



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460**

**OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD**

September 28, 2012

EPA-SAB-12-009

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: SAB Recommendations for EPA's FY2012 Scientific and Technological
Achievement Awards

Dear Administrator Jackson:

The EPA Science Advisory Board (SAB) is pleased to transmit its recommendations for the FY 2012 Scientific and Technological Achievement Awards (STAA). The STAA program was established in 1980 to recognize EPA employees who have made outstanding contributions to the advancement of science and technology through their publications in peer-reviewed literature or books. The SAB has been asked by EPA's Office of Research and Development to review EPA's nominated scientific papers and make recommendations for awards. We are pleased to continue to play an important role in the STAA program.

This year, the Agency submitted a total of 106 nominations comprised of 160 publications in 14 science and technology categories. The SAB excluded two nominations from consideration since they did not meet the eligibility criteria. Of the 104 remaining nominations, the SAB recommends 43 for monetary awards and another 36 as deserving of Honorable Mention. Of the nominations recommended for monetary awards, 4 were recommended for Level I, the highest award; 10 for Level II; and 29 for Level III. The SAB's recommendations are provided in the enclosed appendices.

The SAB concludes that the 2012 STAA nominations are of very high quality, and commends the Agency for its superior research publications. The SAB also appreciates the Agency's implementation of the SAB recommendations from last year's review regarding STAA nomination procedures. This year, the SAB has additional recommendations to further strengthen the STAA program.

To further facilitate future review, the SAB has two recommendations to improve EPA's STAA nomination form: each nomination should include information on previous STAA awards; and each nomination should include all supplemental materials submitted to journals. In addition, the SAB has two recommendations to improve the implementation of the STAA Program: EPA should ensure that

each nomination describes its relevance to EPA's mission; and each nomination comprised of multiple publications should discuss the relationship between the publications.

The SAB applauds the Agency's public recognition of the scientific work of EPA scientists and engineers through publication in the peer-reviewed literature. Thank you for providing the SAB with the opportunity to assist the Agency with this important program. The SAB looks forward to reviewing the FY 2013 nominations.

/Signed/

/Signed/

Dr. Deborah L. Swackhamer, Chair
EPA Science Advisory Board

Dr. George Daston, Chair
SAB Scientific and Technological
Achievement Awards Committee

Enclosures

NOTICE

This report has been written as part of the activities of the EPA Science Advisory Board, a public advisory group 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 the problems facing the Agency. This report has not been reviewed for approval by the Agency and, hence, the contents of this report do not necessarily 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>.

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1. BACKGROUND

EPA's Scientific and Technological Achievement Awards program (STAA) were established in 1980 to recognize the Agency's scientists and engineers who published their technical work in the peer-reviewed literature. The STAA program is administered and managed by the EPA Office of Research and Development (ORD). Each year, the EPA Science Advisory Board (SAB) has been asked to review the EPA's nominated scientific publications and make recommendations for awards. The SAB was charged to review nominations and provide recommendations for each nomination in consideration of the EPA's criteria for STAA awards. The EPA announced the call for nominations for the 2012 STAA program to senior managers and employees in January 2012 (Appendix A). ORD screened nominations for conformance with EPA's *STAA Nomination Procedures and Guidelines*. The Guidelines describe the award levels, eligibility criteria, and the award criteria. In June 2012, ORD submitted to the SAB Staff Office 106 nominations for 2012 STAA awards in 14 possible science and technology categories.

The EPA's criteria for STAA Program awards are as follows:

- Level I awards are for nominees who have accomplished an exceptionally high-quality research or technological effort. The nomination should 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. It must be at least of national significance or have high impact on a broad area of science/technology. The nomination must be of far reaching consequences and 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. It must have timely consequences and contribute 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 nomination can be 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. It must relate to a mission or organizational component of the EPA, or significantly affect a relevant area of science/technology.
- Honorable Mention is a fourth, non-cash level award for nominations which are noteworthy but which do not warrant a Level I, II or III award. Honorable Mention applies to nominations that: (1) may not quite reach the level described for a Level III award; (2) show a promising area of research that the SAB wants to encourage; or (3) show an area of research that the SAB believes is too preliminary to warrant an award recommendation at this time.

2. SAB REVIEW PROCEDURE

In response to the EPA's request, the SAB Staff Office formed a new SAB STAA Committee to review the nominations. The Committee was formed in accordance with the SAB process as described in the SAB 2002 publication, *Panel Formation Process: Immediate Steps to Improve Policies and Procedures* (EPA-SAB-EC-COM-02-003).

All EPA nominations and nomination evaluation criteria were provided to the SAB Committee in advance of the review meeting. The SAB review consisted of a two-step process: an initial review of each nomination, followed by a Committee discussion of all nominations. The initial review of each nomination was conducted by two or three members. Committee members provided their individual initial ratings of the nominations based on the EPA's award criteria as described under Section 1. The Committee met at a closed meeting on July 23-24, 2012, in Arlington, VA. The meeting was closed to the public to protect the personal privacy of the authors. Committee members discussed all nominations (see Table 1), and reached consensus on the recommendations for awards. To avoid an appearance of a lack of impartiality, some members were asked to be recused from the Committee deliberations on selected nominations. The Committee also discussed administrative recommendations for improving the STAA nomination process..

Table 1. 2012 STAA Nominations by Topic Category

Topic	Number of Nominations Submitted to SAB
Control Systems and Technology	2
Ecological Research	24
Energy and the Environment	1
Environmental Policy and Decisionmaking Studies	6
Health Effects Research and Human Health Risk Assessment	16
Homeland Security	2
Industry and the Environment	3
Integrated Risk Assessment	3 ^a
Monitoring and Measurement Methods	13 ^b
Other Environmental Research	6
Review Articles	9
Risk Management and Ecosystem Restoration	1
Sustainability and Innovation	4
Transport and Fate	16
TOTAL	106

^a One nomination submitted a news article for award. The SAB excluded this nomination because it did not meet the eligibility requirements for peer review (i.e., it was not published in a peer reviewed journal or as a peer reviewed book chapter).

^b One nomination submitted ten publications for award. The SAB excluded this nomination because it did not meet the eligibility requirements (i.e., exceeded limits of each nomination to three publications).

3. AWARD RECOMMENDATIONS

Table 2 summarizes the awards by year since 2002, including the recommendations for 2012. The Committee recommended 43 nominations for 2012 STAA monetary awards and another 36 for Honorable Mention. Of the works recommended for monetary awards, 4 were recommended for Level I, 10 for Level II, and 29 for Level III. Appendix B lists the recommended monetary awards and nominations that deserve an Honorable Mention. The final rankings were agreed to at the meeting by Committee consensus. One award was based upon a vote by the Committee members as to yes, no, or abstention. Table 3 summarizes the distribution of 2012 award recommendations among categories.

Table 2. Comparison of Award Recommendations over Time

Award Level	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Nominations Reviewed	140	136	146	110	90	140	130	109	121	130	104 ^a
Level I	4 (3%)	7 (5%)	6 (4%)	3 (3%)	5 (6%)	5 (4%)	5 (4%)	3 (3%)	5 (4%)	3 (2%)	4 (4%)
Level II	7 (5%)	18 (13%)	13 (9%)	6 (5%)	11 (12%)	13 (9%)	16 (12%)	22 (20%)	14 (12%)	13 (10%)	10 (10%)
Level III	26 (19%)	29 (21%)	32 (22%)	30 (27%)	29 (32%)	37 (26%)	30 (21%)	31 (28%)	42 (35%)	35 (27%)	29 (28%)
Honorable Mention	39 (28%)	33 (24%)	37 (25%)	31 (28%)	26 (29%)	45 (32%)	43 (33%)	25 (23%)	33 (27%)	44 (34%)	36 (35%)
Not Recommended	64 (46%)	49 (36%)	58 (40%)	40 (36%)	19 (21%)	40 (29%)	36 (28%)	28 (26%)	27 (22%)	35 (27%)	25 (24%)

^a Two nominations were considered ineligible for consideration by the SAB (see Table 1).

Table 3. Summary Number of Award Recommendations by Category for FY2012

Nomination Categories	Total Nominations	Award Levels				Honorable Mention
		I	II	III	Total	
Control Systems and Technology	2	0	0	0	0	1
Ecological Research	24	0	3	7	10	7
Energy and the Environment	1	0	0	1	1	0
Environmental Policy and Decision making Studies	6	1	0	3	4	1
Health Effects Research and Human Health Risk Assessment	16	2	2	4	8	7
Homeland Security	2	0	0	0	0	0
Industry and the Environment	3	0	0	1	1	0
Integrated Risk Assessment	2	0	1	0	1	0
Monitoring and Measurement Methods	12	0	1	2	3	6
Other Environmental Research	6	0	1	2	3	3
Review Articles	9	0	0	3	3	3
Risk Management and Ecosystem Restoration	1	0	0	0	0	0
Sustainability and Innovation	4	0	0	1	1	2
Transport and Fate	16	1	2	5	8	6
TOTALS:	104	4	10	29	43	36

4. ADMINISTRATIVE RECOMMENDATIONS

The SAB appreciates the EPA's implementation of the recommendations from last year's SAB report to the Administrator that improves the nomination process and enhances the integrity of the program. In particular, the SAB concludes that almost all of the 2012 nominations adhered to existing STAA program guidelines.

The SAB has the following recommendations to further strengthen the STAA program in future years:

Additional Requirements for Nomination Form:

- *Each nomination should include information on previous STAA awards received by primary author or co-authors.* The current nomination form requires a description of the relationship between the current nomination to any previous or current nomination(s) with similar subjects authored by the same group or subgroup. The SAB recommends that the current nomination form also provide information on whether any of these previous nominations received STAA awards.
- *Each nomination should include all supplemental materials submitted to journals.* Many journals encourage authors to submit supplementary information with their papers to assist the journal as it decides whether to publish the authored paper. The STAA criteria allow nominations to include supplemental material relevant to the nomination. The Committee encourages submitters to include supplementary information sent to journals since such material frequently provides useful context on the quality and innovativeness of the research and the potential consequences of the research within its discipline or field of study.

Assurance of Completeness of Nomination Package:

- *EPA should ensure that each nomination describes its relevance to EPA's mission.* The Agency's criteria for eligibility for awards include that nominations should describe their importance and impact upon the ability of the Agency to better accomplish its mission. Several nominations did not discuss how the publications relate to EPA's mission nor discuss how the publications have a direct impact on human health or the environment. The SAB requests that all nominations state how the nominated papers are expected to represent an important advancement of scientific knowledge or technology relevant to EPA's mission and human health or the environment.
- *Each nomination should discuss the relationship between publications within nominations comprised of multiple publications.* The Agency's nomination criteria include that up to three publications may be combined into one nomination if the publications have similar subjects and authors. Several nominations for 2012 STAA recognition did not discuss the link between subject matter for the different publications submitted as part of a single nomination. The SAB recognizes the importance of recognizing contributions made through the total output of EPA authors, and encourages EPA to ensure that the justifications for nominations comprising more than one publication clarify the relationship between publications within such nominations.

APPENDIX A - CALL FOR NOMINATIONS FOR THE 2012 STAA PROGRAM

January 17, 2012

MEMORANDUM

SUBJECT: The 2012 Scientific and Technological Achievement Awards (STAA) Program

FROM: Paul T. Anastas
Assistant Administrator

TO: Assistant Administrators
Associate Administrators
Regional Administrators

It is a pleasure to announce this year's call for nominations for the 2012 Scientific and Technological Achievement Awards (STAA) program. This is an Agency-wide competition, judged by the Science Advisory Board (SAB), which recognizes outstanding published scientific and technical papers by the Agency's staff. This year's nominations will be accepted via electronic submission to nomination.STAA@epa.gov.

Attached are nomination procedures and guidelines, a program schedule, and nomination forms. Official 2012 nomination forms are available for your convenience in MS Word and data entry capable Portable Document Format (PDF) at <http://epa.gov/ncer/staa/>. All nominations must be received no later than midnight ET Friday, February 17, 2012. Instructions for completion and electronic submission of nomination packages are attached. Please contact Todd Peterson at (703) 308-7224 or email him at peterson.todd@epa.gov if there are any questions.

cc: EPA Science Advisory Board
EPA Program Offices
EPA Regional Offices
ORD Center/Laboratory Directors

Attachments

January 17, 2012

EPA SEEKING APPLICATIONS FOR 2012 STAA AWARDS

MEMORANDUM

SUBJECT: The 2012 Scientific and Technological Achievement Awards (STAA) Program

FROM: Paul T. Anastas
Assistant Administrator (8101R)

TO: All EPA Employees

I am pleased to issue this year's call for nominations for the EPA's prestigious 2012 Scientific and Technological Achievement Awards (STAA). Each year, EPA recognizes outstanding papers written by the Agency's staff and published in scientific and technical journals. STAA is open to all EPA employees. Nominations are judged by the EPA's Science Advisory Board (SAB), and managed by the Office of Research and Development. Nominations can be submitted in the following categories:

- Control Systems and Technology
- Ecological Research
- Health Effects Research and Human Health Risk Assessment
- Monitoring and Measurement Methods
- Transport and Fate
- Review Articles
- Risk Management and Ecosystem Restoration
- Integrated Risk Assessment
- Environmental Policy and Decision-Making Studies
- Homeland Security
- Industry and the Environment
- Energy and the Environment
- Sustainability and Innovation
- Other Environmental Research

STAA winners are eligible for monetary awards.

This year's nominations will be accepted via electronic submission to nominations.STAA@epa.gov. You can find the nomination forms and guidelines and additional information about the STAA program at www.epa.gov/ncer/staa/. Nominations will be accepted until midnight ET on Friday, February 17, 2012. Should questions arise, please contact Todd Peterson at (703) 347-7224 or peterson.todd@epa.gov.

APPENDIX B - NOMINATIONS RECOMMENDED FOR STAA AWARDS

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

Nominations Recommended for a Level I Award -- Total of 4		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12EP0005	Air quality Impacts of Increased Use of Ethanol Under the United States' Energy Independence and Security Act	Mr. Cook, James Richard (13%) Dr. Phillips, Sharon (10%) Ms. Yanca, Catherine (10%) Mr. Houyoux, Marc (8%) Mr. Dolwick, Pat (8%) Mr. Mason, Rich (8%) Ms. Zawacki, Margaret (8%) Mr. Davidson, Ken (8%) Dr. Michaels, Harvey (8%) Mr. Harvey, Craig (8%) Dr. Somers, Joseph (6%) Ms. Luecken, Deborah (5%) NHEERL
S12HE0043	Lung Function and Inflammatory Responses in Healthy Young Adults Exposed to 0.06 ppm Ozone for 6.6 Hours	Dr. Kim, Chong S. (25%) Dr. Devlin, Robert B. (15%) Dr. Diaz-Sanchez, David (15%) Mr. Case, Martin (10%) Dr. Rappold, Ana G. (5%) Dr. Kehrl, Howard (5%) Mr. Schmitt, Mike T. (5%) NHEERL
S12HE0047	(1) Predictive model of rat reproductive toxicity from ToxCast high throughput screening (2) Predictive models of prenatal development toxicity from ToxCast high-throughput screening data (3) Environmental impact on vascular development predicted by high-throughput screening	Dr. Martin, Matthew T. (20%) Dr. Sipes, Nisha S. (20%) Dr. Kleinstreuer, Nicole C. (20%) Dr. Knudsen, Thomas B. (9%) Dr. Judson, Richard S. (7%) Dr. Reif, David M. (5%) Dr. Dix, David J. (2%) Dr. Kavlock, Robert J. (2%) NERL
S12TF0104	Formation of Toxic Iodinated Disinfection By-Products from Compounds Used in Medical Imaging	Dr. Richardson, Susan D. (30%) Dr. Duirk, Stephen E. (30%) NHEERL

Nominations Recommended for a Level II Award -- Total of 10		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12ER0012	(1) Physiological responses to fertilization recorded in tree rings: isotopic lessons from a long-term fertilization trial (2) Interpreting tree responses to thinning and fertilization using tree-ring stable isotopes	Dr. Brooks, J. Renée (85%) NERL
S12ER0029	(1) Effort and Potential Efficiencies for Aquatic Non-native Species Early Detection (2) Exploiting Habitat and Gear Patterns for Efficient Detection of Rare and Non-Native Benthos and Fish in Great Lakes Coastal Ecosystems	Dr. Trebitz, Anett S. (20%) Dr. Hoffman, Joel C. (20%) Dr. Kelly, John R. (20%) Mr. West, Corlis W. (20%) Mr. Peterson, Gregory S. (20%) NHEERL
S12ER0030	A Transcriptomics-based Biological Framework for Studying Mechanisms of Endocrine Disruption in Small Fish Species	Dr. Wang, Rong-Lin (25%) Dr. Bencic, David (15%) Dr. Villeneuve, Dan (15%) Dr. Ankley, Gerald (15%) Dr. Lazorchak, Jim (15%) Dr. Edwards, Stephen (15%) NHEERL
S12HE0035	Peat Bog Wildfire Smoke Exposure in Rural North Carolina Is Associated with Cardiopulmonary Emergency Department Visits Assessed through Syndromic Surveillance	Dr. Rappold, Ana G. (20%) Ms. Susan, Stone L. (12%) Dr. Cascio, Wayne E. (12%) Dr. Devlin, Robert B. (12%) Dr. Neas, Lucas M. (7%) Mr. Kilaru, Vasu J. (7%) Mr. Szykman, James J. (7%) Dr. Carraway, Martha Sue (6%) NHEERL
S12HE0042	(1) Gender and Species Differences in Triadimefon Metabolism by Rodent Hepatic Microsomes (2) Development and Application of a Physiologically Based Pharmacokinetic Model for Triadimefon and Its Metabolite Triadimenol in Rats and Humans	Dr. Kenneke, John F. (40%) Dr. Henderson, W. Matthew (40%) NHEERL

Nominations Recommended for a Level II Award -- Total of 10		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12IR0059	(1) Probabilistic Modeling of Dietary Arsenic Exposure and Dose and Evaluation with 2003-2004 NHANES Data (2) Methyl mercury exposure from fish consumption in vulnerable racial/ethnic populations: probabilistic SHEDS-Dietary model analyses using 1999-2006 NHANES and 1990-2002 TDS data	Dr. Xue, Jianping (35%) Dr. Zartarian, Valerie (35%) Dr. Liu, Shi (15%) Dr. Geller, Andrew (5%) NERL
S12MM0064	(1) Development and Validation of Rapid Assessment Indices of Condition for Coastal Tidal Wetlands in Southern New England, USA. (2) Development of a Reference Coastal Wetland set in Southern New England (USA) (3) Soil Respiration Rates in Coastal Marshes Subject to Increasing Watershed Nitrogen Loads in Southern New England, USA	Dr. Wigand, Cathleen (47%) Dr. McKinney, Rick (10%) Ms. Chintala, Marty (5%) Ms. Lussier, Suzanne (2%) Ms. Johnson, Roxanne L. (2%) Mr. Ryba, Stephen (2%) NHEERL
S12OR0075	(1) Characterization and Application of a Chlorine Microelectrode for Measuring Monochloramine Within a Biofilm (2) Free Chlorine and Monochloramine Application to Nitrifying Biofilm: Comparison of Biofilm Penetration, Activity, and Viability (3) Effect of Free Ammonia Concentration on Monochloramine Penetration within a Nitrifying Biofilm and Its Effect on Activity, Viability and Recovery	Dr. Pressman, Jonathan G. (30%) Dr. Wahman, David G. (30%) NCEA
S12TF0098	Environmental Footprint of Pharmaceuticals: the Significance of Factors Beyond Direct Excretion to Sewers	Dr. Daughton, Christian (75%) NCCT
S12TF0106	(1) Concentrations, Distribution and Persistence of Perfluoroalkylates in Sludge-Applied Soils Near Decatur, Alabama, USA (2) Concentrations, Distribution and Persistence of Fluorotelomer Alcohols in Sludge-Applied Soils Near Decatur, Alabama, USA (3) Quantitative Determination of Perfluorochemicals and Fluorotelomer Alcohols in Plants from Biosolid-Amended Fields using LC/MS/MS and GC/MS	Dr. Washington, John W. (76%) Dr. Ellington, J. Jackson (8%) Dr. Libelo, E. Laurence (3%) Mr. Neill, Michael P. (3%) NHSRC

Nominations Recommended for a Level III Award -- Total of 29		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12EE0003	Evaluating the Fate of Metals in Air Pollution Control Residues from Coal-Fired Power Plans	Ms. Thorneloe, Susan A. (60%) Mr. Helms, Gregory (5%) NRMRL
S12EP0004	Minimizing Risks from Spilled Oil to Ecosystem Services using Influence Diagrams: The Deepwater Horizon Spill Response	Dr. Carriger, John F. (50%) Barron, Mace G. (50%) NRMRL
S12EP0006	(1) Ozone and TFA Impacts in North America from Degradation of 2,3,3,3-tetrafluoropropene (HFO- 1234yf), a Potential Greenhouse Gas Replacement (2) Estimated 2017 Refrigerant Emissions of 2,3,3,3-tetrafluoropropene (HFC-1234yf) in the United States Resulting from Automobile Air Conditioning	Ms. Luecken, Deborah J. (28%) Ms. Taddonio, Kristen N. (8%) Dr. Anderson, Stephen O. (8%) Dr. Hutzell, William T. (7%) NERL
S12EP0007	The National Ambient Air Monitoring Strategy: Rethinking the Role of National Networks	Dr. Scheffe, Richard (80%) Dr. Solomon, Paul (10%) Mr. Papp, Michael (1%) Ms. Rice, Joann (1%) Mr. Hanley, Tim (1%) Mr. Hemby, James (1%) Mr. Schmidt, Mark (1%) Mr. Watkins, Nealson (1%) OAR
S12ER0011	(1) Temporal Evaluation of Effects of a Model 3B-Hydroxysteroid Dehydrogenase Inhibitor on Endocrine Function in the Fathead Minnow (2) Transcriptional Regulatory Dynamics of the Hypothalamic-Pituitary-Gonadal Axis and its Peripheral Pathways as Impacted by the 3-Beta HSD Inhibitor Trilostane in Zebrafish (<i>Danio rerio</i>)	Dr. Ankley, Gerald (15%) Dr. Wang, Rong-Lin (15%) Dr. Villeneuve, Daniel (9%) Dr. Bencic, David (7%) Ms. Durhan, Elizabeth (7%) Ms. Jensen, Kathleen (7%) Mr. Kahl, Michael (7%) Ms. Makynen, Elizabeth (7%) Dr. Lazorchak, James (5%) NHEERL

Nominations Recommended for a Level III Award -- Total of 29		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12ER0019	(1) Using Stable Isotope Mixing in a Great Lakes Coastal Tributary to Determine Food Web Linkages in Young Fishes (2) Rapid Stable Isotope Turnover of Larval Fish in a Lake Superior Coastal Wetland: Implications for Diet and Life History Studies	Dr. Hoffman, Joel C. (34%) Ms. Cotter, Anne M. (17%) Mr. Peterson, Gregory S. (17%) Mr. Corry, Timothy D. (17%) Dr. Kelly, John R. (15%) NHEERL
S12ER0021	Determining Sources of Water to Great Lakes Coastal Wetlands: A Classification Approach	Dr. Morrice, John (30%) Dr. Trebitz, Anett S. (20%) Dr. Kelly, John R. (20%) Dr. Sierszen, Michael E. (15%) Ms. Cotter, Anne M. (10%) Mr. Hollenhorst, Tom (5%) NERL
S12ER0025	An Analysis of Diffuse Light Attenuation in the Northern Gulf of Mexico Hypoxic Zone Using the Sea WiFS Satellite Data Record	Dr. Schaeffer, Blake A. (37%) Dr. Lehrter, John C. (10%) Dr. Murrell, Michael C. (10%) Dr. Kurtz, Janis C. (8%) Ms. Yates, Diane (5%) NHSRC
S12ER0031	Changes in Constructed Brassica Communities Treated with Glyphosate Drift	Dr. Watrud, Lidia S. (50%) Dr. Lee, E. Henry (25%) Ms. Smith, Bonnie M. (5%) Mr. Waschmann, Ronald S. (2%) NHEERL
S12ER0032	(1) Assessing the Effects of Disease and Bleaching on Florida Keys Corals by Fitting Population Models to Data (2) Consideration of species community composition in statistical analyses of coral disease risk	Dr. Yee, Susan H. (50%) Dr. Santavy, Deborah L. (30%) Dr. Barron, Mace G. (8%) NHEERL
S12ER0034	Nitrogen Dynamics at the Ground Water-Surface Water Interface of a Degraded Urban Stream	Dr. Mayer, Paul (50%) Dr. Striz, Elise (15%) NERL

Nominations Recommended for a Level III Award -- Total of 29		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12HE0037	(1) Detection of TiO ₂ Nanoparticles in Cells by Flow Cytometry (2) In Vitro Phototoxicity and Hazard Identification of Nano-scale Titanium Dioxide	Dr. Boyes, William K. (15%) Dr. Zucker, Robert M. (15%) Dr. Degn, Laura L. (15%) Dr. Massaro, Edward J. (8%) Dr. Mundy, William R. (8%) Dr. Dreher, Kevin (8%) NERL
S12HE0048	Pesticides on Household Surfaces May Influence Dietary Intake of Children	Dr. Melnyk, Lisa Jo (50%) NERL
S12HE0049	(1) Developmental Exposure to a Commercial PBDE Mixture, DE-71: Neurobehavioral, Hormonal and Reproductive Effects (2) Altered Cardiovascular Reactivity and Osmoregulation during Hyperosmotic Stress in Adult Rats Developmentally Exposed to Polybrominated Diphenyl Ethers (PBDEs)	Dr. Kodavanti, Prasada Rao S. (40%) Dr. Moser, Virginia C. (5%) Dr. MacPhail, Robert C. (5%) Dr. Stoker, Tammy E. (5%) NRMRL
S12HE0050	Trichloroethylene and Cancer: Systematic and Quantitative Review of Epidemiologic Evidence for Identifying Hazards	Ms. Scott, Cheryl Siegel (50%) Ms. Jinot, Jennifer (50%) NERL
S12IE0055	Emissions Inventory of PM _{2.5} Trace Elements Across the United States	Dr. Reff, Adam (45%) Dr. Bhave, Prakash (20%) Dr. Simon, Heather (10%) Mr. Pace, Thompson G. (10%) Dr. Pouliot, George A. (5%) Mr. Mobley, David (5%) Mr. Houyoux, Marc (5%) NHEERL

Nominations Recommended for a Level III Award -- Total of 29		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12MM0063	An Assessment of Stressor Extent and Biological Condition in the North American Mid-Continent Great Rivers (USA)	Dr. Angradi, Ted R. (15%) Dr. Bolgrien, David W. (10%) Ms. Jicha, Terri M. (10%) Mr. Pearson, Mark S. (10%) Dr. Taylor, Debra L. (10%) Dr. Moffett, Mary F. (5%) Dr. Blocksom, Karen (5%) Dr. Walters, David M. (5%) Ms. Elonen, Colleen (5%) Mr. Anderson, Leroy E. (5%) Dr. Lazorchak, James M. (5%) Dr. Hill, Brian H. (5%) NRMRL
S12MM0073	(1) Physical Characterization of the Fine Particle Emissions from Commercial Aircraft Engines during the Aircraft Particle Emissions Experiment (APEX) 1-3 (2) Chemical Characterization of the Fine Particle Emissions from Commercial Aircraft Engines during the Aircraft Particle Emissions Experiment APEX) 1 to 3	Mr. Kinsey, John S. (50%) Dr. Hays, Michael D. (20%) NRMRL
S12OR0076	On the Asymptotic Distribution of Likelihood Ratio Test when Parameters Lie on the Boundary	Dr. Kopylev, Leonid (50%) NRMRL
S12OR0079	Photobleaching Kinetics of Chromophoric Dissolved Organic Matter Derived from Mangrove Leaf Litter and Floating Sargassum Colonies	Dr. Zepp, Richard G. (50%) NRMRL
S12RA0080	Ecosystem Services Altered by Human Changes in the Nitrogen Cycle: A New Perspective for US Decision Making	Compton, Jane E. (30%) Dr. Harrison, John A. (25%) Dr. Dennis, Robin (10%) Dr. Greaver, Tara L. (5%) Dr. Hill, Brian H. (5%) Dr. Jordan, Stephen J. (5%) Dr. Walker, Henry (5%) NRMRL
S12RA0085	(1) Fate and Effects of Anthropogenic Chemicals in Mangrove Ecosystems: A Review (2) Nonnutrient Anthropogenic Chemicals in Seagrass Ecosystems: Fate and Effects	Dr. Lewis, Michael (75%) Dr. Devereux, Richard (15%) NCEA

Nominations Recommended for a Level III Award -- Total of 29		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12RA0088	Effects of Solar UV Radiation and Climate Change on Biogeochemical Cycling: Interactions and Feedbacks	Dr. Zepp, Richard G. (50%) NRMRL
S12SI0090	An Energy Systems View of Sustainability: Energy Evaluation of the San Luis Basin, Colorado	Dr. Campbell, Daniel E. (75%) Dr. Garmestani, Ahjond S. (25%) NERL
S12TF0094	(1) An Indirect Data Assimilation Scheme for Deep Soil Temperature in the Pleim-Xiu Land Surface Model (2) Performance Assessment of New Land Surface and Planetary Boundary Layer Physics in the WRF-ARW	Dr. Pleim, Jonathan E. (50%) Mr. Gilliam, Robert C. (50%) NERL
S12TF0097	Effects of Land Use on Dissolved Organic Matter Biogeochemistry in Piedmont Headwater Streams of the Southeastern United States	Dr. Burke, Roger A. (50%) NHEERL
S12TF0099	(1) Microbial Transformation of Triadimefon to Triadimenol in Soils: Selective Production Rates of Triadimenol Stereoisomers Affect Exposure and Risk (2) Loss of Propiconazole and Its Four Stereoisomers from the Water Phase of two Soil-Water Slurries as Measured by Capillary Electrophoresis	Dr. Garrison, Arthur W. (40%) Dr. Jones, W. Jack (20%) NERL
S12TF0101	(1) The Formation of Secondary Organic Aerosol from the Isoprene + OH Reaction in the Absence of NO _x (2) Influence of Aerosol Acidity on the Formation of Secondary Organic Aerosol Biogenic Hydrocarbons (3) Formation of Organic Tracers for Isoprene SOA Under Acidic Conditions	Dr. Kleindienst, Tadeusz E. (19%) Dr. Edney, Edward O. (19%) Dr. Lewandowski, Michael (19%) Dr. Offenberg, John H. (19%) NERL
S12TF0103	Efficient Probabilistic Estimates of Surface Ozone Concentration Using an Ensemble of Model Configurations and Direct Sensitivity Calculations	Dr. Pinder, Robert W. (55%) Mr. Gilliam, Robert C. (10%) Mr. Appel, Keith W. (10%) Dr. Napelenok, Sergey L. (10%) Dr. Foley, Kristen M. (10%) Dr. Gilliland, Alice B. (5%) OTAQ

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12CS0001	(1) Degradation Of Bromothymol Blu By 'Greener' Nano-Scale Zero-Valent Iron Synthesized Using Tea Polyphenols (2) Green Synthesis of Au Nanostructures at Room Temperature Using Biodegradable Plant Surfactants (3) Self-Assembly of Palladium Nanoparticles: Synthesis of Nanobelts, Nanoplates and Nanotrees Using Vitamin B, and Their Application in Carbon-Carbon Coupling Reactions	Dr. Nadagouda, Mallikarjuna (35%) Dr. Varma, Rajender S. (35%) NRMRL
S12EP0010	Does Encouraging the Use of Wetlands in Water Quality Trading Programs Make Economic Sense	Dr. Heberling, Matthew T. (40%) Dr. Thurston, Hale W. (25%) NRMRL
S12ER0013	Assessment of Supercritical Fluid Extraction Use in Whole Sediment Toxicity Identification Evaluations	Dr. Burgess, Robert M. (30%) Dr. Cantwell, Mark G. (20%) Dr. Ho, Kay T. (15%) Dr. Pelletier, Marguerite C. (15%) NHEERL
S12ER0014	(1) Design and Assessment of a Real Time Reverse Transcription-PCR Method to Genotype Single-Stranded RNA Male-Specific Coliphages (Family Leviviridae) (2) A Reverse Transcription-PCR Assay to Distinguish the Four Genogroups of Male-Specific (F+) RNA Coliphages	Dr. Friedman, Stephanie D. (48%) Dr. Genthner, Fred (40%) NVFEL
S12ER0015	Population Growth and Demography of Common Loons in the Northern United States	Dr. Gear, Jason S. (20%) Dr. Nacci, Diane (19%) Dr. Kuhn, Anne (12%) NERL

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12ER0016	(1) Linking Excess Nutrients, Light, and Fine Bedded Sediments to Impacts on Faunal Assemblages in Headwater Agricultural Streams (2) Influences of Spatial Scale and Soil Permeability on Relationships Between Land Cover and Baseflow Stream Nutrient Concentrations	Dr. Griffith, Michael B. (20%) Dr. Daniel, F. Bernard (20%) Dr. Troyer, Michael E. (15%) Dr. Lazorchak, James M. (15%) Dr. Morrison, Matthew A. (15%) Dr. Schubauer-Berigan, Joseph P. (15%) OAQPS
S12ER0017	(1) Application of Protein Expression Profiling to Screen Chemicals for Androgenic Activity (2) Identification of Estrogen-Responsive Vitelline Envelope Protein Fragments from Rainbow Trout (<i>Onchorhynchus mykiss</i>) Plasma Using Mass Spectrometry	Dr. Hemmer, Michael J. (35%) Ms. Nelson, Kimberly A. (35%) Ms. Harris, Peggy S. (10%) Dr. Serrano, Jose A. (10%) NERL
S12ER0023	Relating Landscape Development Intensity to Coral Reef Condition in the Watersheds of St. Croix, US Virgin Island	Ms. Oliver, Leah (60%) Dr. Lehrter, John (25%) Mr. Fisher, William (15%) NHSRC
S12ER0028	The Areal Extent of Brown Shrimp Habitat Suitability in Mobile Bay, Alabama, USA: Targeting Vegetated Habitat Restoration	Ms. Smith, Lisa M. (40%) Dr. Nestlerode, Janet A. (30%) Ms. Harwell, Linda C. (15%) NRMRL
S12HE0036	Development of a Distance-to-Roadway Proximity Metric to Compare Near-road Pollutant Levels to a Central Site Monitor	Dr. Barzyk, Tim (35%) Dr. George, Barbara Jane (30%) Dr. Vette, Alan (15%) Mr. William, Ron (10%) Ms. Croghan, Carry (5%) Mr. Stevens, Carvin (5%) NHEERL

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12HE0038	(1) Increased Non-conducted P-wave Arrhythmias after a Single Oil Fly Ash Inhalation Exposure in Hypertensive Rats (2) Continuous Electrocardiogram Reveals Differences in the Short-term Cardiotoxic Response of Wistar-Kyoto and Spontaneously Hypertensive Rats to Doxorubicin (3) A Single Exposure to Particulate or Gaseous Air Pollution Increases the Risk of Aconitine-induced Cardiac Arrhythmia in Hypertensive Rats	Dr. Farraj, Aimen K. (20%) Dr. Hazari, Mehdi S. (20%) Mr. Winsett, Darrell W. (20%) Mrs. Haykal-Coates, Najwa (20%) Dr. Costa, Daniel (8%) Dr. Cascio, Wayne E. (4%) Mr. Ledbetter, Allen (4%) NHEERL
S12HE0039	Proteomic Analysis of Propiconazole Response in Mouse Liver: Comparison of Genomic and Proteomic Profiles	Dr. Ge, Yue (25%) Ms. Bruno, Maribel (20%) Dr. Winnik, Witold (15%) Dr. Nesnow, Stephen (15%) Ms. Moore, Tanya (5%) NHEERL
S12HE0040	Development of a Multiplex Microsphere Immunoassay for the Quantitation of Salivary Antibody Responses to Selected Waterborne Pathogens	Ms. Griffin, Shannon M. (35%) Dr. Egorov, Andrey I. (35%) Dr. Fout, G. Shay (10%) Dr. Wade, Timothy J. (10%) NHEERL
S12HE0041	(1) Differential Cardiopulmonary Effects of Size-Fractionated Ambient Particulate Matter in Mice (2) Comparative Toxicity of Size-Fractionated Airborne Particulate Matter Collected at Different Distances From an Urban Highway	Dr. Tong, Haiyan (30%) Dr. Gilmour, M. Ian (25%) Mr. Krantz, Q. Todd (15%) Dr. Devlin, Robert B. (10%) Mr. McGee, John K. (10%) Dr. Baldauf, Richard W. (2%) Dr. Samet, James M. (2%) NHEERL
S12HE0044	Vascular and Cardiac Impairments in Rats Inhaling Ozone and Diesel Exhaust Particles	Dr. Kodavanti, Urmila P. (30%) Mr. Ledbetter, Allen D. (10%) Ms. Schladweiler, Mette C. (10%) Ms. Andrews, Debora (5%) Ms. Richards, Judy (4%) Mr. McKee, John (3%) Mr. Jaskot, Richard H. (2%) NCEA

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12HE0046	Feasibility of Assessing Public Health Impacts of Air Pollution Reduction Programs on a Local Scale: New Haven Case Study	Dr. Lobdell, Danelle T. (25%) Dr. Ozkaynak, Haluk (25%) Dr. Isakov, Vlad (20%) Dr. Baxter, Lisa (20%) Mr. Touma, Jawad S. (5%) Dr. Smuts, Mary Beth (5%) NHEERL
S12MM0061	Development of an Aerosol Surface Inoculation Method for Bacillus Spores	Dr. Lee, Sang Don (60%) Dr. Ryan, Shawn P. (20%) Dr. Snyder, Emily G. (20%) NHEERL
S12MM0065	(1) Impacts of an Anti-Androgen and an Androgen/Anti-Androgen Mixture on the Metabolite Profile of Male Fathead Minnow Urine (2) Use of Gene Expression, Biochemical and Metabolite Profiles to Enhance Exposure and Effects Assessment of the Model Androgen 17B- Trenbolone in Fish	Dr. Ekman, Drew R. (17%) Dr. Collette, Timothy W. (17%) Dr. Villeneuve, Daniel L. (13%) Dr. Teng, Quincy (10%) Dr. Ankley, Gerald T. (10%) Dr. Jensen, Kathleen M. (6%) Dr. Kahl, Michael D. (6%) Dr. Makynen, Elizabeth A. (6%) Dr. Durhan, Elizabeth J. (6%) NHEERL
S12MM0068	Combining Land Use Information and Small Stream Sampling with PCR-Based Methods for Better Characterization of Diffuse Sources of Human Fecal Pollution	Dr. Peed, Lindsay A. (26%) Dr. Shanks, Orin C. (22%) Dr. Nietch, Christopher T. (22%) Dr. Kelty, Catherine A. (12%) Dr. Sivaganesan, Mano (12%) Mr. Meckes, Mark (5%) NHEERL
S12MM0069	Quantifying Spatial and Seasonal Variability in Atmospheric Ammonia with in situ and space-based Observations	Dr. Pinder, Robert W. (25%) Dr. Walker, John T. (25%) Dr. Bash, Jesse O. (25%) NHEERL

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12MM0070	(1) Spatial Patterns of Water Quality and Plankton from High-resolution Continuous in situ Sensing Along a 537-km Nearshore Transect of Western Lake Superior, 2004 (2) Yurista, P., J.R. Kelly, and S.E. Miller. 2011. Lake Superior: Nearshore Variability and a Landscape Driver Concept. Aquatic Ecosystem Health & Management 14:345-355	Dr. Yurista, Peder M. (50%) Dr. Kelly, John R. (30%) Mr. Miller, Samuel E. (20%) NERL
S12MM0072	Ultrafine Particles Near a Major Roadway in Raleigh, North Carolina: Downwind Attenuation and Correlation with Traffic-related Pollutants	Dr. Hagler, Gayle S.W. (20%) Dr. Baldauf, Richard W. (15%) Dr. Thoma, Eben D. (15%) Mr. Long, Thomas R. (10%) Mr. Kinsey, John S. (10%) Dr. Gullett, Brian K. (10%) NHEERL
S12OR0074	(1) Monochloramine Disinfection Kinetics of <i>Nitrosomonas europaea</i> by Propidium Monoazide Quantitative PCR and Live/Dead BacLight Methods (2) Determination of the Effects of Medium Composition on the Monochloramine Disinfection Kinetics of <i>Nitrosomonas europaea</i> by the Propidium Monoazide Quantitative PCR and Live/Dead BacLight Methods	Dr. Wahman, David G. (40%) Dr. Pressman, Jonathan G. (40%) Mrs. Schrantz, Karen A. (20%) NHEERL
S12OR0077	Subsurface and Surface Water Flow Interactions	Dr. Hantush, Mohamed M. (60%) NHEERL
S12OR0078	(1) The EPA's Human Exposure Research Program for Assessing Cumulative Risk in Communities (2) The Environmental Protection Agency's Community-Focused Exposure and Risk Screening Tool (C-FERST) and Its Potential Use for Environmental Justice Efforts	Dr. Zartarian, Valerie G. (35%) Mr. Schultz, Bradley D. (35%) Dr. Barzyk, Timothy M. (6%) Dr. Smuts, MaryBeth (6%) Dr. Hammond, Davyda M. (6%) Dr. Medina-Vera, Myriam (6%) Dr. Geller, Andrew M. (6%) NHEERL

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12RA0082	Disposal Practices for Unwanted Residential Medications in the United States	Dr. Glassmeyer, Susan T. (9%) Dr. Daughton, Christian G. (9%) Ms. Conerly, Octavia (8%) Dr. Daniels, Rebecca L. (8%) Ms. Lauer, Lisa (8%) Ms. McCarthy, Meg (8%) Ms. Nettsheim, Todd G. (8%) Ms. Sykes, Kathy (8%) Ms. Thompson, Virginia G. (8%) NHEERL
S12RA0083	Evaluating the Consumer Response to Fuel Economy: A Literature Review	Dr. Helfand, Gloria (50%) Dr. Wolverton, Ann (50%) NHEERL
S12RA0086	Evaluating Uncertainty in Integrated Environmental Models: A Review of Concepts and Tools	Dr. Matott, L. Shawn (60%) Dr. Babendreier, Justin E. (30%) Dr. Purucker, S. Thomas (10%) NHEERL
S12SI0091	Estimating the Provision of Ecosystem Services by Gulf of Mexico Coastal Wetlands	Ms. Engle, Virginia (100%) NERL
S12SI0092	Integrating Mechanistic and Polymorphism Data to Characterize Human Genetic Susceptibility for Environmental Chemical Risk Assessment in the 21st Century	Dr. Mortensen, Holly M. (85%) Dr. Euling, Susan Y. (15%) NHEERL
S12TF0095	(1) Estimation of in-canopy ammonia sources and sinks in a fertilizer Zea mays field (2) Estimation of NH3 bi-directional flux from managed agricultural soils	Dr. Bash, Jesse O. (34%) Dr. Cooter, Ellen J. (25%) Dr. Walker, John T. (23%) NHEERL
S12TF0096	Fullerene C60: Surface Energy and Interfacial Interactions in Aqueous Systems	Dr. Ma, Xin (70%) Dr. Bouchard, Dermont (20%) NHEERL

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 36		
Nom.	Titles and Citations of Submitted Papers	EPA Authors and Nominating Organization
S12TF0100	(1) Linking Air Quality and Watershed Models for Environmental Assessments: Analysis of the Effects of Model Specific Precipitation Estimates on Calculated Water Flux (2) Simulated Watershed Mercury and Nitrate Flux Response to Multiple Land Cover Conversion Scenarios	Dr. Golden, Heather E. (40%) Dr. Knightes, Christopher D. (30%) Dr. Cooter, Ellen J. (10%) Dr. Dennis, Robin L. (10%) Mr. Gilliam, Robert C. (5%) Dr. Foley, Kristen R. (5%) NRMRL
S12TF0105	A Framework for Evaluating Regional-Scale Numerical Photochemical Modeling Systems	Mr. Schere, Kenneth (10%) Dr. Rao, S. Trivikrama (10%) Dr. Dennis, Robin (8%) Mr. Fox, Tyler (8%) Dr. Gilliland, Alice (8%) Dr. Scheffe, Richard (8%) NHEERL
S12TF0108	(1) Transport and Retention of TiO ₂ Rutile Nanoparticles in Saturated Porous Media under Low-Ionic-Strength Conditions: Measurements and Mechanisms (2) Effects of Material Properties on Sedimentation and Aggregation of Titanium Dioxide Nanoparticles of Anatase and Rutile in the Aqueous Phase	Dr. Su, Chunming (50%) NERL
S12TF0109	Fenton-like initiation of a toluene transformation mechanism	Dr. Huling, Scott G. (60%) NHEERL

Key to Acronyms used in the above Tables

NCCT – Office of Research and Development (ORD) National Center for Computational Toxicology

NCEA – ORD National Center for Environmental Assessment

NERL – ORD National Exposure Research Laboratory

NHEERL – ORD National Health and Environmental Effects Laboratory

NHSRC – ORD National Homeland Security Research Center

NRMRL - ORD National Risk Management Research Laboratory

NVFEL - OAR's National Vehicle and Fuel Emissions Laboratory

OAQPS – Office of Air Quality Planning & Standards

OAR - Office of Air and Radiation

OTAQ – Office of Transportation and Air Quality