



United States
Environmental
Protection Agency

EPA Science Advisory
Board (1400F)
Washington DC

EPA-SAB-04-006
April 2004
www.epa.gov/sab

RECOMMENDATIONS ON THE FY2003 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS (STAA) NOMINATIONS

**A REPORT BY
THE SCIENTIFIC AND TECHNOLOGICAL
ACHIEVEMENT AWARDS PANEL OF THE
EPA SCIENCE ADVISORY BOARD**

April 7, 2004

EPA-SAB-04-006

The Honorable Michael O. Leavitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: Recommendations for the FY2003 Scientific and Technological Achievement Awards (STAA): A Report by the Scientific and Technological Achievement Awards Panel of the EPA Science Advisory Board

Dear Administrator Leavitt:

The EPA Science Advisory Board's Scientific and Technological Achievement Awards Panel has completed its review of the nominations submitted by the Agency for the FY2003 awards program. The Panel conducted its review in closed session on August 5-7, 2003 in Washington, DC. The results of the Panel's efforts were administratively reviewed and approved by the Board.

The Scientific and Technological Achievement Awards program is a long-standing partnership between the Agency and the Board. The program was established to encourage Agency scientists and engineers to publish their research in the peer-reviewed literature. Because sound science provides a basis for sound decisions, peer reviewed publication of Agency science has always been important. However, it is even more critical now that the Office of Management and Budget has issued government-wide guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by Federal agencies.

Since 1980, Agency scientists and engineers have submitted nominated scientific and technological papers through an internal review process managed by the Office of Research and Development. The SAB convenes a panel of scientists and engineers to review and evaluate the nominations producing a set of award recommendations which ORD uses in preparing the actual awards. The Panel's recommendations for awards and further improvements in the STAA program are summarized briefly here and discussed in the enclosed report.

The Agency solicited nominations in eleven categories this year: Control Systems & Technology, Ecological Research, Health Effects & Human Health Risk Assessment, Monitoring & Measurement Methods, Transport & Fate, Review Articles, Risk Management and Ecosystem Restoration, Integrated Risk Management, Social Sciences, Integrated Risk Assessment and Environmental Futures. Of the 136 papers forwarded for review, the Panel recommends 54 papers for a cash award and identifies an additional 33 deserving Honorable Mention.

The recommended awards fall in nine of the eleven categories for which nominations were submitted. The authors of papers recommended for awards this year represent the Office of Prevention, Pesticides and Toxic Substances, Region 6, and 15 research facilities and centers within the Office of Research and Development.

Returning to the purpose of the program, the Panel is pleased that ORD has a vigorous tradition of publication of research results in peer reviewed journals. The Panel would like to see this practice adopted more broadly at EPA. EPA regional and program offices are forwarding relatively few published papers for consideration for STAA awards. Publication in peer-reviewed journals provides readers with confidence in the rigor of the science and enhances the reputation of the Agency and its programs. Therefore, EPA should encourage regional and program office scientists and engineers to publish relevant data and technical analysis in the peer reviewed literature. The Panel strongly recommends that ORD continue to reach out to Agency scientists and engineers across the Agency and encourage their participation in the STAA program.

Recognition of the authors of the award-winning papers is important to encourage others to emulate that behavior. Therefore, the Panel was pleased to see authors of award-winning papers honored at last year's Science Forum. The Panel encourages some form of recognition for the non-EPA co-authors of papers receiving awards.

As it approaches the 25 year mark, the STAA program remains an important mechanism for recognizing and promoting high quality, peer-reviewed work published in top scientific and technological journals. In 2004, the Panel would like to work with the Agency to gather information about the history of the program, reflect upon its strengths and weaknesses, and consider whether some celebration of its achievements might be warranted at the quarter-century mark in 2005.

We are pleased to have participated in this process once again and believe it is appropriate for the Board to continue this annual review function. We look forward to serving the Agency again in this important activity.

Sincerely,

/Signed/

Dr. William Glaze, Chair
EPA Science Advisory Board

/Signed/

Dr. Deborah Cory-Slechta, Chair
Scientific and Technological Achievement
Awards Panel (FY2003-2005)
EPA Science Advisory Board

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 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 SAB are posted on the EPA website at <http://www.epa.gov/sab>.

ABSTRACT

This report represents the conclusions and recommendations of the U.S. Environmental Protection Agency's Science Advisory Board regarding the FY2003 EPA Scientific and Technological Achievement Awards (STAA) Program. The STAA Program is an Agency-wide competition to promote and recognize scientific and technological achievements by EPA employees, fostering a greater exposure of EPA research to the public. The Program was initiated in 1980 and is managed by the Office of Research and Development (ORD).

The Agency submitted for review 136 nominations in eleven categories this year. The categories are: Control Systems & Technology (CS), Ecological Research (ER), Health Effects & Human Health Risk Assessment (HE), Monitoring & Measurement Methods (MM), Transport & Fate (TF), Review Articles (RA), Risk Management and Ecosystem Restoration (RM), Integrated Risk Management (IR), Social Sciences (SS), Integrated Risk Assessment (IR) and Environmental Futures (EF). Of these, the Panel recommended 54 nominations (40 percent of the nominations) for awards, and also identified an additional 33 nominations worthy of Honorable Mention. The authors of papers recommended for awards this year represent the Office of Prevention, Pesticides and Toxic Substances, Region 6, and 15 research facilities and centers within the Office of Research and Development.

The Panel encouraged the Agency to continue support for the STAA program as a mechanism for recognizing and promoting high quality research in support of the Agency's mission. The Panel also strongly encouraged that EPA broadly acknowledge and disseminate the results of the award competition.

KEY WORDS: Awards, Technology, Scientific Achievements, Peer-Review

**U.S. Environmental Protection Agency
Science Advisory Board
Executive Committee
Scientific and Technological Achievement Awards Review Panel
FY2003-2005***

CHAIR

Dr. Deborah Cory-Slechta, Environmental and Occupational Health Sciences Institute, Piscataway, NJ

Also Member: SAB Environmental Health Committee

MEMBERS

Dr. Timothy Buckley, Johns Hopkins University, Baltimore, MD

Member: SAB Integrated Human Exposure Committee

Dr. Calvin Chien, E. I. DuPont Company, Wilmington, DE

Dr. Richard O. Gilbert, Battelle Memorial Institute, Rockville, MD

Dr. Guy Lanza, University of Massachusetts, Amherst, MA

Dr. Joseph Landolph, University of Southern California, Los Angeles, CA

Member: SAB Drinking Water Committee

Dr. John P. Maney, Environmental Measurements Assessment, Gloucester, MA

Dr. Michael C. Newman, College of William & Mary, Gloucester Point, VA

Member: SAB Ecological Processes and Effects Committee

Dr. Frederick G. Pohland, University of Pittsburgh, Pittsburgh, PA (deceased)

Dr. Gary Toranzos, University of Puerto Rico, San Juan, Puerto Rico

Member: SAB Drinking Water Committee**

SCIENCE ADVISORY BOARD STAFF

Ms. Kathleen White, Science Advisory Board (1400F), U.S. EPA, 1200 Pennsylvania Avenue, NW, Washington, DC 20460

* Members of this SAB Panel consist of:

- a. SAB Members: Experts appointed by the Administrator to serve on one of the SAB Standing Committees.
- b. SAB Consultants: Experts appointed by the SAB Staff Director to serve on *ad hoc* Panels formed to address a particular issue.

** Unable to attend meeting.

*** Dr. Pohland passed away in early 2004. He was a long-serving member of the Science Advisory Board who contributed to many reviews and will be greatly missed.

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	2
2.1 Request for EPA Science Advisory Board (SAB) Review	2
2.2 Panel Review Procedures	3
2.2.1 Request for Review and Acceptance	3
2.2.2 Panel Formation	3
2.2.3 Panel Process and Review Documents	3
2.3 Review and Transmittal	4
3. EVALUATION OF THE FY2003 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS NOMINATIONS	6
3.1 General Findings of the Panel	6
3.2 STAA Program Administrative Recommendations	6
3.3 Award Recommendations	7
3.3.1 Level I Awards	8
3.3.2 Level II Awards	8
3.3.3 Level III Awards	8
3.3.4 Honorable Mention	8

Appendix A - Nominations Recommended for Awards

Appendix B - Biosketches

TABLES

Table I - Example of how Initial Individual Reviewer Rankings are Compiled	4
Table II - Comparison of Level I & II Awards over Time	6
Table III - Summary of 2003 Award Recommendations	9

1. EXECUTIVE SUMMARY

The Scientific and Technological Achievement Awards (STAA) Panel of the EPA Science Advisory Board (SAB) reviewed and evaluated the 136 nominations for the FY2003 program that were submitted by EPA research laboratory directors and program office directors. The Panel met in Washington, DC, on August 5-7, 2003, to determine award recommendations.

The STAA review program is a long-standing partnership between the Agency and the EPA Science Advisory Board. Each year since 1980, Agency scientists and engineers have submitted nominated scientific and technological papers through an internal Agency review process managed by the Office of Research and Development (ORD). (Note: The Agency did not conduct the STAA Program during 1995 when there was a government-wide shutdown.) This review process ensures that the best scientific papers are submitted to the SAB for evaluation in the awards process. The SAB convenes an experienced interdisciplinary group of scientists and engineers who meet in a closed meeting to review and evaluate the nominations. The SAB review panel produces a set of award recommendations which ORD uses in preparing the actual awards.

This year, the Panel recommended 54 nominations for awards and identified 33 additional nominations worthy of Honorable Mention. The Panel applied the evaluation criteria evenly across all nomination categories, without attempting to ensure equal numbers or percentages of awards in each category. The authors of papers recommended for awards this year represent the Office of Prevention, Pesticides and Toxic Substances, Region 6, and 15 research facilities and centers within the Office of Research and Development.

The Panel strongly believes that recognition of the authors of the award-winning papers is important to encourage others to emulate that behavior and to establish this as normative. Similarly, publicity about the STAA program encourages people to participate and makes the general public more aware of the quality and depth of EPA science. The Panel was pleased to see authors of award-winning papers honored at last year's Science Forum and encourages further activities of this type. While recognizing that there are limitations on what the Agency can do for those scientists and engineers who are not employees, the Panel would also like to see some form of recognition for the non-EPA co-authors of papers receiving awards.

The Panel recommends that continued attention be paid to providing opportunities for EPA's scientists, engineers, and other technical personnel to conduct challenging, soundly based research and publish the results in peer-reviewed journals. This practice improves the credibility of the science underpinning Agency decisions on important scientific issues of specific importance to EPA.

The STAA program began in 1980 and is approaching its silver anniversary. The need to recognize, promote, and reward the publication of science in peer-reviewed journals is even more acute. In 2004, the Panel would like to work with the Agency to gather information about the history of the program, reflect upon its strengths and weaknesses, and consider whether some celebration of its achievements might be warranted at the quarter-century mark in 2005.

2. INTRODUCTION

2.1 Request for EPA Science Advisory Board (SAB) Review

At the request of the EPA Office of Research and Development (ORD), the EPA Science Advisory Board convened a Panel to review and evaluate scientific and technological papers published in peer-reviewed journals by EPA authors and nominated for the FY2003 EPA Scientific and Technological Achievement Awards (STAA) program. The STAA Panel was asked to evaluate nominated papers for awards based on the rules developed by ORD. The Office of Research and Development (ORD) provided the SAB with copies of 136 nominations. The Panel used the 2002 STAA Nomination Procedures and Guidelines, which describes the award levels, eligibility criteria (including the minimum EPA contribution and employer status of the principal author), and the criteria the SAB should use to evaluate the nominations. ORD grouped the papers into eleven categories of science and technology¹, and screened the papers for conformance with the nomination guidelines.

As described in the 2002 STAA Nomination Procedures and Guidelines, the SAB was asked to recommend papers for each of three Levels of Award.

- a) 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 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.
- b) 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.
- c) 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.
- d) Honorable Mention - The Panel has also added 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

¹The eleven categories are: Control Systems & Technology (CS), Ecological Research (ER), Health Effects & Human Health Risk Assessment (HE), Monitoring & Measurement Methods (MM), Transport & Fate (TF), Review Articles (RA), Risk Management and Ecosystem Restoration (RM), Social Sciences (SS), Integrated Risk Management (IR), Social Sciences (SS), and Environmental Futures (EF).

the level described for a Level III award; (2) show a promising area of research that the Panel wants to encourage; or (3) show an area of research that the Panels feels is too preliminary to warrant an award recommendation at this time.

2.2 Panel Review Procedures

2.2.1 Request for Review and Acceptance

In June 2002, the Office of Research and Development requested that the Science Advisory Board review nominations for the ORD Scientific and Technological Achievement Awards (STAA) in 2003. After considering all requests for 2003, the Executive Committee of the Science Advisory Board determined that the review should be conducted by a specialized panel. The Director of the Science Advisory Board Staff Office, in consultation with the Chairman of the Science Advisory Board, selected Environmental Health Committee member Dr. Deborah Cory-Slechta, then of the University of Rochester and currently Director of the Environmental and Occupational Health Sciences Institute of the Robert Wood Johnson Medical School and University of Medicine and Dentistry of New Jersey and the Rutgers State University, as chair.

2.2.2 Panel Formation

The panel was formed in accordance with the principles set out in the 2002 commentary of the Science Advisory Board, *Panel Formation Process: Immediate Steps to Improve Policies and Procedures* (EPA-SAB-EC-COM-02-003). A notice offering the public the opportunity to nominate qualified individuals for service on the panel was published in the Federal Register on December 27, 2002 (67 FR 79079-79081). Thirty-one individuals were considered for membership on the panel. On the basis of candidates' qualifications, interest, and availability, the SAB Staff Office made the decision to put 21 candidates on the "short list" for the panel. On April 2, 2003, the SAB Staff Office posted a notice on the SAB Web site inviting public comments on the prospective candidates for the panel.

The SAB Staff Office Director — in consultation with SAB Staff (including the Designated Federal Officer (DFO) and the Acting SAB Ethics Advisor) and the Chair of the Executive Committee — selected the final panel. Selection criteria included: excellent qualifications in terms of scientific and technical expertise; the need to maintain a balance with respect to qualifying expertise, background and perspectives; willingness to serve and availability to meet during the proposed time periods; and the candidates prior involvement with the topic under consideration. The final panel includes members of the Drinking Water Committee, Ecological Processes and Effects Committee, Environmental Health Committee, Integrated Human Exposure Committee, and former members of the Environmental Engineering Committee as well as experienced SAB consultants familiar with the Agency. For the sake of continuity, the Panel includes returning STAA panelists. In addition, many panelists hold editorial positions on highly regarded scientific journals. Appendix B contains biosketches for the Panel.

2.2.3 Panel Process and Review Documents

Copies of all nominations/papers and the award program guidelines and nomination evaluation criteria were provided to the Panel in advance of the review meeting. Each panelist selected dozens to review based on their expertise, being sure to select appropriate papers from

different categories. Before the meeting, each nomination was reviewed by at least two qualified panelists.

The Panel met on August 5-7, 2003, in Washington, DC. This was a closed session because issues concerning personal privacy and potential cash awards were discussed. Consistent with the requirements of the Federal Advisory Committee Act (Public Law 92-463) 5 U.S.C. App.2, and sections 552(b)(2) and (b)(6) of the Administrative Procedure Act, 5 U.S.C. 552(b)(2) and 552(b)(6), this closed meeting was announced in a Federal Register² notice signed by the EPA Administrator. All but one panelist were present at the meeting. The Panel decided not to include the initial input of the missing panelist as he was unable to participate in subsequent discussions and deliberations; thus it would be difficult to know what weight to give his initial reactions to the nominations.

Panelists provided their individual initial ratings of the papers and ranked their own expertise in the field of science and technology addressed by each nomination they selected for review. The DFO organized this material as indicated in Table I, which uses illustrative examples and not actual nominations. The table helped the Panel focus its discussion on each individual nomination. Initial individual rankings were subject to change based on discussions at the review and evaluation meeting.

Through discussion, the Panel developed preliminary consensus ratings for the nominations, then reviewed those thought to be award-worthy a second time with additional readers and, in most cases, a third time, to ensure that a complete evaluation had been made and that the appropriate award level was recommended. All papers considered for a Level I award were read by the nine panelists present. These papers were discussed repeatedly. Nominations that were initially not recommended for an award were also re-considered to determine if the nomination might merit either an Honorable Mention or numerical award. The Panel also revisited the recommendations category by category to resolve any final issues and ensure consistency in applying the award criteria across categories.

The final ranking agreed to at that meeting is a consensus ranking. All nominations receiving a recommendation for a Level I, II or III award or an Honorable Mention are listed in Appendix A.

2.3 Review and Transmittal

The Board approved the Panel's report April 20, 2004 and transmitted the report to the Agency. For that review, the Panel report, less the actual award recommendations (Appendix A), was made available to the EC and the interested public.

² 68 Federal Register 40932, July 9, 2003.

Table I - Example of how Initial Individual Reviewer Rankings are Compiled
(Data for illustration purposes only)

Nomination Number	Title of Nomination	Reviewer			Final Panel Ranking (at meeting)
		Name	Expertise *	Initial Individual Ranking	
HE0019	Health Assessment: Trinitrochicken wire	Dr. Smith	2	NR	NR
		Dr. Jones	3	III	
		Dr. Adams	4	NR	
ER0122	Ecological Impacts of Trinitrochicken wire	Dr. Smith	4	HM	III
		Dr. Jones	3	III	
		Dr. Adams	2	NR	
		Dr. Williams	3	III	
RA0098	Trinitrochicken wire - A Review	Dr. Black	3	I	I
		Dr. Green	4	I	
		Dr. Jackson	2	II	
		Dr. White	1	III	

* Expertise levels are rated as follows: 1 = not related to major discipline of reviewer; 2 = general knowledge of research area; 3 = general knowledge of active research; and 4 = specific area of active research. NR = Not Recommended for an award; HM = Honorable Mention; I, II, III = Award Levels

3. EVALUATION OF THE FY2003 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS NOMINATIONS

3.1 General Findings of the Panel

The Panel is happy to report an increase from four to seven awards in Level I and an increase in Level II awards from 7 to 18. Table II summarizes the Level I and Level II awards by year since 1996.

Table II - Comparison of Level I & II Awards over Time

Award Level	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2003*
Level I	4	3	1	0	2	4	7
Level II	16	11	7	5	11	7	18
Total Level I & II	20	14	8	5	13	11	25

*The apparent lack of FY2002 reflects a change in naming conventions, not a skipped year. Starting in FY2003 the review was identified by the year of the review.

3.2 STAA Program Administrative Recommendations

The Panel commends the staff of ORD for administering the STAA program. The staff has made significant improvements in the program and the nomination packages that have facilitated the Panel's review procedures. To provide information to assist the Panel in its review, the Panel recommends that the following phrase be added to the evaluation criteria and section 3A on the form, "compliance with the Agency's Quality System for QA/QC and rigor of experimental design".

The Panel recommends that ORD management continue to solicit participation of scientists and engineers from across the Agency. ORD should continue to request the submission of nominations early and advertise the program aggressively so that Regional and Program offices have adequate time to prepare their nominations. The limited number of nominations from outside of ORD is disappointing. While most of the in-house research is conducted by ORD scientists in ORD laboratories, important work is also performed in the program and regional offices so the submission process needs to encourage submissions from outside of ORD as well.

The Panel again strongly urges the Agency to publicize the names of the award winning scientists and engineers and their papers both within the Agency and outside the Agency in a variety of ways. For example, the Agency should announce these winners by placing the title and abstract of their papers, along with the source of the paper, on the Agency's Website. The Agency should also develop press releases or letters from the Administrator that are targeted toward the journal that published the articles, professional society newsletters, and local newspapers in the vicinity of the scientist/engineer's research facility.

The need for Agency scientists and engineers to publish in the peer reviewed literature may be more important now than ever before. The SAB has always encouraged Agency scientists and engineers to publish their studies in the peer reviewed journals because it is

accepted professional practice. It is a practice that enhances respect for Agency science in the wider community thereby increasing the confidence of the scientific and regulated communities in Agency decisions which rely on scientific findings. All that remains true. An additional factor makes the publication of Agency science in peer-reviewed journals even more important. The Office of Management and Budget has issued government-wide guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by Federal agencies. These guidelines contain a presumption favoring peer-reviewed information and explicitly identify the review process used by scientific journals as an example of acceptable formal, independent, external peer review.

The STAA program began in 1980 and is approaching its 25th year of operation. The Panel believes that the STAA program remains an important mechanism for recognizing and promoting high quality, peer-reviewed work published in top scientific and technological journals. Therefore, in 2004, the Panel would like to work with the Agency to gather information about the history of the program, reflect upon its strengths and weaknesses, and consider whether some celebration of its achievements might be warranted at the quarter-century mark in 2005.

3.3 Award Recommendations

The authors of papers recommended for awards this year represent the Office of Prevention, Pesticides and Toxic Substances, Region 6, and 15 research facilities and centers within the Office of Research and Development. See the detailed breakout of authors in Appendix A for further clarification.

Awards were recommended in nine of the eleven categories for which nominations were submitted. A total of 54 nominations were recommended for awards. A summary of the distribution of award recommendations among categories is presented in Table III. There were 136. Of those submitted, 87 were recommended for an award (54) or honorable mention (33).

TABLE III - Summary of FY2003 Award Recommendations

Nomination Categories	Total Nom.	Award Levels				Award %	Hon. Men.
		I	II	III	Tot		
Control Systems & Technology (CS)	8	0	2	1	3	38	4
Ecology, Ecosystem Risk Assessment & Protection (ER)	23	1	3	7	11	48	4
Health Effects, Health Risk Assessment (HE)	11	1	0	2	3	27	4
Monitoring & Measurement Methods (MM)	23	0	4	5	9	39	4
Transport and Fate (TF)	21	2	1	7	10	48	6
Review Articles (RA)	31	3	6	5	14	45	4
Risk Management & Policy Formulation (RM)	3	0	0	1	1	33	0
Social Sciences (SS)	1	0	0	0	0	0	0
Integrated Risk Assessment (IR)	12	0	2	1	3	25	5
Environmental Futures (EF)	3	0	0	0	0	0	2
TOTALS:	136	7	18	29	54	40	33

There were no re-categorized or combined nominations identified this year. The full list of award recommendations is contained in Appendix A. Eligible authors are noted in boldface in Appendix A.

3.3.1 Level I Awards

Seven Level I awards were recommended this year. Please see Appendix A for details.

3.3.2 Level II Awards

Eighteen Level II awards were recommended. Please see Appendix A for details.

3.3.3 Level III Awards

Twenty-nine Level III awards were recommended. Please see Appendix A for details.

3.3.4 Honorable Mention

Thirty-three nominations were judged as being worthy of an Honorable Mention. Please see Appendix A for details.

Appendix A - Nominations Recommended for Awards

This Appendix identifies the 54 nominations recommended for Level I, II, and III awards and the 33 nominations recommended for an Honorable Mention. This Appendix is divided into four parts. The first part provides information on the Level I award recommendations, the second on the Level II award recommendations, the third part on the Level III award recommendations, and the fourth part on the Honorable Mention recommendations.

The first column (**Nom. #**) gives the nomination number as provided by EPA in the original submission. The second column (**Titles and Citations of Submitted Papers**) provides the full title and citation of all papers submitted as part of a given nomination. The third column (**Authors and Nominating Organization**) provides the name(s) of the EPA eligible authors along with their level of effort (percentage) on the nomination. The primary nominating organization is also listed. The fourth column (**Recommended Award Level**) indicates which award is recommended (Level I, II, or III or Honorable Mention). The last column (**Suggested Citation from Nominating Organization**) reflects the language of the citation that was provided to the Panel by the Agency. These are not Panel citations.

**Appendix A -
FY2003 Scientific and Technological Achievement Awards (STAA)
Nominations Recommended for Awards**

FY2003 Scientific and Technological Achievement Awards (STAA) Nominations				
Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
Nominations Recommended for a Level I Award (\$5000)--				
S3ER00 16	<i>A Methodology for Inferring the Causes of Observed Impairments in Aquatic Ecosystems. Environmental Toxicology and Chemistry, 21(6):1101-1111 (2002)</i>	Dr. Glenn W. Suter II (34%) Dr. Susan Braen Norton (33%) Dr. Susan Cormier (33%) NCEA, Cincinnati, OH	LEVEL I	<i>Developing a Novel, Useful, and Defensible Method for Determining the Causes of Impairments in Ecosystems</i>
S3HE00 34	<i>DNA Damage Induced by Methylated Trivalent Arsenicals is Mediated by Reactive Oxygen Species. 15(12):1627-1634 (2002)</i>	Dr. Stephen Nesnow (32%) Dr. Barbara Roop (32%) Dr. Guy Lambert (32%) Dr. Marc J. Mass (0%) NHEERL, Research Triangle Park, NC	LEVEL I	<i>Outstanding Contributions to the Further Understanding of the Mode of Carcinogenic Action of Arsenic as a Water Contaminant</i>
S3RA00 83	<i>Hepatic and Renal Toxicities Associated with Perchloroethylene. Pharmacological Reviews, 53(2):177-208 (2001)</i>	Dr. Jean C. Parker (50%) NCEA, Washington, DC	LEVEL I	<i>Evaluation of Metabolism and Organ Toxicity Data to Inform Characterization of Risk from Exposure to Perchloroethylene</i>

S3RA00 95	a) <i>Fate of Fluorosilicate Drinking Water Additives. Chemical Reviews, 102(8):2837-2854 (2002)</i> b) <i>The Fate of the Haloacetates in Drinking Water: Chemical Kinetics in Aqueous Solution. Chemical Reviews, 101(11):3233-3243 (2001)</i> c) <i>Perchlorate as an Environmental Contaminant. Environmental Science and Pollution Research, 9(3):187-192 (2002)</i>	Dr. Edward Todd Urbansky (100%) NRMRL, Cincinnati, OH	LEVEL I	<i>Insightful Reviews that Authoritatively Summarize the State of Knowledge of Drinking Water Contaminants</i>
S3RA01 01	<i>Analytical Mass Spectrometry: Strategies for Environmental and Related Applications. Book and Book Chapter, (vii-xi and 1-38): (2001)</i>	Dr. William L. Budde (100%) NERL, Cincinnati, OH	LEVEL I	<i>A Book that Critically Reviews Every Aspect of the Application of Mass Spectrometry to Environmental Analysis</i>
S3TF006 7	a) <i>Mixing Models in Analyses of Diet Using Multiple Stable Isotopes: A Critique. Oecologia, 127:166-170 (2001)</i>	Dr. Donald L. Phillips (80%) Dr. Jillian W. Gregg (10%) NHEERL, Corvallis, OR	LEVEL I	<i>Developing Modeling Methods to Improve the Usefulness of Stable Isotopes as Environmental Tracers</i>
S3TF008 1	<i>Biogenic Volatile Organic Compound Emissions from a Lowland Tropical Wet Forest in Costa Rica. Atmospheric Environment, 36(23):3793-3802 (2002)</i>	Dr. Christopher D. Geron (70%) NRMRL, Research Triangle Park, NC	LEVEL I	<i>Discovery of the Effects of Volatile Organic Compounds from Central American Rain Forests on Atmospheric Composition and Chemistry</i>

<p align="center">Nominations Recommended for a Level II Award (\$2500) -- Total of Eighteen</p>				
S3CS00 05	<i>a) Attenuation of Methyl Tert-Butyl Ether in Water Using Sunlight and a Photocatalyst. Environmental Research, 74(2):122-130 (2002)</i>	<i>Dr. E. Sahle-Demessie (50%) Dr. Teri Richardson (10%) Dr. Julius Enriquez (20%)</i>	LEVEL II	<i>Successful Development of Advanced Oxidation and Stripping Technologies for the Treatment of MTBE-Contaminated Waters that are Effective and Economical</i>
		<i>NRMRL, Cincinnati, OH</i>		
S3CS00 06	<i>Engineering and Economic Evaluation of Gas Recovery and Utilization Technologies at Selected U.S. Mines. Environmental Science and Policy, 5(5):397-409 (2002)</i>	<i>Dr. David A. Kirchgessner (70%)</i>	LEVEL II	<i>Quantifying the Engineering and Economic Factors Involved in Mitigating Methane Emissions from Coal Mines</i>
		<i>NRMRL, Research Triangle Park, NC</i>		
S3ER00 29	<i>Resource-Based Niches Provide a Basis for Plant Species Diversity and Dominance in Arctic Tundra. Nature, 415(3):68-71 (2002)</i>	<i>Dr. Robert B. McKane (70%)</i>	LEVEL II	<i>Research on Resource Partitioning in Plant Communities</i>
		<i>NHEERL, Corvallis, OR</i>		
S3ER00 30	<i>Metal-Colloid Partitioning in Artificial Interstitial Waters of Marine Sediments: Influences of Salinity, pH, and Colloidal Organic Carbon Concentration. Environmental Toxicology and Chemistry, 20(11):2420-2427 (2001)</i>	<i>Dr. Mark Cantwell (60%) Dr. Robert M. Burgess (40%)</i>	LEVEL II	<i>Determining the Metal-Colloid Partitioning Coefficients of Five Heavy Metals in the Interstitial Waters of Marine Sediments</i>
		<i>NHEERL, Narragansett, OR</i>		
S3ER00 31	<i>Testing the Floristic Quality Assessment Index as an Indicator of Wetland Condition. Ecological Applications, 12(2):487-497 (2002)</i>	<i>Dr. Ricardo D. Lopez (75%)</i>	LEVEL II	<i>Testing and Developing a Floristic Index for Use as a Landscape-Scale Indicator of Wetland Integrity</i>
		<i>NERL, Las Vegas, NV</i>		
S3IR011 8	<i>Use of Mechanism-Based Structure-Activity Relationships Analysis in Carcinogenic Potential Ranking of Drinking Water Disinfection Byproducts. Environmental Health Perspectives, 110(1):75-87 (2002)</i>	<i>Dr. Yin-tak Woo (20%) Dr. David Y. Lai (20%) Dr. Jennifer McLain (20%) Dr. Mary Manibusan (20%) Dr. Vicki Dellarco (20%)</i>	LEVEL II	<i>Delineating the Scientific Basis for Ranking the Carcinogenic Potential of Drinking Water Disinfection Byproducts</i>
		<i>OPPT, Washington, DC</i>		

S3IR012 3	a) <i>Evaluation of the Efficacy of Extrapolation Population Modeling to Predict the Dynamics of 'Americamysis bahia' Populations in the Laboratory. Environmental Toxicology and Chemistry, 20(1):213-221 (2000)</i>	Dr. Anne Kuhn (35%) Dr. Wayne R. Munns, Jr. (25%) Dr. Denise M. Champlin (10%) Dr. Richard A. McKinney (5%) Dr. Mark D. Tagliabue (5%) Dr. Jonathan R. Serbst (5%) Dr. Timothy R. Gleason (5%) Dr. Suzanne M. Lussier (5%) NHEERL, Narragansett, RI	LEVEL II	Contributing to EPA's Goal of Reducing Uncertainty in Risk Assessment Through Research on Evaluating Population Models for Extrapolating Ecological Response from Laboratory Bioassays
S3MM00 41	a) <i>Passive Ozone Network of Dallas: A Modeling Opportunity with Community Involvement. 1. Environmental Science and Technology, 35(5):845-855 (2001)</i>	Dr. Mark E. Sather (35%) Dr. Jerry L. Varns (35%) Dr. James D. Mulik (25%) Dallas, TX	LEVEL II	Using Community Involvement to Conduct a High Quality Passive Ozone Monitoring Program
S3MM00 45	<i>Speciation of Gas-Phase and Fine Particle Emissions from Burning of Foliar Fuels. Journal of Environmental Science & Technology, 36(11):2281-2295 (2002)</i>	Dr. Michael D. Hays (50%) Dr. Christopher D. Geron (20%) Dr. Kara J. Linna (7%) Dr. N. Dean Smith (20%) NRMRL, Research Triangle Park, NC	LEVEL II	Providing Exceptional Chemical Definition of Emissions from a Major Area Source of Fine Particulate Matter in the Atmosphere
S3MM00 56	<i>Development and Characterization of an Annular Denuder Methodology for the Measurement of Divalent Inorganic Reactive Gaseous Mercury in Ambient Air. Environmental Science & Technology, 36(13):3000-3009 (2002)</i>	Dr. Matthew S. Landis (80%) NERL, Research Triangle Park, NC	LEVEL II	Contributions to the State of Science in Atmospheric Mercury Speciation Measurement and Characterization

S3MM00 61	a) <i>Provenance of Geogenic Arsenic in the Goose River Basin, Maine, USA. Environmental Geology, 41:62-73 (2001)</i>	Dr. William C. Sidle (85%) NRMRL, Cincinnati, OH	LEVEL II	<i>New Methods to Identify High Risk Areas for Arsenic in Groundwater: Application of Naturally-Occurring Oxygen and Sulfur Isotopes</i>
S3RA00 82	<i>Issues and Practices in the Derivation and Use of Species Sensitivity Distributions. Species Sensitivity Distributions in Ecotoxicology, NA(21):437-474 (2002)</i>	Dr. Glenn W. Suter II (70%) NCEA, Cincinnati, OH	LEVEL II	<i>A Critical Review of Species Sensitivity Distributions that Provides a Basis for Their Use in Environmental Assessment and Regulation</i>
S3RA00 92	a) <i>Evaluation of Child/Adult Pharmacokinetic Differences from a Database Derived from the Therapeutic Drug Literature. Toxicological Sciences, 66:185-200 (2002)</i>	Dr. Babasaheb Sonawane (50%) NCEA, Washington, DC	LEVEL II	<i>Analysis and Critical Review of Literature on Pharmacokinetic Differences in Children/Adults and Their Implications for Risk Assessment of Environmental Agents</i>
S3RA00 93	<i>Non-Carcinogenic Effects of TCDD in Animals. Food Additives and Contaminants, 17(4):275-288 (2000)</i>	Dr. Linda S. Birnbaum (90%) NHEERL, Research Triangle Park, NC	LEVEL II	<i>Research on the Health Effects of Dioxins</i>
S3RA00 94	<i>Microbial Source Tracking: State of the Science. Environmental Science & Technology, 36(24):5279-5288 (2002)</i>	Dr. Joyce M. Simpson (40%) Dr. Jorge W. Santo Domingo (40%) Dr. Donald J. Reasoner (20%) NRMRL, Cincinnati, OH	LEVEL II	<i>Technical Information Impacting Attainment of Clean Water Act Microbial Water Quality Goals (TMDLs)</i>
S3RA00 97	<i>Clay and Clay-Supported Reagents in Organic Synthesis. Tetrahedron, 58(7):1235-1255 (2002)</i>	Dr. Rajender S. Varma (100%) NRMRL, Cincinnati, OH	LEVEL II	<i>Exceptional Technical Achievement in Highlighting the Use of Benign Mineral-Based Reagents in Chemical Syntheses</i>

S3RA01 02	<i>Monitoring of Particulate Matter Outdoors. Chemosphere, 49(9):1009-1043 (2002)</i>	<i>Dr. William E. Wilson (70%) NCEA, Research Triangle Park, NC</i>	LEVEL II	<i>A Review Paper that will Assist in Moving from TSP Measurements to Fine and Coarse PM Measurements</i>
S3TF007 2	<i>a) Sediment-Associated Reactions of Aromatic Amines. 1. Elucidation of Sorption Mechanisms. Environmental Science & Technology, 35(12):2470-2475 (2001)</i>	<i>Dr. Eric J. Weber (45%) Dr. Dalizza Colon (45%) NERL, Athens, GA</i>	LEVEL II	<i>Identifying, and Developing Predictive Tools to Describe, Reaction Pathways of Aromatic Amines in Sediments</i>

<p align="center">Nominations Recommended for a Level III Award (\$1000) -- Total of Twenty-Nine</p>				
S3CS00 03	<i>California's First Aeration Plants for Corrosion Control. Journal of the American Water Works Association, 94(3):88-100 (2002)</i>	<i>Dr. Michael R. Schock (80%) NRMRL, Cincinnati, OH</i>	LEVEL III	<i>Simultaneous Corrosion Control and Radon Removal Optimization from Drinking Water by an Innovative Application of Aeration Treatment</i>
S3ER00 09	<i>a) A Field Validation of Two Sediment-Amphipod Toxicity Tests. Environmental Toxicity and Chemistry, 21(7):1423-1437 (2002)</i>	<i>Dr. Steven P. Ferraro (25%) Dr. Robert J. Ozretich (20%) Dr. Bruce L. Boese (15%) Dr. Faith A. Cole (15%) Dr. Janet O. Lamberson (15%) NHEERL, Corvallis, OR</i>	LEVEL III	<i>Outstanding Research on the Ecotoxicology of Sediments Contaminated with Polycyclic Aromatic Hydrocarbons</i>
S3ER00 13	<i>Assessment of the Risk of Solar Ultraviolet Radiation to Amphibians. III. Prediction of Impacts in Selected Northern Midwestern Wetlands. Environmental Science and Technology, 36(13):2866-2874 (2002)</i>	<i>Dr. Stephen A. Diamond (35%) Dr. Gregory S. Peterson (15%) Dr. Joseph E. Tietge (25%) Dr. Gerald T. Ankley (25%) NHEERL, Duluth, MN</i>	LEVEL III	<i>Research Contributing Significantly to the Assessment of the Risk to Amphibians from Solar Ultraviolet Radiation</i>
S3ER00 17	<i>Determination of Apparent Quantum Yield Spectra for the Formation of Biologically Labile Photoproducts. Limnology & Oceanography, 47(2):343-352 (2002)</i>	<i>Dr. Richard G. Zepp (50%) NERL, Athens, GA</i>	LEVEL III	<i>Techniques to Assess the UV-Influenced Microbial Cycling of Organic Matter in Coastal and Estuarine Environments</i>

S3ER00 18	a) <i>Determining Probable Causes of Ecological Impairment in the Little Scioto River, OH, USA: Part 1. Listing Candidate Causes and Analyzing Evidence. Environmental Toxicology and Chemistry, 21(6):1112-1124 (2002)</i>	Dr. Susan Cormier (30%) Dr. Susan Braen Norton (30%) Dr. Glenn W. Suter II (29%) Dr. Bhagya Subramanian (7%) Dr. Edith Luan Ho Lin (2%) NERL, Cincinnati, OH	LEVEL III	<i>Demonstrating that the Probable Causes of Biological Impairments in Rivers Can be Identified</i>
S3ER00 21	<i>Effect of Water Residence Time on Annual Export and Denitrification of Nitrogen in Estuaries: A Model Analysis. Estuaries, 24(4):481-490 (2001)</i>	Dr. Edward H. Dettman (100%) NHEERL, Narragansett, RI	LEVEL III	<i>Important Contributions to the Analysis of the Sensitivity of Estuaries to Nitrogen Loading</i>
S3ER00 25	a) <i>Land Cover as a Framework for Assessing Risk of Water Pollution. Journal of the American Water Resources Association, 36(6):1417-1421 (2000)</i>	Dr. James D. Wickham (45%) Dr. Timothy G. Wade (15%) Dr. K. Bruce Jones (10%) Dr. Anne C. Neale (5%) Dr. Jonathan H. Smith (5%) Dr. Elizabeth R. Smith (5%) NERL, Research Triangle Park, NC	LEVEL III	<i>An Outstanding Research Effort in Developing the Ecological Relationships Between Land Cover and Nutrient Runoff</i>
S3ER01 32	<i>Effects of Elevated CO2 N-Fertilization and Season on Survival of Ponderosa Pine Fine Roots. Canadian Journal of Forest Research, 30(2):220-228 (2000)</i>	Dr. Mark G. Johnson (35%) Dr. Donald L. Phillips (30%) Dr. David T. Tingey (30%) NHEERL, Corvallis, OR	LEVEL III	<i>Applying Minirhizotrons to Assess the Potential for Fine Root Systems of Forest Trees to Sequester Carbon Dioxide</i>
S3HE00 36	<i>Household Stove Improvement and Risk of Lung Cancer In Xuanwei, China. Journal of the National Cancer Institute, 94(11):826-835 (2002)</i>	Dr. Robert S. Chapman (45%) Dr. Dina M. Schreinemachers (15%) NCEA, Research Triangle Park, NC	LEVEL III	<i>The First Published Article to Demonstrate the Health Benefits of Using Vented Stoves in the Developing World</i>

S3HE01 36	a) Xenoendocrine Disruptors-Tiered Screening and Testing: Filling Key Data Gaps. <i>Toxicology</i> , 181-1:371-382 (2002)	Dr. Kathy L. Bobseine (10%) Dr. Phillip C. Hartig (10%) Dr. Mary C. Cardon (10%) Dr. L. Earl Gray, Jr. (25%) Dr. Vickie S. Wilson (10%) Dr. Christy R. Lambright (10%) Dr. Gerald T. Ankley (25%) NHEERL, Research Triangle Park, NC	LEVEL III	Novel In Vitro and In Vivo Research and a Research Strategy to Improve Science and Reduce Animal Use in EPA's Endocrine Disruptors Screening Program
S3IR012 6	Strategies for Protecting and Restoring Rhode Island's Watersheds on Multiple Scales. <i>Human and Ecological Risk Assessment</i> , 7(5):1483-1491 (2001)	Dr. Suzanne M. Lussier (45%) Dr. Henry A. Walker (20%) Dr. Gerald G. Pesch (10%) Dr. Walter B. Galloway (5%) NHEERL, Narragansett, RI	LEVEL III	Illustrating Methods of Displaying and Mapping Environmental Variables at Multiple Scales for Managing Natural Resources
S3MM00 50	Indicators of UV Exposure in Corals and Their Relevance to Global Climate Change and Coral Bleaching. <i>Human and Ecological Risk Assessment</i> , 7(5):1271-1282 (2001)	Dr. Richard G. Zepp (35%) Dr. Debbie Santavy (10%) Dr. Lara Hansen (10%) NERL, Athens, GA	LEVEL III	Developing Indicators of Coral Damage and Linking Climate-Related Changes in UV Transparency to Coral Bleaching
S3MM00 53	Development of a Molecular Method to Identify Hepatitis E Virus in Water. <i>Journal of Virological Methods</i> , 101(1-2):175-188 (2002)	Dr. Ann C. Grimm (90%) Dr. Shay G. Fout (10%) NERL, Cincinnati, OH	LEVEL III	Solving the Issues of Testing Source and Finished Waters for the Presence of the Hepatitis E Virus
S3MM00 54	Hydrogen Abstraction and Decomposition of Bromopicrin and Other Trihalogenated Disinfection Byproducts by GC/MS. <i>Environmental Science & Technology</i> , 36(15):3362-3371 (2002)	Dr. Susan D. Richardson (45%) Dr. Paul H. Chen (45%) NERL, Athens, GA	LEVEL III	Advancing the Understanding of Radical Chemistry and Improving the GC/MS Measurement of Bromopicrin and Other Drinking Water DBPs

S3MM0058	<i>A Spatial Approach for Integrating and Analyzing Indicators of Ecological and Human Condition. Ecological Indicators, 2(1-2):211-220 (2002)</i>	Dr. Michael E. Troyer (100%) NCEA, Cincinnati, OH	LEVEL III	<i>Research Assisting EPA's Interdisciplinary Mission to Protect the Nation's Ecosystems and the Welfare of Its People</i>
S3MM0059	<i>Characterization and Fate of PAH-Contaminated Sediments at the Wyckoff/Eagle Harbor Superfund Site. Engineering Science & Technology, 36(12):2605-2613 (2002)</i>	Dr. Richard C. Brenner (50%) NRMRL, Cincinnati, OH	LEVEL III	<i>A New and Improved Method for Characterizing PAH Contaminant Sources and Creosote Weathering in Sediment</i>
S3RA0091	<i>Predicting Chemical Reactivity of Humic Substances for Minerals and Xenobiotics: Use of Computational Chemistry, Scanning Probe Microscopy, and Virtual Reality. Humic Substances and Chemical Contaminants, :41-72.(and (2001)</i>	Dr. George W. Bailey (80%) NERL, Athens, GA	LEVEL III	<i>An Interpretive Review of an Integrated Approach to Predict Reactivity of Environmental Surfaces in Risk Assessments</i>
S3RA0100	<i>Environmental Mass Spectrometry: Emerging Contaminants and Current Issues. Analytical Chemistry, 74(12):2719-2742 (2002)</i>	Dr. Susan D. Richardson (100%) NERL, Athens, GA	LEVEL III	<i>A State-of-the-Science Critical Review of Emerging Contaminants and New Issues in Environmental Mass Spectrometry</i>
S3RA0107	<i>Critical Periods of Vulnerability for the Developing Nervous System: Evidence from Humans and Animal Models. Environmental Health Perspectives, 108(3):511-533 (2000)</i>	Dr. Deborah C. Rice (50%) Dr. Stan Barone (50%) NCEA, Washington, DC	LEVEL III	<i>An Important Review of the Ontogeny of Developmental Processes and the Functional Consequences of Developmental Neurotoxic Exposure</i>
S3RA0108	<i>Phytoextraction of Toxic Metals: A Review of Biological Mechanisms. Journal of Environmental Quality, 31(1):109-120 (2002)</i>	Dr. Mitch M. Lasat (100%) NCER, Washington, DC	LEVEL III	<i>Advancing the State of Knowledge in the Area of Toxic Metals Phytoremediation</i>
S3RA0111	<i>Flue Gas Desulfurization: The State of the Art. Journal of the Air & Waste Management Association, 51:1676-1688 (2001)</i>	Dr. Ravi K. Srivastava (80%) NRMRL, Research Triangle Park, NC	LEVEL III	<i>A Comprehensive Review and Analysis of Flue Gas Desulfurization Technologies for Electric Utility Boilers</i>
S3RM0115	<i>Bioremediation and Biorestitution of a Crude-Oil Contaminated Freshwater Wetland on the St. Lawrence River. Bioremediation Journal, 6(3):261-281 (2002)</i>	Dr. Albert D. Venosa (60%) Dr. John R. Haines (5%) NRMRL, Cincinnati, OH	LEVEL III	<i>The First Definitive Field Study of Hydrocarbon Biodegradation in a Freshwater Wetland Where Significant Oil Penetration Into the Sediment Had Taken Place</i>

S3TF006 2	<i>Hydrogen Concentrations in Sulfate-Reducing Estuarine Sediments During PCE Dehalogenation. Environmental Science and Technology, 35(24):4783-4788 (2001)</i>	<i>Dr. Christopher S. Mazur (50%) Dr. William J. Jones (50%) NERL, Athens, GA</i>	LEVEL III	<i>Applying Hydrogen Measurements for Evaluating Attenuation of Pollutants in Sediments for Ecological Risk Assessment</i>
S3TF006 3	<i>Terminal Electron Acceptor Mass Balance: NAPLs and Natural Attenuation. Journal of Environmental Engineering, 128(3):246-252 (2002)</i>	<i>Dr. Scott G. Huling (80%) NRMRL, Ada, OK</i>	LEVEL III	<i>Critical Analysis of Assumptions Used in Selecting the Monitored Natural Attenuation Remedy</i>
S3TF006 5	<i>Evaluation of the AgDISP Aerial Spray Algorithms in the AgDRIFT Model. Environmental Toxicology and Chemistry, 21(3):672-681 (2002)</i>	<i>Dr. Sandra L. Bird (60%) NERL, Research Triangle Park, NC</i>	LEVEL III	<i>Comprehensive Evaluation of AgDISP Aerial Spray Algorithms for Regulatory Use in Estimating Off-Site Pesticide Drift</i>
S3TF006 9	<i>2, 3, 7, 8-Dibenzo-p-Dioxins in Mined Clay Products from the United States: Evidence for Possible Natural Origin. Environmental Science and Technology, 34(21):4524-4532 (2000)</i>	<i>Dr. Joseph B. Ferrario (50%) Dr. Christian J. Byrne (25%) Dr. David H. Cleverly (25%) Stennis Space Center, MS</i>	LEVEL III	<i>Extraordinary Achievements in Discovering a Possible Significant Natural Source of Dioxins in the Environment</i>
S3TF007 1	<i>Rates of Hydrous Ferric Oxide Crystallization and the Influence on Coprecipitated Arsenate. Environmental Science and Technology, 36(11):2459-2463</i>	<i>Dr. Robert G. Ford (100%) NRMRL, Cincinnati, OH</i>	LEVEL III	<i>Deriving Fundamental Chemical Data Critical to Evaluating the Potential for Arsenic Attenuation in Soils and Sediments</i>
S3TF007 6	<i>Exploratory Analysis of the Effects of Particulate Characteristics on the Variation in Partitioning of Nonpolar Organic Contaminants to Marine Sediments. Water Research, 35(18):4390-4404 (2001)</i>	<i>Dr. Robert M. Burgess (50%) Dr. Stephan A. Ryba (30%) Dr. Mark G. Cantwell (10%) Dr. Jennifer L. Gundersen (10%) NHEERL, Narragansett, RI</i>	LEVEL III	<i>Particulate Characteristics and Their Significance to Partitioning and Bioavailability of Organic Sediment Contaminants</i>
S3TF007 8	<i>Estimates of the Atmospheric Deposition of Sulfur and Nitrogen Species: Clean Air Status and Trends Network, 1990-2000. Environmental Science and Technology, 36(12):2614-2629 (2002)</i>	<i>Dr. Ralph E. Baumgardner, Jr. (55%) NERL, Research Triangle Park, NC</i>	LEVEL III	<i>Work Confirming Reduction of Airborne Sulfur as Mandated by the 1990 Amendments to the Clean Air Act</i>

Nominations Recommended for Honorable Mention (No Cash Award) -- Total of Thirty-Three				
S3CS00 01	<i>Evaluation of Nanofiltration Pretreatments for Flux Loss Control. Desalination, 130(2000):31-44 (2000)</i>	<i>Dr. Thomas F. Speth (80%) NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Evaluating Nanofiltration Pretreatment Processes to Control Flux Loss</i>
S3CS00 04	<i>NOx Adsorber Desulfation Techniques for Heavy-Duty On-Highway Diesel Engines. Society of Automotive Engineers Technical Paper Series, (01-2871):1-14 (2002)</i>	<i>Dr. Christopher A. Laroo (30%) Dr. Charles R. Schenk (20%) Dr. Brian A. Olson (20%) Dr. Paul A. Way (20%) Dr. Joseph F. McDonald (10%) OTAQ, Ann Arbor, MI</i>	<i>Honorable Mention</i>	<i>Exceptional Technological Achievement in Advancing Technologies for Cleaner Heavy-Duty Diesel Applications</i>
S3CS00 07	<i>Pilot-Scale Studies on the Effect of Bromine Addition on the Emissions of Chlorinated Organic Combustion By-Products. Waste Management, 22(4):381-389 (2002)</i>	<i>Dr. Paul M. Lemieux (50%) Dr. Eric S. Stewart (30%) Dr. Jeffrey V. Ryan (20%) NRMRL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Examining Interactions Between Bromine and Chlorine in Combustion Systems</i>
S3CS00 08	<i>a) High Efficiency NOx and PM Exhaust Emission Control for Heavy-Duty On-Highway Diesel Engines. Society of Automotive Engineers Technical Paper Series, (01-1351):1-13 (2001)</i>	<i>Dr. Charles R. Schenk (42.5%) Dr. Joseph F. McDonald (30%) Dr. Christopher A. Laroo (23.5%) Dr. Brian A. Olson (5%) OTAQ, Ann Arbor, MI</i>	<i>Honorable Mention</i>	<i>Exceptional Technological Achievement in Demonstrating the Emission Reduction Potential of Heavy-Duty Diesel Engines</i>
S3EF013 0	<i>Forest Ecosystem Recovery in the Southeast U.S.: Soil Ecology as an Essential Component of Ecosystem Management. Forest Ecology and Management, 155:187-203 (2002)</i>	<i>Dr. John M. Johnston (80%) NERL, Athens, GA</i>	<i>Honorable Mention</i>	<i>Application of Soil Ecology and Forestry to Holistic Ecosystem Protection and Proactive Management of Soil Health</i>
S3EF013 1	<i>Selected Oxidation of Alcohols in Gas Phase Using Light-Activated Titanium Dioxide. Journal of Catalysis, 211:434-444 (2002)</i>	<i>Dr. E. Sahle-Demessie (65%) NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Research on the Selective Oxidation of Various Alcohols as a Potential Technology for Reducing Pollutants</i>

S3ER00 10	<i>Assessing the Ecological Importance of Coastal Wetlands in a Large Lake Context. Verh. Internat. Verein. Limnol., 27:1950-1961 (2000)</i>	<i>Dr. John C. Brazner (60%) Dr. Michael Sierszen (15%) Dr. Danny Tanner (15%) NHEERL, Duluth, MN</i>	<i>Honorable Mention</i>	<i>Quantifying Ecological Linkages Between Coastal Wetlands and Large Lakes</i>
S3ER00 15	<i>Considerations for the Development of a Terrestrial Index of Ecological Integrity. Ecological Indicators, 1(2001):21-35 (2001)</i>	<i>Dr. James K. Andreasen (70%) NCEA, Washington, DC</i>	<i>Honorable Mention</i>	<i>Advancing the Concept of Utilizing Ecological Indicators for Validating Environmental Policies</i>
S3ER00 19	<i>Developing and Applying a Benthic Index of Estuarine Condition for the Virginian Biogeographic Province. Ecological Indicators, 1(2):83-99 (2001)</i>	<i>Dr. John F. Paul (40%) Dr. Daniel E. Campbell (10%) Dr. Charles S. Strobel (10%) NHEERL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Developing and Applying an Index of Estuarine Benthic Community Condition for Habitats Across a Large Geographic Region</i>
S3ER00 27	<i>Relationships Among Total Lipid, Lipid Classes, and Polychlorinated Biphenyl Concentrations in Two Indigenous Populations of Ribbed Mussels ('Geukensia demissa') Over an Annual Cycle. Environmental Toxicology and Chemistry, 20(3):575-581 (2001)</i>	<i>Dr. Barbara J. Bergen (40%) Dr. William G. Nelson (30%) Dr. Saroja Jayaraman (10%) NHEERL, Narragansett, RI</i>	<i>Honorable Mention</i>	<i>Improving the Ability of the Agency to Make Accurate PCB Bioaccumulation Measurements and Predictions</i>
S3HE00 35	<i>Secondary Aerosolization of Viable 'Bacillus anthracis' Spores in a Contaminated US Senate Office. Journal of the American Medical Association, 288(22):2853-2858 (2002)</i>	<i>Dr. Christopher P. Weis (30%) Dr. Aubrey K. Miller (15%) Dr. Mark Durno (10%) NEIC, Denver, CO</i>	<i>Honorable Mention</i>	<i>Assessing Human Exposure for Viable Anthrax Spores in the U.S. Senate</i>
S3HE00 38	<i>Why Does 5-Methylchrysene Interact with DNA as Both a Planar and Nonplanar Polycyclic Aromatic Hydrocarbon? Quantum Mechanical Studies. International Journal of Quantum Chemistry, 88(1):99-106</i>	<i>Dr. James Rabinowitz (40%) Dr. Stephen Little (40%) NHEERL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Use of Computational Molecular Modeling to Understand the Relationship Between Chemical Structure and Toxicity for PAHs</i>

S3HE01 33	<i>Altered Gene Expression Profiles of Rat Lung in Response to an Emission Particulate and its Metal Constituents. Journal of Toxicology and Environmental Health Part A, 65(18):1333-1350 (2002)</i>	<i>Dr. Srikanth S. Nadadur (60%) Dr. Urmila P. Kodavanti (40%)</i> <i>NHEERL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Integrating Genomic Technologies to Understand Molecular Mechanisms of Action for Particulate Matter</i>
S3HE01 35	<i>DNA Arrays to Monitor Gene Expression in Rat Blood and Uterus Following 17- B-Estradiol Exposure: Biomonitoring Environmental Effects Using Surrogate Tissues. Toxicological Sciences, 69(1):49-59 (2002)</i>	<i>Dr. John C. Rockett (25%) Dr. David J. Dix (20%) Dr. Robert J. Kavlock (5%) Dr. Christy R. Lambricht (10%) Dr. Judith E. Schmid (10%) Dr. Vickie S. Wilson (10%) Dr. Carmen R. Wood (10%)</i> <i>NHEERL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Developing a New Genomic Approach for Monitoring Effects of Toxicant Exposures</i>
S3IR011 6	<i>Effects of Chronic Stress on Wildlife Populations: A Population Modeling Approach and Case Study. Coastal and Estuarine Risk Assessment: Risk on the Edge, :247-272 (2002)</i>	<i>Dr. Diane E. Nacci (20%) Dr. Timothy R. Gleason (20%) Dr. Ruth Gutjahr-Gobell (20%) Dr. Marina Huber (20%) Dr. Wayne R. Munns, Jr. (20%)</i> <i>NHEERL, Narragansett, RI</i>	<i>Honorable Mention</i>	<i>Evolutionary and Other Compensatory Mechanisms in Wildlife Population Risk Assessment</i>
S3IR012 1	<i>Development of a Ct Equation for the Inactivation of Cryptosporidium Oocysts with Ozone. Water Research, 36(12):3141-3149 (2002)</i>	<i>Dr. Robert M. Clark (30%) Dr. Mano Sivaganesan (30%) Dr. Eugene W. Rice (20%) Dr. Jimmy Chen (20%)</i> <i>NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Outstanding Research Intended to Protect the Health of American Consumers of Drinking Water</i>
S3IR012 2	<i>Cost Models for Water Supply Distribution Systems. Water Resources Planning and Management, 128(5):312-321 (2002)</i>	<i>Dr. Robert M. Clark (40%) Dr. Mano Sivaganesan (40%) Dr. Ari Selvakumar (5%)</i> <i>NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Significant Contributions to the Field of Cost Estimating for Environmental Infrastructure</i>
S3IR012 4	<i>Proposal for Including What is Valuable to Ecosystems in Environmental Assessments. Environmental Science & Technology, 35:2867-2873 (2001)</i>	<i>Dr. Daniel E. Campbell (100%)</i> <i>NHEERL, Narragansett, RI</i>	<i>Honorable Mention</i>	<i>Developing a New Vision of Environmental Assessment Where "What is Valuable to Ecosystems" is Used to Define Risk Assessment Endpoints</i>

S3IR012 7	<i>A New Approach to Environmental Decision Analysis: Multi-Criteria Integrated Resource Assessment (MIRA). Bulletin of Science, Technology and Society, 22(6):443-459 (2002)</i>	<i>Dr. Cynthia H. Stahl (33.3%) Dr. Alan J. Cimorelli (33.3%) Dr. Alice H. Chow (33.3%) Philadelphia, PA</i>	<i>Honorable Mention</i>	<i>Developing the Multi-Criteria Integrated Resource Assessment (MIRA) Analytical Framework, a Novel and Innovative Approach to Environmental Decision Analysis</i>
S3MM00 42	<i>Raman Spectroscopic Analysis of Fertilizers and Plant Tissue for Perchlorate. Applied Spectroscopy, 55(8):967-988 (2001)</i>	<i>Dr. Timothy W. Collette (55%) NERL, Athens, GA</i>	<i>Honorable Mention</i>	<i>Innovative Research Definitively Determining the Extent of Perchlorate Occurrence in Fertilizers</i>
S3MM00 43	<i>Utility of Splenic Macrophage Aggregates as an Indicator of Fish Exposure to Degraded Environments. Journal of Aquatic Animal Health, 13:105-116 (2001)</i>	<i>Dr. John W. Fournie (60%) Dr. Kevin J. Summers (15%) Dr. Virginia D. Engle (10%) Dr. Lee A. Courtney (10%) NHEERL, Gulf Breeze, FL</i>	<i>Honorable Mention</i>	<i>Validating the Use of Splenic Macrophage Aggregates as Reliable Indicators of Exposure of Fish to Degraded Environments</i>
S3MM00 44	<i>The Ecological Condition of South Florida Estuaries. Environmental Monitoring and Assessment, 75:253-269 (2002)</i>	<i>Dr. John M. Macauley (50%) Dr. Kevin J. Summers (10%) Dr. Virginia D. Engle (20%) Dr. Linda C. Harwell (20%) NHEERL, Gulf Breeze, FL</i>	<i>Honorable Mention</i>	<i>Performing the First Comprehensive Assessment of South Florida Estuaries, Using a Probability-Based Design</i>
S3MM00 48	<i>Negative Ion Electrospray of Bromo- and Chloroacetic Acids and an Evaluation of Exact Mass Measurements with a Bench-Top Time-of-Flight Mass Spectrometer. Journal of the American Society for Mass Spectrometry, 11(9):809-821 (2000)</i>	<i>Dr. William L. Budde (60%) NERL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Research Demonstrating the Feasibility of Real-Time Monitoring of Disinfection Byproducts in Drinking Water</i>
S3RA00 86	<i>On-Road Emissions of PCDDs and PCDFs from Heavy Duty Diesel Vehicles. Environmental Science & Technology, 36(13):3036-3040 (2002)</i>	<i>Dr. Brian K. Gullett (50%) Dr. Jeffrey V. Ryan (50%) NRMRL, Research Triangle Park, NC</i>	<i>Honorable Mention</i>	<i>Characterization of PCDD/F Emissions from Heavy-Duty Diesel Vehicles</i>

S3RA01 04	<i>Home Treatment Devices: Microbiology of Point of Use and Point of Entry Devices. The Encyclopedia of Environmental Microbiology, G. Gitton (Ed.), John Wiley & Sons, Inc., :1563-1575 (2002)</i>	<i>Dr. Donald J. Reasoner (100%) NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Contributing to State-of-the-Science Information on the Microbiology of Home Water Treatment Devices</i>
S3RA01 05	<i>Advancing Fine Root Research with Minirhizotrons. Environmental and Experimental Botany, 45:263-289 (2001)</i>	<i>Dr. Mark G. Johnson (35%) Dr. David T. Tingey (30%) Dr. Donald L. Phillips (30%) NHEERL, Corvallis, OR</i>	<i>Honorable Mention</i>	<i>Advancement of Root Research Methods to Provide a Means to Assess the Effects of Environmental Stressors on Root Systems</i>
S3RA01 12	<i>Analyzing Drinking Water for Disinfection Byproducts. Analytical Chemistry, 74(9):260A-267A (2002)</i>	<i>Dr. Edward Todd Urbansky (50%) Dr. Matthew L. Magnuson (50%) NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>A Retrospective Examination of EPA's Role in Guiding and Stimulating Research on the Analytical Chemistry of Disinfection Byproducts</i>
S3TF006 4	<i>a) Monitored Natural Attenuation of Contaminants in the Subsurface: Processes. Ground Water Monitoring and Remediation (GWMR), 22(2):97-107 (2001)</i>	<i>Dr. Ann Azadpour-Keeley (85%) NRMRL, Ada, OK</i>	<i>Honorable Mention</i>	<i>The Innovative Presentation of Information for Evaluating the Efficacy of Using Monitored Natural Attenuation for the Remediation of Soil and Ground Water at Hazardous Waste Sites</i>
S3TF006 6	<i>Evaluating Degradation Rates of Chlorinated Organics in Groundwater Using Analytical Models. Environmental Toxicology & Chemistry, 20(9):1909-1915 (2001)</i>	<i>Dr. John W. Washington (95%) NERL, Athens, GA</i>	<i>Honorable Mention</i>	<i>Developing an Improved Model for Contaminant Fate and Demonstrating Utility of Laboratory Data to Environmental Fate</i>
S3TF006 8	<i>Trace Metal Leaching Behavior Studied Through the Use of Parametric Modeling of Water Borne Soil Particles Fractionated with a Split-Flow Thin Cell. Environmental Science & Technology, 36:4288-4294</i>	<i>Dr. Matthew L. Magnuson (34%) Dr. Keith Kelty (33%) Dr. Catherine A. Kelty (33%) NRMRL, Cincinnati, OH</i>	<i>Honorable Mention</i>	<i>Advancement in Parametric Modeling Tools for Risk Management Decisions on Leaching of Pollutants from Environmentally Significant Particles</i>

S3TF0075	a) <i>Selected Air Quality Trends and Recent Air Pollution Investigations in the US-Mexico Border Region. The Science of the Total Environment, 276(1-3):1-18 (2001)</i>	Dr. Shaibal Mukerjee (70%) NERL, Research Triangle Park, NC	Honorable Mention	Assessment of Air Quality Indicators and Transboundary Air Pollution in the US - Mexico Border Region
S3TF0079	a) <i>An Analytical Method for the Measurement of Nonviable Bioaerosols. Journal of Air & Waste Management Associates, 51(1047-3289):1436-1442 (2001)</i>	Dr. Marc Y. Menetrez (60%) Dr. Victor R. DeJesus (2%) NRMRL, Research Triangle Park, NC	Honorable Mention	The Highly Original and Innovative Evaluation of New Boundaries of Environmental Science and Biological Contaminants
S3TF0137	<i>Atmospheric Concentrations and Fluxes of Organic Compounds in the Northern San Francisco Estuary. Environmental Science & Technology, 36(22):4741-4747 (2002)</i>	Dr. Pam Tsai (90%) San Francisco, CA	Honorable Mention	Contributing to the Science and Knowledge of the Air Quality and Atmospheric Deposition of Hazardous Air Pollutants in the San Francisco Bay Area
<p>Key to</p> <p>NCEA <i>National Center for Environmental Assessment</i></p> <p>NCER <i>National Center for Environmental Research</i></p> <p>NERL <i>National Exposure Research Laboratory</i></p>				

<i>NEIC</i>	<i>National Enforcement Investigations Center</i>
<i>NHEERL</i>	<i>National Health and Environmental Effects Laboratory</i>
<i>NRMRL</i>	<i>National Risk Management Research Laboratory</i>
<i>OPPT</i>	<i>Office of Pollution Prevention and Toxics</i>
<i>OTAQ</i>	<i>Office of Transportation and Air Quality</i>

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