EPA: Andrew McEachran - 3%; Kamel Mansour - 3%; Nancy Baker - 3%; Richard Judson - 8%	The CompTox Chemistry Dashboard: a community data resource for environmental chemistry	ORD
21-258	HM	EPA: Urmila P. Kodavanti - 25%; Mette C Schladweiler - 10%; Colette Miller - 5%; Non-EPA: Samantha J Snow - 20%; Katarzyna Broniowska - 10%; Edward Karoly - 5%; Pamela Phillips - 10%; Andres Henriquez - 5%; Allen Ledbetter - 5%; Christopher Gordon - 5%	Offspring susceptibility to metabolic alterations due to maternal high-fat diet and the impact of inhaled ozone used as a stressor	ORD

21-261	HM	EPA: John A. Glaser - 100%;	Biological Degradation of Polymers in the Environment	ORD
21-263	HM	EPA: John W. Washington - 14%; Kathleen (Kate) Sullivan - 16%; Christopher D. (Chris) Knightes - 14%; Michael J. (Mike) Cyterski - 14%; Stephen R. (Steve) Kraemer - 14%; Lourdes M. Prieto - 14%; Non-EPA: Brian Avant - 14%;	Analysis of the Transport and Fate of Metals Released from the Gold King Mine in the Animas and San	ORD
21-264	HM	EPA: Nichole E. Brinkman - 41%; Scott P. Keely - 40%; Jay L. Garland - 2%; G Shay Fout - 1%; Eric N. Villegas - 16%	1. Retrospective surveillance of wastewater to examine seasonal dynamics of enterovirus infections; 2. Reducing inherent biases introduced during DNA viral metagenome analyses of municipal wastewater	ORD